Transmedia Storytelling in the Portuguese Context of English as a Second Language Learning

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ABSTRACT

In Portuguese context, English as a second language (ESL) classes are centered around covering the topics of the national curriculum. This dogmatic structure leaves no space to explore students' use of the language in their settings and excludes the learning opportunities offered in their environments. Instead of the prevailing abstract knowledge-based, teacher-centered paradigm; a student-centered language learning approach may allow taking into consideration the settings in which the second language is acquired and used by the students. Moreover, if media usage may be a proxy for personal and social development and empowerment of future citizens, there are implications and risks in the media ecosystem that must be accounted for in the ESL classroom.

In light of this, this contribution aims to address the needs of Portuguese ESL students in the 21st Century. Through the experimental development and application of an ESL transmedia learning storyworld in Portuguese formal learning environments, one seeks to ignite the discussion of the affordances and constraints that such participatory space might involve. The challenges that this research study attempts to address, extend beyond the national frontiers. Hence, this report is also of interest to the academics and professionals in the community of foreign languages teaching and learning as well as to those whose interest lies in developing participatory learning environments.

The results of this exploratory study are indicative that students share a positive attitude towards the application of a transmedia learning storyworld in ESL settings and that it allows for the development of second language acquisition processes in a socially and culturally contextualized perspective. Nevertheless, the exploration of such a participatory space is hindered by the constraints and demands of the current Portuguese formal learning and teaching context.

Keywords: English as a Second Language (ESL), Media Literacy, Transmedia Learning, Transmedia Storytelling.

RESUMO[1]

No contexto português, o ensino de Inglês como segunda língua (IL2) é orientado pelo cumprimento de metas e temáticas propostas no currículo nacional. Esta estrutura dogmática não permite explorar a utilização que os alunos fazem da língua nos seus contextos informais e exclui oportunidades de aprendizagem que os mesmos providenciam. Ao invés do paradigma prevalente de disseminação de conhecimento abstracto pelo docente, uma abordagem centrada no aluno permite tomar em consideração os contextos onde os alunos adquirem e usam o Inglês. Acrescente-se que embora a utilização dos media possa potencializar o desenvolvimento pessoal e social e capacitar o futuro cidadão; os riscos e as implicações do ecossistema mediático devem ser obrigatoriamente alvo de análise no contexto contemporâneo de ensino e aprendizagem do IL2.

Assim, esta contribuição visa atender às necessidades dos estudantes portugueses no século XXI, no âmbito da disciplina de IL2. Através do desenvolvimento e aplicação experimental de um universo de aprendizagem transmedia em ambientes formais de aprendizagem de IL2, procura-se estimular a discussão acerca das possibilidades e limitações que emergem destes espaços participativos. Sendo que os desafios que este processo de investigação procura acercar-se vão além das fronteiras nacionais, este estudo pode ter relevância para a comunidade de académicos e profissionais de ensino e aprendizagem de línguas estrangeiras, bem como para aqueles cujo interesse seja o desenvolvimento de ambientes participativos de aprendizagem.

Os resultados deste estudo exploratório são indicativos que os estudantes demonstram uma atitude positiva no que concerne a utilização de um universo de aprendizagem transmedia na disciplina e que este favorece o desenvolvimento de processos de aquisição socialmente e culturalmente contextualizados da segunda língua. Não obstante, a exploração deste tipo de espaço participativo é condicionada e dificultada pelas limitações e exigências do contexto formal de ensino e aprendizagem nacional.

[1] Sendo este um documento que expressa as opiniões da autora, o resumo não foi redigido ao abrigo do acordo ortográfico de 1990 (AO90).

Palavras Chave: Aprendizagem Transmedia; Inglês como segunda língua (IL2); Literacia Mediática; *Transmedia Storytelling*.

Dedicatória

Ao meu Pai, o meu super-herói

É o teu rosto que encontro. Contra nós, cresce a manhã, o dia, cresce uma luz fina. Olho-te nos olhos. Sim, quero que saibas, não te posso esconder, ainda há uma luz fina sobre tudo isto. Tudo se resume a esta luz fina a recordar-me todo o silêncio desse silêncio que calaste. Pai. Quero que saibas, cresce uma luz fina sobre mim que sou sombra, luz fina a recortar-me de mim, ténue, sombra apenas. Não te posso esconder, depois de ti, ainda há tudo isto, toda esta sombra e o silêncio e a luz fina que agora és.

José Luís Peixoto in *Morreste-me*

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CONTENTS

ABSTRACT		IV
RESUMO		V
Dedicatória		VII
Agradecimentos/ Acknowledgements		VIII
CONTENTS		X
List of Figures		XII
List of Tables		XV
List of Appendixes		XVI
Abbreviations and Acronyms		XVII
1.	INTRODUCTION	1
1.1	The Quest	2
1.2	The Unfinished Research Mosaic	14
2.	LITERATURE REVIEW	16
2.1	Behind the Story	17
2.2	Defining Transmedia Storytelling – a Complicated Affair	29
2.2.1	The Origins	30
2.2.2	Transmedia Intertextuality and Media Mix	30
2.2.3	Transmedia Storytelling defined by Henry Jenkins	31
2.2.4	(More than) A Question of Semantics	32
2.2.5	Transmedia Worlds	35
2.2.6	Transmedia Applied - The Practitioners' Point of View	39
2.2.7	Adaptation and Expansion	42
2.2.8	Design of Transmedia Experiences	47
2.2.9	Social, Political and Cultural Agency through and by Transmedia Storytelling	49
2.2.10	Putting Transmedia into Perspective	63
2.3	Learning in the Contemporary Age	73
2.3.1	Tracking Media Literacy in the Portuguese Educational Community	78
2.3.2	Educational Challenges	90
2.3.3	Moving to Situated Language Learning	95
2.3.4	Towards New Learning Ecosystems	106
2.3.5	Video Games as Learning Spaces	121
2.3.6	Transliteracy	131
2.3.7	Transmedia Literacy	139
2.3.8	Transmedia Learning Experiences	152
3.	DESIGN OF THE TRANSMEDIA LEARNING STORYWORLD *CONNECTING CAT*	167

3.1	Research Framework and Conceptual Considerations	168
3.2	The Project's Goals	174
3.3	Worldbuilding – Setting the Narrative Scenario	175
3.4	Scaffolding Learning in the Storyworld	180
3.5	Gateways to the Storyworld	184
3.5.1	Gateways to the Storyworld Targeted to Explore Learning Inputs	187
3.5.2	Gateways to the Storyworld Targeted to Promote Learning Outputs	202
3.6	Playing a Part in the Story - Expanding the Storyworld through a Quest	215
3.7	Supporting and Fostering the Learning Community of the Storyworld	221
3.8	Designing Possible Learning Trajectories within the Storyworld	224
3.8.1	The *Who am I?* Exploration Guide	227
3.8.2	The *Allure* Exploration Guide	229
3.8.3	The *Seek and you shall find* Exploration Guide	233
3.9	Proposal of a Possible Route of Exploration of the Storyworld	246
4.	EXPLORING C*ONNECTING CAT* IN FORMAL LEARNING ENVIRONMENTS	248
4.1	Making Sense of Experiences of the Storyworld - Considerations Guiding the Implementation of *Connecting Cat*	249
4.2	First Cycle of Implementation – Application of a Prototype Version of the Storyworld	255
4.3	Second Cycle of Implementation – Learning Experiences in Two Different Settings	273
4.4	Application of the Storyworld in a Formal Learning Environment in Greece	314
4.5	Insights on the Learning Experiences Related to the Use of the Storyworld	320
5.	PARTING THOUGHTS	325
5.1	Connecting the Pieces – Insights on the Research Process	326
5.2	Expanding the Mosaic of Transmedia Learning Experiences – Future Work	330
	References	333
	Appendixes	349

List of Figures[2]

Figure 1.	The “One does not simply [start a journey without a plan]” meme	2
Figure 1.1	Elements of the research mosaic	14
Figure 2.	Overview of the main themes discussed in the literature review chapter	16
Figure 2.1	Screenshot of *Chalkroom*	27
Figure 2.2	Overview of the key criteria prevalent in transmedia franchises	42
Figure 2.3	Pyramid of users’ participation and engagement in narrative worlds	46
Figure 2.4	Graphic depicting transmedia storytelling	47
Figure 2.5	The gift to the world of the collective	61
Figure 2.6	Teaching language for discourses principles	104
Figure 2.7	Media content creation and use	108
Figure 2.8	Principles and core properties of Connected Learning experiences	109
Figure 2.9	Presentation of the CL revised framework at the Connected Learning Summit 2018	114
Figure 2.10	Core features of Transmedia Play experiences	119
Figure 2.11	Learning Principles built into video games	123
Figure 2.12	A text sample taken from a LoL forum discussion	125
Figure 2.13	Screenshots of the video game *Type:Rider*	127
Figure 2.14	Representation of the Transliteracy Palette	135
Figure 2.15	Transmedia Literacy Skills Map	143
Figure 2.16	Screenshots of *Inanimate Alice: Perpetual Nomads*	157
Figure 3.	Overview of the aspects covered in the design of a TL world chapter.	167
Figure 3.1	The heroine’s journey	178
Figure 3.2	Map of characters’ relationships	179
Figure 3.3	Screenshot of the data visualization *The Rise of Generation C*	184
Figure 3.4	Outputs emerging from the survey used to inform the selection of platforms	185
Figure 3.5	The hub of the storyworld *Connecting Cat*	186
Figure 3.6	Screenshots of the webisode *Who am I?*	188
Figure 3.7	Development of a page of the first sequence of *Fluxus Flow* - Screenshot of the interface of the motion book tool	191
Figure 3.8	Overview of the *Allure* Sequence – narrative nodes	193
Figure 3.9	Navigation features of the motion book interface	194
Figure 3.10	Visual representation of linguistic diversity in *Allure*	195
Figure 3.11	Language diversity and contemporary communication depictions in *Allure*.	197
Figure 3.12	Interactive video structure	199
Figure 3.13	Contextualising, expanding and reinforcing information in *Seek and you shall find*	200
Figure 3.14	Selection of Cat’s Facebook posts	205
Figure 3.15	Selection of posts targeted to develop writing skills	206
Figure 3.16	Selection of posts targeted to the development of media literacy skills	208

[2] Unless indicated otherwise in the captions, the figures provided in this document are the author’s creation.

Figure 3.17	Selection of photos of Cat's Instagram page	211
Figure 3.18	Publishing process of the *Fluxus Logs*	215
Figure 3.19	Post on Cat's Facebook page triggering the *AWOL* quest	218
Figure 3.20	QR codes and AR trigger which provide information for the development of the quest *AWOL*	219
Figure 3.21	Missing person report form and QR code trigger - elements of the *AWOL* quest	220
Figure 3.22	*Connecting Cat's* feedback channels	224
Figure 3.23	*Connecting Cat's* exploration guides	225
Figure 3.24	Page layout example of one of the exploration guides	227
Figure 3.25	Selection of elements that compose the *Who am I?* Exploration Guide	229
Figure 3.26	Selection of elements that compose the *Allure* Exploration Guide	233
Figure 3.27	Example of an "At Tate Modern" activity	243
Figure 3.28	Selection of elements that compose the *Seek and you shall find* Exploration Guide	245
Figure 3.29	Possible route of exploration of CC's storyworld	247
Figure 4.	Overview of contents covered in the chapter related to the implementation of the storyworld in formal learning environments	248
Figure 4.1	Overview of the two cycles of implementation of the TL storyworld	253
Figure 4.2	Overview of the data collected through the online survey "Who are you online?" during the first implementation cycle of CC	259
Figure 4.3	Screenshots of digital artifacts produced by students for the *Fluxus Logs* activity	265
Figure 4.4	Feedback related to the storyworld's main interface – 1st implementation cycle	268
Figure 4.5	Feedback related to the webisode – 1st implementation cycle	268
Figure 4.6	Feedback related to the motion book sequence – 1st implementation cycle	269
Figure 4.7	Feedback related to the interactive video – 1st implementation cycle	270
Figure 4.8	Feedback related to the storyworld's output platforms – 1st implementation cycle	271
Figure 4.9	Feedback related to learning practices through the use of the storyworld – 1st implementation cycle	272
Figure 4.10	Screenshot of the site CCat World presenting the call to action disseminated among teachers and educators	276
Figure 4.11	Infographic covering Creative Commons Licenses	277
Figure 4.12	Screenshots of the interactive quiz "CC 101 - Get Savvy"	278
Figure 4.13	Posts related to the 2nd implementation cycle of CC	281
Figure 4.14	Overview of the data collected through the online survey "Who are you online?"– 2nd implementation cycle, school A	282
Figure 4.15	Perceptions on learning through the use of media and technology – 2nd implementation cycle, school A	285
Figure 4.16	Overview of the data collected through the online survey "Who are you online?"– 2nd implementation cycle, school B	287
Figure 4.17	Perceptions on learning through the use of media and technology – 2nd implementation cycle, school B	290
Figure 4.18	Word cloud produced by participants regarding the main character	294
Figure 4.19	Example of work developed by participants of the 2nd implementation cycle (session 1)	296

Figure 4.20	Examples of extensions of the AWOL quest created by participants of the 2nd implementation cycle	299
Figure 4.21	Teachers' perceptions of the use of technology and social media platforms – 2nd implementation cycle.	301
Figure 4.22	Feedback related to the storyworld's main interface – 2nd implementation cycle	303
Figure 4.23	Feedback related to the webisode – 2nd implementation cycle	305
Figure 4.24	Feedback related to the motion book sequence – 2nd implementation cycle	306
Figure 4.25	Feedback related to the interactive video – 2nd implementation cycle	307
Figure 4.26	Feedback related to the storyworld's output platforms – 2nd implementation cycle	308
Figure 4.27	Feedback related to learning practices through the use of the storyworld – 2nd implementation cycle	310
Figure 4.28	Examples of students' work in Greece related to the main character of the story	317
Figure 4.29	Examples of students' work in Greece related to the *AWOL* quest	319
Figure 4.30	Screenshot of the online bulletin board regarding feedback on activitivities developed during the 1st and 2nd implementation cycles of CC	322
Figure 5.	Depiction of the research process	332

List of Tables and Graphics

Table 3.1	Comparative analysis of the structure of posts selected from the *Fluxus Logs*	213
Table 4.1	Scores of the interactive quiz “CC 101 – Get Savvy”.	292

List of Appendixes

Appendix I	*Connecting Cat* – Project's Reference Guide	350
Appendix II	*Who am I?* – Exploration Guide	382
Appendix III	*Allure* – Exploration Guide	394
Appendix IV	*Seek and you shall find* – Exploration Guide	409
Appendix V	Communication note to participants of the 1st cycle of Implementation of CC	457
Appendix VI	Resources and guidelines provided to participants of the 1st cycle of implementation	461
Appendix VII	Feedback on activities provided to participants of the 1st cycle of implementation	468
Appendix VIII	Activities Plan – 2nd Cycle	474
Appendix IX	Resources and guidelines provided to participants of the 2nd cycle of implementation	483
Appendix X	Research papers concerning the research project	516

Abbreviations and Acronyms

AI	Artificial Intelligence
AR	Augmented Reality
AWOL	Absent Without (Official) Leave
BYOD	Bring Your Own Device
CALL	Computer-Assisted Language Learning
CC	*Connecting Cat*
CC	Creative Commons
CL	Connected Learning
CJ	Collective Journey
DBR	Design-based Research
EFL	English as Foreign Language
ELT	English Language Teaching
ESL	English as a Second Language
GBL	Game-based Learning
GoT	Game of Thrones
IDN	Interactive Digital Narrative
i-doc	Interactive Documentary
IoT	Internet of Things
LoL	*League of Legends*
LOTR	*Lord of the Rings*
MALL	Mobile-assisted Language Learning
MCU	*Marvel Cinematic Universe*
MIL	Media Information Literacy
MMORPG	Massively Multiple Online Role-Playing Game
PE	Pervasive Entertainment
T4C	Transmedia for Change
TEL	Technology-enhanced Learning
TELL	Technology-enhanced Language Learning
THG	*The Hunger Games*
TL	Transmedia Learning
TMNT	*Teenage Mutant Ninja Turtles*
TP	Transmedia Play
TS	Transmedia Storytelling
TWD	*The Walking Dead*
VR	Virtual Reality
WoW	*World of Warcraft*

1. INTRODUCTION

The following presents the guidelines of this dissertation - research questions, framework, rationale as well as context of this research project. The second section provides a map of the areas and a brief description of the different stages of this research study.

1.1 The Quest

It has to start somewhere
It has to start sometime
What better place than here?
What better time than now?
(excerpt of the song *Guerrilla Radio*
by Rage Against The Machine, 1999)

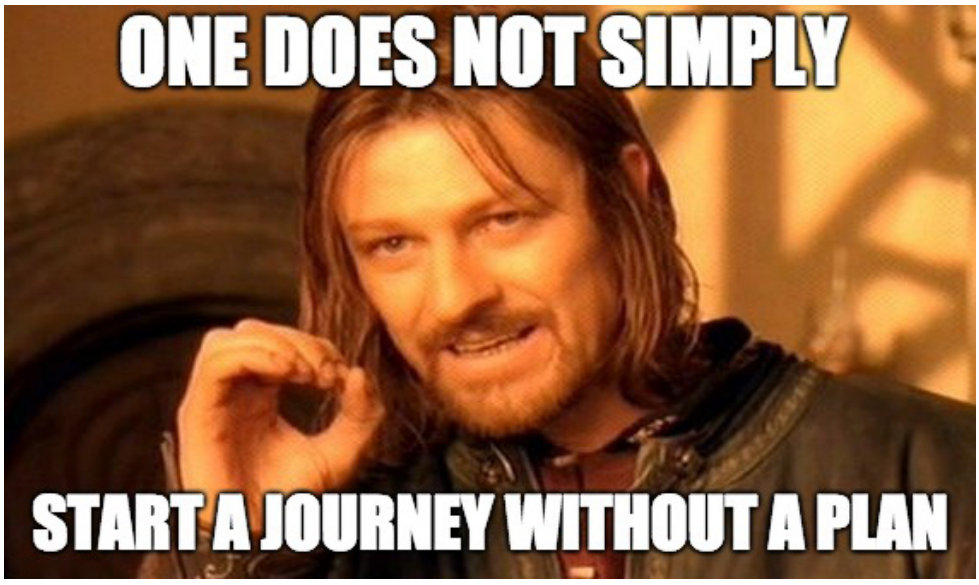


Figure 1.1 The “One does not simply (start a journey without a plan)” meme.

The “One does not simply” meme is a catchphrase widely spread in popular culture in reference to complex or challenging experiences or situations. Originally a still from the movie *Lord of the Rings* (LOTR): *The Fellowship of the Ring* depicting the scene when Boromir addresses the other members of the fellowship to express his apprehension regarding entering the territory of Mordor. The full quote is the following:

> One does not simply walk into Mordor. Its black gates are guarded by more than just orcs. There is evil there that does not sleep. The great eye is ever watchful. It is a barren wasteland, riddled with fire, ash, and dust. The very air you breathe is poisonous fume. Not with ten thousand men could you do this. It is folly.
>
> ("*Lord of the Rings: The Fellowship of the Ring*", n.d.)

The particular frame used in the meme captures the character's hand gesture to refer to "the great eye is ever watchful" - Sauron's eye, an evil vigilant entity.

Despite the meme being a humorous warning appropriated by many to target ordinary ordeals and at first glance not suitable to describe academic endeavors, I place it in this context, first to frame the research process that this document reports on and second to present the underlying goals of this research undertaking.

This reasonably old meme is symptomatic of the diversified ways people express themselves in the 21st Century media ecosystem. Not only is self-publishing more accessible than ever, but the distribution of content is also encouraged and facilitated due to the abundant choice and spread of media platforms online.

A meme is evidently an output of a content remix process. Through this technique the original universe of LOTR (as many others) is expanded by fans and random users, in ways that J.R.R. Tolkien most likely did not anticipate. The meme, as a digital artifact, represents the rise of the produser. The audience leaves its passive role as a user of contents to take on the role of producer by harnessing the tools and content at hand. Moreover, memes such as the "One does not simply" are viral. In the contemporary interconnected media landscape, content can reach a myriad of users in a short amount of time.

As producers and receivers of content, users shape their identity online as well as the social and cultural communities they belong to. They are part of a bigger whole. Ramona Pringle draws attention to this fact by putting forward that "We live in a story world" (2016).

> The story goes on. Day by day. Minute by minute. Each video, each Tweet. Each Instagram post and billboard. All adding to the story we weave together. The story world, once a concept of transmedia designers, has become a reality.
>
> (Pringle, 2016)

It is in this storyworld that I frame this research project. A challenging yet filled with opportunities territory for learning. In particular, I explore affordances

and interactions of the interconnected media ecosystem within the context of learning English as a second language (ESL) in formal learning environments in Portugal.

I attempt to address the social and situated nature of second language acquisition that is often left outside the classroom. As Ron Darvin and Bonny Norton (2015: 36) point out “the spaces in which language acquisition and socialization take place have become increasingly deterritorialized and unbounded, and the systemic patterns of control more invisible.”

Traditionally, English language teaching (ELT) is focused on supplying learners with a linguistic repertoire that supports them in using the language during their professional life; encounters with natives or on any other present and future situational context they might need it. Thus, ESL activities are centered around communication tasks and structuralist exercises that help students to master the forms of the language. Regarding this matter, Aneta Pavlenko argues for the need of context to facilitate second language acquisition:

> Classroom tasks vary widely in the degree to which they engage the learners: some can be accomplished mechanically, while others require only a modicum of attention because they focus on form and not on meaning. Even activities that try to imitate real-life situations are often experienced by students as boring because they do not have any immediate relevance to their lives.
>
> (Pavlenko, 2015)

In ESL Portuguese classes, what usually is not accounted for, or at least appropriately addressed, is the multimodal mediated nature of students' use of English and the spaces in which it occurs. Where, how and why are students using the language outside the classroom? I ground this observation on my experience as an English teacher in different secondary schools in the country, both in urban and suburban settings. If on the one hand it would be misleading to generalize this to the entire network of national schools, on the other hand, not to attend to this matter, would be to intentionally disregard a challenge that affects some (if not a considerable number) of those involved in the process of learning and teaching ESL as part of the national curriculum.

The two weekly 90 minutes classes dedicated to ESL (here in reference to the 10th and 11th grade students) are, more often than not, dedicated to a sprint race to cover a specific set of topics and manage a mandatory array of assessment documents and moments that at the end of each term reflect the students' progression in covering the predetermined learning goals.

> In our schools teachers have limited control over what happens in their classrooms; are forced into a standardized curriculum in support of regimes of standardised testing […] students feel as if they have no control over what or how they are taught. They feel their own voice and their own choices don't matter. [...] The more authoritative a classroom structure becomes […], the less free they are to pursue their own passions and interests, and the less likely the curriculum is to reflect the realities of their lives beyond the schoolroom.
>
> (Jenkins, Ito & boyd, 2016: 95)

Learning a second language should not be detached from context - from the cultural identities, practices, and real settings of the students' everyday life. I argue for the creation of a participatory space. One that simultaneously addresses the needs of the students, in the context of ESL learning, and allows them to bring their worldviews, as well as, informal learning practices and experiences into the classroom.

Instead of the top-down transmission of knowledge approach, learning should be supporting students in the contexts they belong to. The classroom should be a space where they feel they can participate and contribute. While, in media education, technology has been used more to reproduce many of the traditional assumptions of learning, there has been a growing interest to use social media in learning environments. Knowledge and skills can be shared around a shared purpose by students, and digital tools can provide new forms of creative production. The classroom can thus be amplified and turned into a participatory learning environment. A space in which students feel connected.

If the digital world has been reshaping what is understood by literacy in the 21st Century, it is pivotal to attempt to apprehend what are the implications for ESL teaching and learning practices. As Darvin and Norton (2015: 48) posit ESL teaching and learning has to encompass "the mobilities and complexities of the

digital age.” Ultimately, students (and teachers as well) need to know the territory and the rules of the game when it comes to learning a second language.

> As learners traverse simultaneous online and offline, local and translocal spaces, this practical sense enables learners to (a) master the rules, norms, genres, and multimodal features specific to different communicative contexts; (b) seamlessly shift codes, practices, and strategies while moving across spaces; and (c) use linguistic and nonlinguistic resources to gain access to, challenge, and transform these spaces.
>
> (Darvin & Norton, 2015: 48)

Such perception entails reflecting upon what kind of structures and conceptual frameworks might scaffold the process of language learning in the story world that Pringle (2016) mentions - a transmedial, interconnected world.

Assuming that the primary goal is to empower ESL students to fully navigate and participate in the spaces of the transmedia world, as well as shape them, then it is necessary to discuss what kind of literacies, strategies, and knowledge they need to master to become agents in this world. It implies reflecting upon the very nature of this world - the way information is produced and exchanged, and the digitally mediated practices that occur within the ecosystem.

> Implicated in relations of power, these digitally mediated practices are not ideologically neutral. They shape the representation of meanings and identities, the circulation of knowledge, the construction of social networks and formations, redefining notions of private and public space, while privileging and marginalizing ideas, cultures, and people.
>
> (Darvin, 2017: 1)

I share some of Boromir’s apprehension in exploring Mordor, when considering taking part in the transmedia world. The mediated world is not a neutral one. Not as visible as Sauron’s eye, there are power relationships; mechanisms of ideology and practices of control at play. Processes that shape our perception of reality. Processes that need to be acknowledged and addressed on educational grounds. In light of this, ESL learning should also entail the development of media literacy or what Darvin refers to as a critical digital literacy:

> Learners must develop a critical digital literacy to become more aware of how power operates in digital spaces, shaping ways of thinking and doing that are implicated in social and cultural reproduction. By sharpening this critical lens, learners equip themselves with the capacity to examine linguistic and nonlinguistic features of digital media, their biases and assumptions, in order to verify information and access the truth.
>
> (Darvin, 2017: 1)

The development of media literacy skills is a concern that extends beyond the sphere of ESL. It is a challenge for the educational community on a global scale. Thriving in the transmedia/ transnational world involves being proficient in the interpretation of information and creative production through media. Both dimensions being pivotal to empower the students of the present/ the citizens of tomorrow. It is a call for all educators.

> Media education directly challenges many of the assumptions and practices that characterize the teaching of language and literature in schools. It represents a call for a more inclusive and relevant – but also more coherent and rigorous – approach to teaching about culture and communication.
>
> (Buckingham, 2013: 49)

By drawing attention to these matters, I am neither dismissing the attempts and initiatives that are taking place in the present nor the ones done in the past across a wide variety of academic fields, nor the systemic institutional changes that have occurred up to this point.

In the past two decades, numerous studies developed within the field of technology-enhanced learning (TEL) have emerged targeting the integration of knowledge building processes learners develop outside classroom walls. The rising number of studies regarding mobile learning (m-learning) and location-based learning (LBL) is also evidence of educators' efforts to reach learners on the spaces they interact. By the same token, media literacy studies are in the present a vibrant arena of discussion of the challenges of the participatory culture.

Across the years, several frameworks have emerged: connected learning; transmedia play; transmedia learning; transliteracy. The lexicon to discuss literacy has also been expanded to include concepts such as digital literacy; media

literacy, 21st-century literacies, multimodal literacies, dynamic literacies, transliteracy or transmedia literacy.

In the particular case of language learning, the disciplinary areas of computer-assisted language learning (CALL), mobile-assisted language learning (MALL) and technology-enhanced language learning (TELL) have all made valuable contributions to explore the teaching and learning potential of technological tools. The problem is as Nicole Mirra points out:

> Much of the current rhetoric about technology and education relates to devices and software program […] The implicit message communicated by this rhetoric is that technology transforms education through the medium of specific tools – that these tools are what structure and produce powerful teaching and learning. Give teachers and students laptops and Google Classroom accounts, and magic will ensue.
>
> (Mirra, 2018)

Unpacking all the terms, theories, models and studies developed under the disciplinary fields mentioned above is beyond the scope of this document. The point here is that there is still work to be done in what concerns the development of an all-inclusive plan of action to endow future citizens with the indispensable set of competencies to participate and thrive in tomorrow's society. The *2017 report of Internet Society* puts to the fore the need for collective action to address technological, economic, social and political shifts in the years to come.

> Technologies such as the Internet of Things and Artificial Intelligence are set to redefine our understanding of the world around us, reshaping economies and societies in unprecedented ways and necessitating new thinking, new approaches and new models to address a range of emerging issues. [We need] a different mindset that helps us move from managing disruption to the way things are today, to inventing new frameworks for anticipating and managing the way things will be.
>
> (Internet Society, 2017: 112-113)

More than harnessing the tools, it is crucial to develop a “new ecology of learning that fosters collaboration, communication, and creativity” (Mirra, 2018).

Through the study of existent literature concerning transmedia and education, Espinosa and Gómez (2017: 32) highlight one of the hurdles of developing research in this area. The authors argue that while there is a large number of studies indicative of the potential use of transmedia environments in educational settings, the field is still relatively new and incipient.

In other words, educators do have a plan and a map for the journey, a set of references upon which they can base their pedagogical practices nevertheless, there isn't sufficient work to examine how these matrixes can be applied in the field. There is a lack of an explicit pedagogical perspective and knowledge of how the diversified proposals of frameworks can be put into action. Mirra (2018) echoes this concern when referring to the connected learning framework - one the author considers having the potential to be used in educational settings. "I realized that we need a model of connected teaching to complement the model of connected learning." The author further adds, in reference to a wider set of approaches used in language learning:

> While these pieces often went into great detail about how young people responded to the innovative learning opportunities designed by the educators in their lives, they did not usually delve deeply into how these educators developed the knowledge, skills, and dispositions that helped them design these opportunities in the first place.
>
> (Mirra, 2018)

In light of this, it is necessary to develop a holistic perspective that integrates the multiple dimensions of the learning process. Moreover, to understand whether or not a model is effective or appropriate to a specific learning context, it is fundamental to build a knowledge base constituted by a sufficient sample of implementations that can be critically and comparatively analyzed.

A substantive corpus of data can only be established through time. However, it is a crucial step that must be taken to assess both comprehensively and critically the impact of the use of these models. It is my conviction that the documentation of how the models are deployed in diversified learning contexts will over time facilitate the identification and selection of factors and elements that

might be appropriated or repurposed by educators, in their specific learning settings.

The primary and developmental question that this research is concerned with is how can transmedia storytelling be used to enhance the learning of ESL in Portuguese formal learning environments. Subjacent to this quest is the motivation to best suit the needs of the 21st Century ESL students, in Portuguese context.

Setting aside the discussions arising from the definition of what transmedia storytelling (TS) is or is not, within the context of this research, TS is used to describe:

> […] a process where integral elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience. Ideally, each medium makes it own unique contribution to the unfolding of the story.
>
> (Jenkins, 2007)

The proposal here is that TS practices can be used in the design of learning experiences that create engagement and hence foster students' active participation. TS involves worldbuilding, and in this perspective, it might extend to content worldbuilding and the exploration of curricular topics as well.

This research explores the hypothesis that acting as a media ecosystem, a transmedia storyworld designed for learning ESL can be perceived as a multimodal sandbox within which learners can gain a higher agency to experience and acquire a second language. The underlying assumptions to this hypothesis are:

- if students develop second language acquisition processes in a transmedia world, they might show a predisposition to explore a transmedia storyworld targeted to ESL learning;
- a transmedia storyworld if designed around the students' interests and curricular topics, may facilitate the learning process;
- a transmedia learning storyworld may be designed to explore the underlying challenges and impact of a media charged environment since at the core of

its functioning is the intertwining of media platforms and the interactions across them.

Against this backdrop, the research study presented in this document was guided by the following questions:

- What are the affordances and limitations of using a transmedia learning storyworld as a dialogic and participatory space for ESL acquisition processes?
- What type of worldbuilding features can enhance a transmedia learning storyworld for ESL?
- Which media integration models can be used in a transmedia learning storyworld to enhance the exploration of teaching and learning processes in the context of ESL?

This research study attempts to bridge the gap between researchers and classroom practitioners of ESL. Both communities are on the same quest to understand, map, and address the challenges of ESL learning in the 21st Century. Nevertheless, teachers find that research studies in and about these matters are often too abstract or detached from practice while researchers, in contrast, argue for a systematic approach able to generate comprehensive and applicable solutions across time. On this account, there is a need to establish a dialogue between the members of these communities of practice.

> Teachers and researchers have repeatedly arrived at the recognition that one of the most promising solutions to the teacher-researcher divide may lie in achieving effective cross-cultural dialogue between the two groups of professionals, with the aim of producing hybrid solutions that meet the needs and standards of both sides. […] unless we actively encourage a non-partisan approach in this area, the natural tendency of both camps is to follow their own impetus and try to do it their own way.
>
> (Mackay, Birello and Xerri, 2018: 8)

Guided by an expert/ practitioner perspective, this research study seeks to reconstruct knowledge emerging from research in transmedia and educational

fields of study into classroom practices using as an object of study a transmedia learning storyworld.

A transmedia learning storyworld is multifaceted, and multimodality is a critical aspect that grounds its experience. Thus, it requires a holistic study approach. One that not only targets the reflection upon particular features of each platform but also how they function semiotically and support a learning experience, in particular how they can convey meaning and support activities that foster the development of students' proficiency in ESL.

Via the design, development, and implementation of a transmedia learning storyworld, this research intends to map and document possible instructional practices that may be used in ESL formal learning contexts, as well as contribute to the development of instructional design guidelines for ESL transmedia learning storyworlds.

Accounting for the fact that pedagogical knowledge regarding transmedia learning is scarce, this research resorts to design-based research (DBR) methods. In the context of CALL, Kali highlights that

> DBR can foster the development of theories that are used to describe, explain, predict, or even mediate educational variables related to CALL. Particularly useful DBR yields theoretical insights of a prescriptive nature, often referred to as design principles.
>
> (Kali, 2008: 423)

The diverse and complex nature of the interactions that might emerge from the application of a transmedia storyworld within formal learning environments implied developing a case study. The research process would be hindered if the users' experiences of the storyworld were not taken into consideration. In light of this, the description of the application of the storyworld emerges through the use of qualitative and quantitative research methods such as observation, semi-structured interviews, feedback activities and collection of learning artifacts developed by the participants of different cycles of implementation of the storyworld in classroom settings alongside surveys to trace their profile and specific preferences of interest to this research.

The report of this research seeks to ignite the discussion about teaching and learning practices in ESL against the backdrop of a transmedial, interconnected media landscape. This research project is specifically targeted to address the needs of Portuguese ESL students; nevertheless it attempts to provide a contribution to the ESL community at large. This being the reason why this document is published in English.

The challenges that this research attempts to address extend beyond the national frontiers and increasingly the dialogue among experts and practitioners of ESL; English as a foreign language (EFL); and in general the ones interested in the art of teaching and learning a foreign language has acquired a transnational dimension.

It is a collective journey. Returning to Boromir's cautionary warning addressed to the members of the Fellowship of the Ring depicted in the meme mentioned at the start. The transmedia storyworld, described by Pringle (2016), in which students interact and develop their cultural and social presence is not "a barren wasteland" as Mordor. It is a participatory space constructed by many and poses both opportunities and challenges. In the same manner as Frodo, in LOTR, relied on the concerted efforts of the fellowship to delve into Mordor and be successful in his mission, educators should harness the power of the collective to face the challenges of the complex, disruptive and ever shift shaping interconnected world.

Unlike in LOTR, no hero is coming to save the day. Designing new learning ecosystems that cater to the 21st-century students' needs should be perceived as a shared purpose. It requires a bottom-up strategy; it is a quest for all educators to drive change first in their contexts and by sharing their experiences and acquired knowledge, with the larger community, to forge new learning paradigms.

Ultimately, educators seek to empower students with knowledge and skills that allow them to thrive within the spaces they interact. Through their actions, they have a vantage point that allows them to take part in the design of tomorrow's world. In this context, Pringle draws attention to the fact that storytellers in the 21st Century are fixers. I extend this role to educators.

> In this newfound role as designers, storytellers are uniquely equipped to bridge chasms in society, to point out what we don't want to see, and what the algorithm-obsessed tech junkies keep hidden from sight […] They shine light on the darkness […] They are at once the fantasy weavers and the truth tellers. They are the fixers.
>
> (Pringle, 2016)

1.2 The Unfinished Research Mosaic

The object of study of this research is a transmedia learning storyworld targeted to language learning. It is shaped by different contributions that jointly represent the storyworld. A transmedia world is an open world and entails the possibility to be expanded beyond the original configurations. It is a dialogic space shaped by those who delve into it. Taking this into consideration and repurposing Jay Bushman's (in @hkoenitz, 2017) understanding of "Mosaic Transmedia," this research study resorts to the representation of an incomplete mosaic to shed light on the different pieces that together form the body of research that this document reports on.

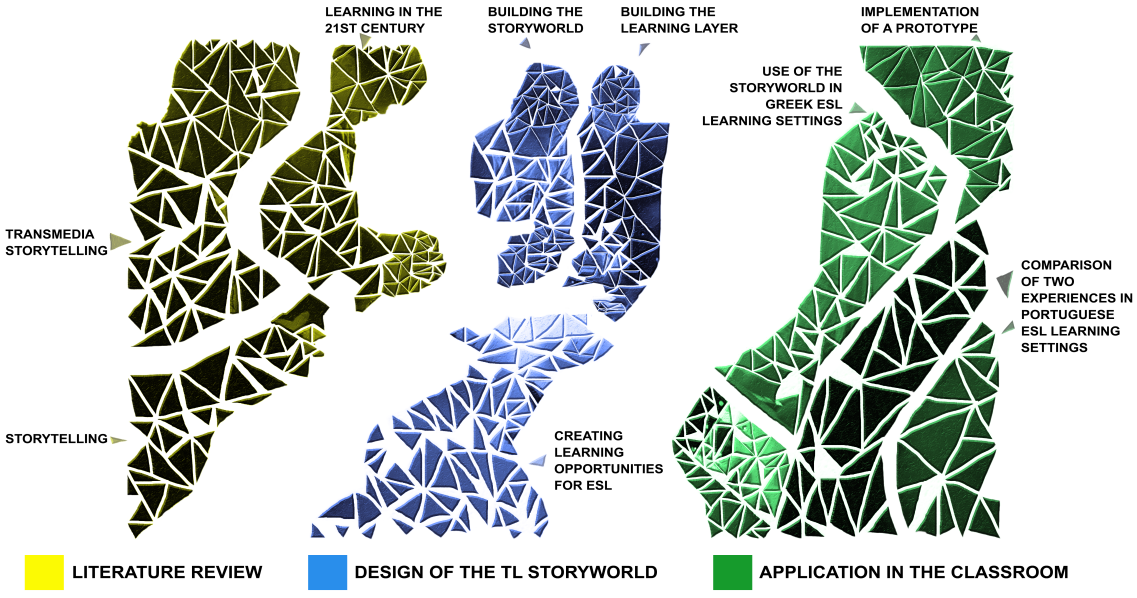


Figure 1.2 Elements of the research mosaic.

This research emerges from the exploration of three interconnected areas and stages. The first informing the second and the third representing the application of the priors.

1. Literature review - By breaking down the concept “transmedia”, “learning”, “story(world)” to the three words that compose it, it is possible to identify the three broad territories from which it was possible to draw theories and practices that could further inform the design of the storyworld. Moreover, this stage of research was essential to map the context of the topic this research is concerned about.
2. Design of the transmedia learning (TL) storyworld - This section considers worldbuilding aspects and processes as well as the design of the learning layer of the storyworld. It also provides insight into the strategies used to embed different ESL learning activities in the story world’s experience.
3. Application in the classroom - This block is constituted by the different cycles of implementation of the storyworld in classroom settings. It provides insight on the selected research framework; a description and analysis of the deployment of a prototype version of the storyworld; the enhancement of the storyworld resulting in the second version of it and its deployment in the second cycle of research. This one constituted by two learning experiences of the storyworld in two different national high schools. Further enhancing the description of the application of the storyworld in formal learning environments, it is presented an account of a learning experience in Greek ESL learning settings.

The primary goal was to combine theory and practice with experimental development work to attempt to reflect upon structures of interaction and possibilities of application of the TL storyworld in ESL environments. It is my conviction that future insights and ideas concerning the matters this research attempts to address will, in turn, provide different pieces to expand this unfinished mosaic. It is in this spirit that this document contemplates a section that provides an overview of the limitations concerning this study as well as suggestions of matters upon which future research might be conducted.

2. LITERATURE REVIEW

To provide an overview of the issues related to this study, this chapter is divided into three mains sections covering:

1. A selection of social and cultural aspects related to storytelling practices (section 2.1);
2. The context and a selection of conceptual considerations regarding transmedia storytelling (sections 2.2 to 2.2.5); the practitioners point of view (section 2.2.6 to 2.2.8); its use within a participatory culture (section 2.2.9) and an overview of aspects concerning the evolution of transmedia storytelling (2.2.10);
3. Pivotal issues concerning learning in the 21st Century (section 2.3 to 2.3.2); a selection of frameworks and pedagogical approaches that may be used to tackle the challenges of contemporary formal learning environments (section 2.3.3 to 2.3.8).

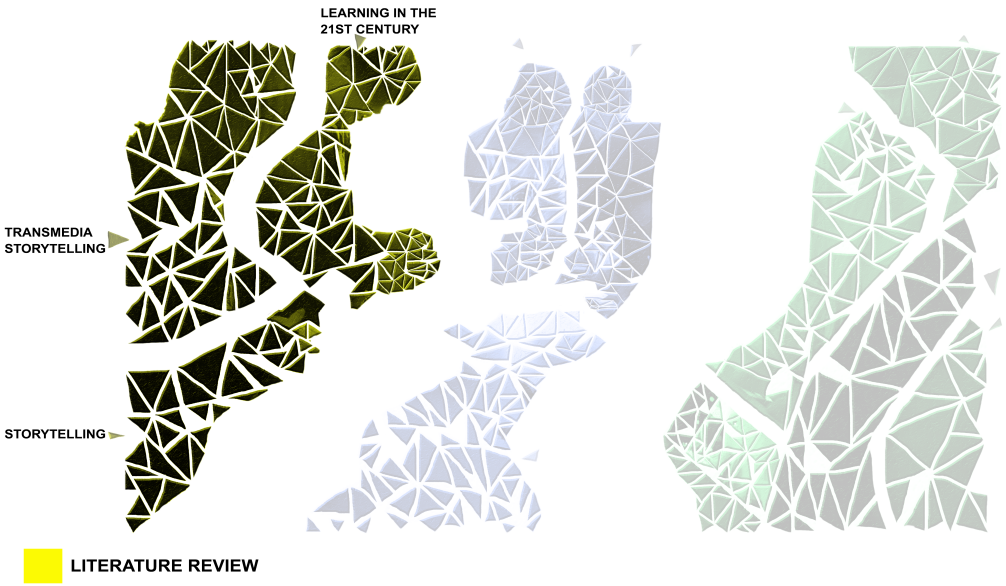


Figure 2. Overview of the main themes discussed in the literature review chapter.

2.1 Behind the Story

We use stories to make sense of our world and to share that understanding with others. They are the signal within the noise.
(Rose, 2012: 1)

Central to this research undertaking is the act of storytelling. This section explores it not only as a narrative practice but also as a fundamental element of identity, culture, and knowledge relevant to individuals and society in a broader sense. From bedtime stories we tell our children to the latest blockbuster in movie theatres, stories are deeply ingrained in our lives. Since ancient times, human beings are wired to tell stories. From Johann Wolfgang von Goethe to Joseph Campbell or dating as far back to 335 BC to Aristotle, who in *Poetics* outlines a universal framework for the art of storytelling, multiple attempts have been made, throughout the centuries, to understand why stories hold such a powerful grip on the human imagination.

There seems to be no consensus among theorists of narrative on the significance of narrative for human existence. From the epistemological point of view, a narrative is a cognitive instrument for imposing meaningful order onto human reality, while from the ontological point of view a narrative is considered to be something constitutive of human existence (Meretoja, 2014: 89).

While exploring human affinity for narratives, Jonathan Gottschall (2013) refers to humans as storytelling animals. He argues that human beings cannot function without stories since make-believe has played a major role in the evolution of human society - “[characters and situations] shape our behaviors and our customs, and in so doing, they transform societies and histories” (2013: 145). From orality to digital devices, narrating is an activity through which the human seeks to make sense of reality and is adapted according to different needs - religion; science, social change or identity. All human societies have their founding narrative shared in the form of myth, legend or tale. For Barthes, the myth more than a message is a communication system (Meretoja, 2014: 104) - an assumption

that resonates with one of the central questions explored in Marshall McLuhan's work. The media philosopher posits that societies are shaped by the nature of the media through which individuals communicate to detriment of the possible content of communication. Bringhurst further implies that "myth is a theorem about the nature of reality expressed in animate narrative form" (2009: 63).

Similar to science, myths seek to perceive and express ultimate truths, nevertheless hypotheses are framed as stories instead of equations (Bringhurst, 2009: 64). Bringing a different perspective, Karen Armstrong posits that to a certain extent, myths complement science by exploring worldviews and ourselves in ways that science cannot:

> […] mythology is an art form that points beyond history to what is timeless in human existence, helping us to get beyond the chaotic flux of random events, and glimpse the core of reality. […] It is, therefore, a mistake to regard myth as an inferior mode of thought, which can be cast aside when humans have attained the age of reason. Mythology is not an early attempt at history, and does not claim that its tales are objective fact […] it is a game that transfigures our fragmented, tragic world, and help us to glimpse new possibilities by asking 'what if?' - a question which has also provoked in philosophy, science and technology.
>
> (Armstrong, 2004: 6 - 9)

Stories take shape throughout time as they are passed down from generation to generation but also in an almost instant manner through posts, photographs, encapsulated in 140 characters (or more recently 280, in reference to the Twitter platform) in endless feeds online. "Now, more than ever, stories matter. Tides have been turned and elections won by the power of a compelling narrative" (Mui, 2017). Robert McKee, the "God of Story," goes even so far as to state that stories play a role on the survival of our species - "What we do as storytellers is crucial to the success of our species on the planet." "[…] All stories say how and why life changes. They equip us to live" (Lott, 2017). By witnessing the inner dilemmas of people on screens or pages, stories provide a form of relief and mediate the contradictions that make life unlivable which, according to McKee, is an evolutionary adaptation to consciousness.

Besides triggering change on the community level, stories bolster the sense of belonging and identity. Ersner-Hershfield, Wimmer, and Knutson (2008) put forward the construct of identity as an entanglement of stories lived and learned by individuals. A matter, according to the researchers, that goes beneath conscious awareness. They ground this conception of identity on their research work to verify if giving individuals vivid images of their older selves would alter their spending and saving predispositions. The study revealed that only subjects who were shown their future selves seemed prone to favor long-term gains over immediate ones (Ersner-Hershfield, Wimmer & Knutson, 2008). While combining imagination, emotion, and transformation, stories assist individuals to understand the creative process of change. This, in turn, can reposition an individual's identity or sense of place in the world in an extensive manner.

Storytelling can also prompt individuals to alter and improve their health by tapping into the emotional dimension of stories. By identifying eloquent and persuasive patients with hypertension and recording their accounts on what they did to control their blood pressure, researchers at University of Massachusetts Medical School were able to identify a direct positive correlation between exposure to the personal stories and lower blood pressure levels and disposition to change habits (Shelton, 2011). One could almost argue that a story acquires an organic property in this case.

Neil Gaiman calls into question the organic nature of stories by proposing a symbiotic relationship between humans and stories. Drawing on the biologist Jack Monod's concept of "abstract kingdom" - a biosphere crowded with ideas that are disseminated similarly to the way organisms populate the natural world - Gaiman considers stories to be life-forms able to grow, reproduce and propagate in the same way organic matter does. According to the author, people are the media in which stories reproduce:

> […] we are their Petri dishes. Stories grow, sometimes they shrink. And they reproduce — they inspire other stories. And, of course, if they do not change, stories die. […] They need human beings to reproduce, much as we need food. We need things to keep ourselves alive. Maybe stories really are like viruses. Functionally, they are symbiotic - they give and give back.

(Gaiman, 2015)

Similar to a playwright crafting a story by blending knowledge, imagination and conscious effort, the studies mentioned above present the possibility that individuals may control the brain's natural interest and response to stories and target this process to alter a version of themselves. Nevertheless, the potential of storytelling cannot be narrowed down solely to the exploration of identity. "Stories are recognizable patterns, and in those patterns we find meaning" (Rose, 2012: 1). Possibly one of the most referred usages attributed to a story is the instructional one. Referring to the value of narratives, Walter Benjamin puts forward that stories carry a didactic message - "every real story […] contains, openly or covertly, something useful. […] In every case the storyteller is a man who has counsel for his readers" (Benjamin, 2016: 2-3). Findings on the neurobiology of storytelling indicate "that character-driven stories with emotional content result in a better understanding of the key points a speaker wishes to make and enable better recall of these points weeks later" (Zak, 2014). Moreover, reporting to educational settings, storytelling is a process commonly used by educators given its didactic affordances - "a process where students personalize what they learn and construct their own meaning and knowledge from the stories they hear and tell" (Behmer, 2005). It's little wonder that storytelling is a prevalent educational tool used in the most diversified contexts, subjects, and ends. Proceeding chapters will attempt to provide from different perspectives and approaches the relevance of the use of storytelling in learning contexts.

As important as the story itself is the medium through which it reaches its audience - " […] if stories themselves are universal, the way we tell them changes with the technology at hand. Every new medium has given rise to a new form of narrative" (Rose, 2012: 1). By considering stories to be a reflection of human development, it is necessary to acknowledge the impact of technology in expanding the storytelling toolkit available through a simple click or swipe on the latest networked gadget of its user.

Rose observes that the Internet, as the first medium able to act like all media, enabled the emergence of a "new" type of narrative - "one that's told

through many media at once in a way that's nonlinear, that's participatory and often gamelike, and that's designed above all to be immersive" (Rose, 2012: 1-2). The utility of the story itself has changed. Posts, tweets, videos as so many other expressions of individuals in the online world are calls to action, instigate participation and contribution. By becoming participatory spaces, stories acquire an experiential value - "They have the potential to be more dialectic (thought and action-oriented) as well as dialogic in their form (thought and action-directed; connected to other works and other authors)" (Sonnenfeld, 2015). In the online world, there are plenty of examples of the use of storytelling as a tool for influence and a bridge across the divides. Mary Alice Arthur (2017) singles out a set of features that stories might entail which can be applied to the design of communal narratives:

- stories can create a frame for collective action;
- stories can illuminate or reinforce missions, values, visions, ethics or stance;
- stories may become "safe spaces" allowing the dissenting voice to be heard and favoring the discussion of complex matters;
- through stories, people can share a vision, path and/or journey.

Hence, for Arthur, storytelling can be interpreted as a learning and leadership practice; viewed as process partner and/ or a resonance tuner, and feasibly as "part of the art of practicing humanity" (2017). Next, follow two examples of communities that make use of storytelling practices for activism, in which it is possible to identify some of the traits enumerated by Arthur:

Founded by the musician Peter Gabriel, in 1992, Witness (n.d.) is an international organization dedicated to the fight for human rights. Under the moto - "See it, film it, change it", the movement creates, supports and sustains a global network of citizens who use video as a tool and weapon. By promoting the documentation of human rights violations, Witness aims to raise the public awareness for their campaigns, promote policy change and justice. To support the community, Witness provides activists and videographers with training resources

on how to use video effectively and safely, as well as, an advocacy planning toolkit to aid organizations in developing a strategic video advocacy plan.

Witness has successfully partnered up with 425 organizations in more than 108 countries across the globe and was able to train more than 7000 people. Using video as evidence, the organization has run notable campaigns throughout their course of action and continuously supports initiatives as diverse as the protection of the rights of sex workers in Eastern Europe, senior citizens in the United States of America or child soldiers in the Democratic Republic of Congo. One of the organization's most successful campaigns targeted police violence in Brazil. Through the lens of community-based activists, it was possible to report acts of police violence in a group of urban slums in Rio de Janeiro. The footage was later used as evidence and brought to the public through the New York Times article - "The Media Doesn't Care What Happens Here" (Shaer, 2015).

The *Question Bridge*: *Black Males project* was launched back in 2012. It is described on the site as a "transmedia project that facilitates a dialogue between a critical mass of black men from diverse and contending backgrounds and creates a platform for them to represent and redefine black male identity in America". The goal was to raise awareness to the stereotyped depiction of American black males in the media and promote a critical and multifaceted representation of this particular demographic group.

Currently, the documentary-styled art installation is part of the permanent collection of the Smithsonian National Museum of African American History and Culture. *Question Bridge* is grounded on a question-answer exchange approach to promote interaction among the members of this specific community:

> First, one person asks a question looking into camera, as if they are talking directly to another person. Later, another person responds by talking directly into a camera. This question-answer exchange, the *Question Bridge*, reduces the stress of normal face-to-face conversations and makes people feel more comfortable with expressing their deeply held feelings on topics that divide, unite and puzzle.
>
> (*Question Bridge*, n.d.)

The dialogue initially sparked by a five-screen video installation, exhibited in over 30 museums and festivals, expanded to an online conversation between Black males across the United States of America through a website and a mobile app. This time, the artists Chris Johnson and Hank Willis Thomas were aiming towards the creation of a map of Black male identity, a living archive of voices searchable by time and space frames.

Engagement among members of the community was also achieved through events designed to promote intergenerational contact and communication. During the *Blueprint Roundtables*, participants discussed strategies to achieve success. Complementing this initiative, the project included an online education curriculum, targeted to high school students, focused on the topics of identity, inclusion and conflict resolution.

It is not clear, by the apparent lack of updated information on the website, whether or not the project continues to grow. Nevertheless, the wide acceptance from diverse audiences, between 2012 – 2016, demonstrates *Question Bridge* was successful at spreading the message and triggering a shift in the point of view of members of the American society on such a complex matter. The artists state “If we succeed in deconstructing stereotypes about arguably the most opaque and feared demographic in America, then the *Question Bridge* model can work to overcome limiting assumptions about any demographic.”

In light of the set of story features mentioned earlier, it becomes evident that Witness or *Question Bridge* provide a secure space for the members of their communities to express themselves. Both organizations strive to empower their members by providing strategic resources and by taking into account the constraints of the context in which they develop their actions. The myriads of stories emerging from these projects promote the discussion of complex issues not only within their communities but also outside. Their visions echo, as put into evidence, to a wider audience.

While the “web of narratives” might be used to forge communities enabling different social actors to come closer and through collaboration alter and envision systems they share; the participatory space is also used to provide visibility to the myths and narratives of extremists. “Where formula dominates much

entertainment, fundamentalist narratives crowd many other social arenas, such as religion, politics, science" (*Biology of Story*, 2016). The robust social media campaigns of the Islamic State to recruit new members or posts and videos of the Neo-Nazi communities are disquieting examples of how to legitimize radical worldviews. Concerning the emergence of "weaponized propaganda" narratives, in an interview about the need of a what at the time Jeff Gomez (expert in the fields of storyworld development and transmedia storytelling) referred as a "vital new narrative model" and later established as the "Collective Journey Model" (described in a more detailed manner in the next section), the transmedia producer observes the following:

> Like most people, I was sickened by the actions of ISIS and was struck by how rapidly they had risen. Their messaging was crystal clear to me as if they were a corporate media machine, and yet they were this decentralized band of pirates. When I looked closer, however, I realized they were better at building their brand and conveying their story than any government, because they fully understood the power of the internet and social media. Figuratively speaking, they were running around with iPhone 10's, while the Obama administration was responding with flip phones.
>
> (Gomez in Staffans, 2017)

Perhaps what we, as humans/ citizens/ creators and members of a culture, should delve into is the impact of the stories we are creating or sharing. In the words of the story activist Mary Alice Arthur: "The red thread through all of this is the power that stories have to put us on a pathway into our future. Stories can hold us down or they can lift us up - we can choose" (Arthur, 2017).

Leaving the passive role of "story listeners" behind and taking on the role of storytellers as well as system change agents, implies dealing with the challenge of developing communal narratives by harnessing the power of the media and technology available - "We need to develop new processes of collective storytelling to help us navigate these turbulent and polarizing times" (Saltmarshe, 2018). Research on participatory practices in media environments, in particular in relation to storytelling, is still scarce yet fundamental:

> [...] looking at online communication as semiotic practice offers a glimpse into both ways in which resources and affordances are deployed by users of particular platforms and more general ways in which the use of technologies is shaping interaction and culture in the late-modern world.
>
> (De Fina, 2016: 493)

By the same token as De Fina, the media scholar Janet H. Murray denotes the dynamic nature of storytelling in connection with the media ecosystem - "after a new medium is invented, storytelling conventions don't crystallize overnight; they get refined incrementally, often in complex dialogue with the needs, desires, and problems of the cultures that produce them" (Janet H. Murray in an interview with Margini, 2017). The digital space is here postulated as deeply immersed in the cultural sphere and storytelling strongly intertwined with the activities and practices of the participants of these arenas. Accordingly, narrative and cultural dimensions of representation should not be envisioned as dissociated from digital technology and the dynamic field of multifarious practices it materializes - "objections to the possibility of deeply meaningful digital narrative forms" are rooted in "empty expressions of nostalgia for older media artifacts" (Murray in Margini, 2017).

In her groundbreaking work *Hamlet on the Holodeck* (1997), Professor Murray discusses the spatial, procedural, participatory and encyclopedic properties of computer-mediated environments and connects them to forms of storytelling. She also announces the rise of the "cyberbard":

> […] a future digital Homer will arise who combines literary ambition, a connection with a wider audience, and computational expertise [...] for now we have to listen very, very carefully to hear, amid the cacophony of cyberspace, the first fumbling chords of the awakening bard."
>
> (Murray, 1997: 213)

Twenty years forward, the cyberbard has matured - " [he/ she/ it] makes a fundamental choice about which aspects of the digital medium to use and which parts of the users' bodies to address" (Nack & Gordon, 2016: 55). The cyberbard forfeits authorship control and willingly hands it over to users/ interactors.

He/She/It is now a designer of expressive potential rather than a creator of singular visions.

The cyberbard's territory - the Interactive Digital Narrative (IDN) - has increasingly been the focus of attention of researchers and is already an established academic field. In essence, an interdisciplinary field, it crisscrosses computer science, diversified artistic practices and, literary studies. Despite the fact that IDN has been the target of inquiry for the past two decades, it doesn't certainly mean that it is an exhausted academic topic. In fact, "it is still in its infancy compared to other narrative forms like the stage drama, the printed book or the moving image" (Koenitz et al., 2015: 2). This is due to its nature - an intersection of developments of different fields, which do not evolve at the same pace and which are expanding in unprecedented and idiosyncratic ways - "there are no signs of stagnation on this creative frontier for narrative expressions. Great things are yet to come" (Koenitz et al., 2015: 19).

Cyberbards from different academic quadrants have yet to tackle the implications of the emergence of rich interfaces; reconsider roles and processes of communication between authors and audiences as stories are now spilling out of the screen and progressively gaining presence, in our surroundings. Such is the case of locative media art, augmented-reality (AR) or mixed reality narrative forms. The innovative, fast-paced and disruptive nature of the IDN leaves no room for a clear prediction of how stories will be designed, experienced or by whom or what they will be constructed.

Chalkroom by Laurie Anderson, a virtual reality (VR) installation, is by itself a metaphor to this matter. In a library of stories, the audience is led to experience not only the space of imagination of a story but the architecture of the story itself. While navigating through words and letters labyrinths and passageways against a three dimensional sound design, participants float and fly in an immersive journey that takes them to the transient meanings of the fractured languages that compose a storyworld. The decentralized experience and the broadness of this VR universe draw the audience to deconstruct the architecture of the very platform through which it materializes.

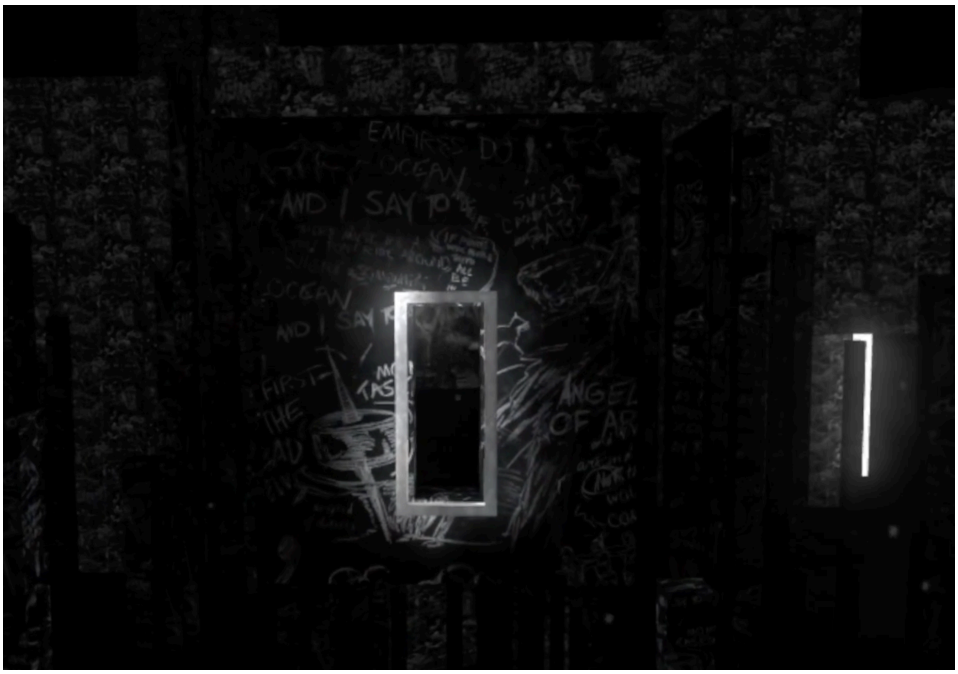


Figure 2.1 Screenshot of *Chalkroom* in Louisiana Channel. (2017). Laurie Anderson Interview: A Virtual Reality of Stories [Video]. Retrieved from https://vimeo.com/233785242

Plausibly, this might be the quest for the cyberbard in the 21st Century - to explore a library of stories aware of the fact that “no one will find them all” (Laurie Anderson in Louisiana Channel, 2017) while breaking apart and appropriating the elements of the storyworlds that cross his/her/its path. The insights of Josh Jones (2017) regarding *Chalkroom*, are in this matter, thoroughly apropos:

> While the sci-fi dreams of virtual and “augmented” reality are now within the grasp of artists and game designers, the technology of the adult human brain remains rooted in the stone age — we still need a good story to accompany the flickering shadows on the cave wall.
>
> (Josh Jones, 2017)

This might well be the constant in the design of IDN equation.

As an ancient cultural practice, storytelling is rhizomatic and therefore the subject of multitudinous studies. These come in all sizes and shapes - written works, computer games, film among many other formats of expression. The interdisciplinary, interactive documentary *Biology of Story* (Buchbinder, 2016) embodies the convergence and the interconnectedness of fields that expand under

the umbrella of storytelling. Incidentally, the project was created based on the Cinema and Media Arts Professor Amnon Buchbinder's awareness of the fact that the subject was too extensive to be explored solely from an individual perspective, and inherently the need for a multidisciplinary approach to what he considers to be "a living thing" that will keep growing and evolving.

On that account, the goal of this section was not to provide an extensive overview of the topic. This could be compared to a mission doomed to fail from inception. Instead, the attempt here was to bring into focus pertinent issues regarding the act of storytelling - framing it within the contemporaneous society, culture and, media ecosystem. By doing so, laying the foundations for the discussion of other topics that relate to this research study. The following two sections tap into the intersections of storytelling and two broad academic fields: transmedia and learning. It is, to a certain extent, a reconnaissance mission of the territory from which this research project emerges.

2.2 Defining Transmedia Storytelling – a Complicated Affair

Put two transmedia creators in a room together, and
pretty quickly you'll have three definitions of transmedia.
Jay Bushman
(cited in Nunes, Oakley & Nisi, 2017: vi)

The motto "If it doesn't spread, it's dead" (Jenkins, Ford & Green, 2013) captures the essence of the 21st Century media ecology. The media landscape is now shaped by its users who no longer are consumers of prefabricated content and instead, create; reframe; remix and share it in numberless ways. It is a paradigmatic shift towards a hybrid model of content circulation "shared across and among cultures in far more participatory (and messier) ways" (Jenkins, Ford & Green, 2013: 1) with profound repercussions in cultural and creative practices. In this context, drawing of the immersive and participatory potential of digital tools, the 21st Century cyberbards give rise to a new form of storytelling. Stories that unfold across different media platforms amplified through the use of different languages and that deliver a unified immersive experience of "a" and "the" world.

In many instances, transmedia storytelling (TS) reflects the change in the mode audiences engage with content and embodies the interactions of the 21st Century media ecosystem. Like adding notes to a melody, TS entails the creation of a coordinated and complex experience spread across media platforms. One in which each medium (without displacing others) "adds a new cultural layer, supporting more diverse ways of communicating, thinking, feeling and creating" (Clinton, Jenkins & McWilliams, 2013: 11).

This section embarks to analyze some of the questions and challenges that feed the discussions, in and between different disciplinary fields, of framing and conceptualizing TS. By providing a sample of the polyphonic discourse that this topic has spawned, the goal is to produce an x-ray of the object of study of this research.

TS is studied by a wide array of disciplinary fields. The academic discussion of the topic is extensive (nevertheless not exhaustive), vital and productive but also challenging regarding terminology. While each research field broadens the

debate by exploring and describing TS in its manifold forms and means of existence, it does so from its particular point of view and making use of its specific nomenclatures and methodologies. The concept defies linear and unilateral clarifications though; it is polysemous and inherently requires a flexible and polymorphic approach to understand it.

> Theoretical and analytical considerations around the development of transmedia projects are evolving, but are still widely open, probably because transmedia storytelling is a relatively new subject that does not yet have its own specific methods and methodology of analysis. Moreover, transmedia projects are complex phenomena involving multiple dimensions, such as narrative, cultural context, marketing, business models, and legal framework.
>
> (Rampazzo Gambarato, 2013: 81)

2.2.1 The Origins

The origins of the term can be traced as far back as to 1976. The percussion composer Stuart Saunders Smith mentions one of his pieces - “Return and Recall” - as a trans-media composition. For Smith, trans-media means that it transcends a single performance discipline. “The notation applies to any of the performing arts […] how one moves from one category of information to another. This is done by either a gradual transition or a sudden leap, like a jump-cut in the movies" (Sauer, 2009).

2.2.2 Transmedia Intertextuality and Media Mix

The concept of TS draws directly from the concept first introduced by Marsha Kinder - transmedia intertextuality.

By observing her son's eagerness to expand his knowledge about the *Teenage Mutant Ninja Turtles* (TMNT) TV series through other media, Kinder recognizes transmedia intertextuality as the element that strengthens what she refers as the supersystems of entertainment.

> This combined mode of spectatorship helps to account for the extraordinary success of that commercial supersystem of transmedia intertextuality constructed around TMNT, those ultimate sliding signifiers who transgress every important border, except gender.
>
> (Kinder, 1991: 3)

Also concerning the study of commercial franchises and relevant to this discussion is the concept of media mix. Mizuko Ito draws on the *Pokémon* and *Yu-Gi-Oh* phenomena to describe it.

> By linking content in multiple media forms such as video games, card games, television, film, manga books, toys, and household objects, Pokémon created a new kind of citational network that has come to be called a media mix.
>
> (Ito, 2005: 184)

It is noticeable how the intertextual referencing process, Kinder identifies in supersystems of entertainment, is present in the concept of media mix.

2.2.3 Transmedia Storytelling defined by Henry Jenkins

Perhaps the most prevailing definition of TS is the one provided by Henry Jenkins. The prominent media scholar first introduced the term in 2003, in the article “Transmedia Storytelling” but would subsequently refine the definition in his influential work - *Convergence Culture: Where Old and New Media Collide* (2006).

> A transmedia story unfolds across multiple media platforms, with each new text making a distinctive and valuable contribution to the whole. In the ideal form of transmedia storytelling, each medium does what it does best—so that a story might be introduced in a film, expanded through television, novels, and comics; its world might be explored through game play or experienced as an amusement park attraction.
>
> (Jenkins, 2006: 95-96)

In following years, meeting the need to clarify the concept even further, Jenkins would propose seven principles of TS (2009, 2009a) based on "ways that transmedia connects to historic cultural practices":

1. Spreadability vs. Drillability - spreadability in reference to "the capacity of the public to engage actively in the circulation of media content through social networks and in the process expand its economic value and cultural worth" (2009) and drillability to the ability to explore narrative extensions of a fictional world that the audience is drawn to;
2. Continuity vs. Multiplicity - continuity in reference to the coherence and plausibility of a fictional world and multiplicity in reference to the possibility of parallel versions of stories or alternate versions of characters;
3. Immersion vs. Extractability - immersion in reference to "the ability of consumers to enter into fictional worlds" (2009a) and extractability in reference to the ability of users/ fans to obtain and shape extractable elements of a fictional world;
4. Worldbuilding - in reference to transmedia extensions that may enhance the core narrative and provide a broader perception of a fictional world;
5. Seriality - in reference to the possibility of creating a plot/ sequence out of story chunks dispersed across diverse platforms;
6. Subjectivity - in reference to the capability of transmedia extensions to tap into unexplored aspects of a fictional world as well as provide backstories and insight into secondary characters;
7. Performance - in reference to strategies to promote spaces for the active participation of fans.

2.2.4 (More than) A Question of Semantics

There is no consensual acceptance regarding the proposed definition. Nevertheless, it has sparked and has been at the center of fruitful discussion since it first came to light. The fact that TS can be applied in such a wide-ranging array of areas of practice and study implies that different practitioners and theorists may find the concept fragmentary or in conflict with well-established nomenclatures. Jenkins addresses this issues, in his blog, by pointing out that "part of the problem is that many people are looking for simple formulas and a one-size-fits-all definition, trying to delimit what transmedia is" (2011) and stresses the need to be

receptive to the variations TS might entail in relation to different production practices and theoretical debates. The fact that Jenkin's approach is not accepted as canonical has led to the emergence of what Scolari considers to be a "seeming semantic chaos" (2009: 587). Definitions that to a certain extent are analogous and yet provide different points of view and insight into particularities of the phenomenon. Such is the case of cross-media; multimodal discourse; hybrid media; distributed narratives; transmedial world; among many others (Rampazzo Gambarato, 2013: 82). The bone of contention here is how TS is appropriated by practitioners and researchers within their range of action which eventually leads to the dilution of the meaning primarily attributed to it (Schneidmueller, 2016: 44).

The discussion of the concepts of TS versus cross-media is fairly illustrative on this matter. Drew Davidson defines cross-media communications as follows:

> [...] integrated, interactive experiences that occur across multiple media, with multiple authors and have multiple styles. The audience becomes an active part in a cross-media experience. It is experiences that occur across the Internet, video and film, broadcast and cable TV, mobile devices, DVD, print, and radio. The new media aspect of the 'cross-media experience' typically involves some level of audience interactivity.
>
> (Davidson et al., 2011: 4)

Even though TS and cross-media outwardly seem equivalent terms, when comparing both, the first is considered to be more general and wide-ranging in relation to the other. The main difference being on the focus. Both refer to production processes through varied media; nevertheless, TS highlights the narrative dimension of these processes. Another aspect that sets cross-media apart from TS is the fact that in cross-media experiences, the same content can be distributed over various platforms while in the case of TS each new text must make a distinctive contribution to the whole (Jenkins, 2006: 95-96). In light of this, the term cross-media tends to be most commonly accepted and used in professional and the media industry contexts in comparison to academic ones.

Cross-platform relates to delivery channels, and it does not necessarily imply additive comprehension (Jenkins, 2016).

> […] if the same documentary — say, 13th — appears simultaneously in theaters and on Netflix and perhaps down the line on DVD, then we can describe it as benefiting from cross-platform distribution. But there is no opportunity here for additive comprehension, no real reason for the same consumer to visit these various hubs to learn anything new.
>
> (Jenkins, 2016)

He further argues that the use, goal, and interactions between the media are what matters in transmedia practices - "the core question is not how many media but what kind of relationship exists between them, what kind of contributions do they each make, and what cognitive and social activities do they require from their spectators" (2016).

The preference or adoption of a term over another is also dependent on another factor - social, cultural or geographical space.

> The terms are organically evolving in step with the society in which they are inserted. [...] The terminology issue also depends on the country and/ or region. For instance, in the UK, the term multiplatform media production is favored instead of TS. Multiplatform, in the same direction as cross-media, is a broader concept that embraces a wide range of media production spread throughout several media platforms.
>
> (Rampazzo Gambarato & Lapina-Kratasi͡uk 2015: 3)

Jenkin's proposal is also challenging for narratologists. While TS creates a "fictional space that is constructed in and across these multiple media" (Jenkins, 2006: 334), "the precise narratological means through which this may occur can actually vary depending on the broader media landscape" (Scolari, Bertetti & Freeman, 2016: 7).

Part of the problem as Scolari puts forward is

> Transmedia narrative worlds are a real challenge for communication studies, in particular for narratology and semiotics. Like most media studies, narratology and semiotics have also proposed monomediatic approaches. We have many specific semiotics (semiotics of radio, semiotics of television, semiotics of cinema, semiotics of theater, etc.) but we don't have a semiotics of transmedia experiences.
>
> (Scolari, 2013: 3)

2.2.5 Transmedia Worlds

Jenkin's definition of TS has been broadly discussed and developed by scholars in diverse disciplinary fields as media, game, cultural studies; narratology, among many others, mainly from the media and narrative perspective. Nevertheless, there is also a vast amount of research regarding the critical and theoretical analysis of transmedia worldbuilding processes. Stemming from research developed from this perspective emerge concepts such as transmedial world (Klastrup & Tosca, 2004) or imaginary worlds (Wolf, 2012).

The concept of world is closely linked to TS. Worldbuilding is at the core of TS design practices.

> Transmedia storytelling is the art of world making. To fully experience any fictional world, consumers must assume the role of hunters and gatherers, chasing down bits of the story across media channels, comparing notes with each other via online discussion groups, and collaborating to ensure that everyone who invests time and effort will come away with a richer entertainment experience.
>
> (Jenkins, 2006: 21)

Jenkins proposes an approach that concentrates on a media-centered perspective (the process of telling a story across different media), Klastrup and Tosca, in the definition of transmedial worlds, put the focus on the abstract content properties of the world.

> Transmedial worlds are abstract content systems from which a repertoire of fictional stories and characters can be actualized or derived across a variety of media forms. What characterizes a transmedial world is that audience and designers share a mental image of the “worldness” (a number of distinguishing features of its universe). The idea of a specific world’s worldness mostly originates from the first version of the world presented but can be elaborated and changed over time. Quite often the world has a cult (fan) following across media as well.
>
> (Klastrup & Tosca, 2004)

The authors draw the definition from film theory's concept of genre: "Genres can be defined as patterns/ forms/ styles/ structures which transcend individual art

products, and which supervise both their construction by artist and their reading by audiences” (Ryall quoted in Lacey, 2000: 132) .

In the same manner, a genre acts as a structure recognized by audiences; the transmedial world shares a primary story, established by one acceptable version of an *ethos*, *topos*, and *mythos*, upon which users interact. These core dimensions shape the users' interactions and perception of in the world. They define their "worldness." According to Klastrup and Tosca (2004):

- *Mythos* relates to "the central knowledge one needs to have in order to interact with or interpret events in the world successfully" (Klastrup & Tosca, 2004); " key events that give meaning to the current situation of the world" (Ryan & Thon, 2014: 16);
- *Topos* to "what is to be expected from the physics of and navigation in the world" (Klastrup & Tosca, 2004); "the world's setting in space and time, the changing landscape, and unfolding of events" (Ryan & Thon, 2014: 17);
- *Ethos* to the "knowledge required in order to know how to behave in the world" (Klastrup & Tosca, 2004); "explicit and implicit norms and values, moral codices, and ethical conducts" (Ryan & Thon, 2014: 17).

The authors present the LOTR universe to illustrate the three dimensions further. In this world, *mythos* refers to Tolkien's description of the history of Middle Earth's people and races; *topos* to the languages and customs of the people in Middle Earth; while the *ethos* refers to notions of good versus evil or duty and willingness to sacrifice for the collective good, for instance. The claim the authors make is that by knowing and sharing the same context, users can create their stories and expand the original world.

Bringing a different voice to the discussion and focusing on the world as an independent entity, Wolf introduces in his pioneering work *Building Imaginary Worlds: The Theory and the History of Subcreation*, the concept of imaginary worlds, defined by the author (2012: 3) as transmedial (across various media), transnarrative (integrate separate narrative threads), and transauthorial (written by multiple authors) in form.

> An imaginary world can become a large entity which is experienced through various media windows; but quite often, no one window shows everything, and only an aggregate view combining a variety of these windows can give a complete sense of what the world is like and what has occurred there.
>
> (Wolf, 2012: 2)

For Wolf, the fact that imaginary worlds can be represented in multiple media windows allows them to be independent entities. The transmedial nature of these worlds also assures they subsist and prevail through diversiform instances.

> Transmediality implies a kind of independence for its object; the more media windows we experience a world through, the less reliant that world is on the peculiarities of any one medium for its existence. Thus, transmediality also suggests the potential for the continuance of a world, in multiple instances and registers; and the more we see and hear of a transmedial world, the greater is the illusion of ontological weight that it has, and experiencing the world becomes more like the mediated experience of the Primary World.
>
> (Wolf, 2012: 247)

The concept of imaginary worlds is rooted in the work of J.R. R. Tolkien and Samuel Taylor Coleridge. Coleridge (as cited in Wolf, 2012: 21-22) distinguishes between two kinds of imagination: primary and secondary. The author considers the primary imagination to be the "prime agent of all human perception" (p. 21). One that allows for the interpretation of sensory data converted into perceptions we use to make sense of the world around us (p. 21). The secondary imagination is what Coleridge's regards as "an echo of the former" (p. 21). Instead of interpreting sensory data, the secondary imagination uses and recombines ideas and concepts to create a picture that does not exist (p. 22).

Tolkien (as cited in Wolf, 2012: 23) extends both concepts to the idea of a primary and a secondary world. The first referring to the material, physical world as opposed to the second referring to the imaginary worlds made within it (p. 23). Secondary and imaginary in this context are used interchangeably. Regarding how both worlds relate to one another, Tolkien puts across the following:

> He [the story-maker] makes a Secondary World which your mind can enter. Inside it, what he relates is “true”: it accords with the laws of that world. You therefore believe it while you

> are, as it were, inside. The moment disbelief arises, the spell is broken; the magic, or rather art, has failed. You are then out in the Primary World again, looking at the little abortive Secondary World from outside... then disbelief must be suspended… But this suspension of disbelief is a substitute for the genuine thing.
>
> (Tolkien cited in Wolf, 2012: 24)

Wolf detaches the concept of world from story - "A compelling story and a compelling world are very different things, and one need not require the other" (p. 29). The author argues that stories are dependent on worlds because they "involve time, space, and causality, every story implies a world in which it takes place" (p. 29), as opposed to "a world can have multiple stories set in it, and need not be dependent on any particular story for its existence" (p. 29). Wolf further clarifies that “imaginary worlds may depend relatively little on narrative, and even when they do, they often rely on other kinds of structures for their form and organization” (p. 3), such as the case of (pp. 154-155):

- maps (to structure space and connect locations within the world);
- genealogies (to show how characters are related to each other);
- timelines (to organize events into sequences and histories which show how they are temporally related);
- nature (the materiality of the world);
- culture (fixed by the world's inhabitants and own history of the world);
- language (which derives from the culture of the world and provides its members a way to conceptualize the world collectively);
- mythology (how a culture understands, explains and remembers its world);
- philosophy (the set of worldviews arising from the world itself and also the author's ideology and ideas expressed through the world's structure and events).

To a certain degree it is possible to draw a parallel between these structures with the *mythos*, *topos* and *ethos* dimensions proposed by Klastrup and Tosca (2004), at least in what concerns the goal - identifying the core elements that bring a world into existence.

Wolf argues that imaginary worlds are an object of study on their own and given their nature they should be studied within an interdisciplinary context (p. 3). Mostly viewed as secondary elements, the existing body of literature concerning imaginary worlds mostly disregards dimensions of the world that go beyond the narrative one - "Philosophical writings on fictional worlds consider mainly questions of language, with most of their examples taken from literature, thereby neglecting imaginary worlds that are audiovisual in nature" (p. 77).

The work of Klastrup and Tosca, Wolf, among other theorists has been vital to map, describe and frame worlds in the context of cultural, social and creative practices and relevant to set forth an independent field of study for worlds. Moreover, conducting research towards gaining insight of what worlds entail further deepens the understanding of transmedia stories, their design, and potential use. As Jenkins (2007) points out they "rely on a rich, highly detailed world, and therefore the world must be central to their development."

2.2.6 Transmedia Applied - The Practitioners' Point of View

Inasmuch as to what has been discussed up to this point, it becomes clearer that TS, given its complex nature and fertile ground of application, is not suited for a clear-cut label. As relevant as the debate of TS within academia, is the one emerging from practitioners. Stemming from the need of a more practical approach to TS, the Producers Guild of America (PGA), by the hand of Jeff Gomez (2007), lists the following eight defining characteristics of a transmedia production:

1. Content is originated by one or a very few visionaries;
2. Cross-media rollout is planned early in the life of the franchise;
3. Content is distributed to three or more media platforms;
4. Content is unique, adheres to platform-specific strengths, and is not repurposed from one platform to the next;
5. Content is based on a single vision for the story world;
6. Concerted effort is made to avoid fractures and schisms;
7. Effort is vertical across company, third parties and licensees;

8. Rollout features audience participatory elements, including: Web portal; Social networking; Story-guided user-generated content.

Acknowledging the changes in the media landscape - “it's no longer adequate, to think of a project as simply a television show or movie; we now understand that the audience will want to experience that content across several platforms [...] often with different or additional material", the PGA provides the following definition of a transmedia narrative project:

> A Transmedia Narrative project or franchise must consist of three (or more) narrative storylines existing within the same fictional universe on any of the following platforms: Film, Television, Short Film, Broadband, Publishing, Comics, Animation, Mobile, Special Venues, DVD/Blu-ray/CD-ROM, Narrative Commercial and Marketing rollouts, and other technologies that may or may not currently exist. These narrative extensions are NOT the same as repurposing material from one platform to be cut or repurposed to different platforms.
>
> (PGA, 2010)

PGA's definition seeks, on the one hand, to give credit to the role of transmedia producers and, on the other, to frame the work of media professionals. Notwithstanding the meritable effort, the definition is considered to be controversial. Besides the requirement of a minimum of three narrative storylines, one of the main criticisms is the primacy given to franchises to the detriment of other transmedia practices. Scolari pinpoints “the fact that the concept was born in the US doesn’t imply that its meaning is reduced to a Hollywood reading of it” (Sánchez-Mesa, Aarseth, Pratten & Scolari, 2016); a concern that had already been addressed earlier by Christy Dena - "Indeed, the nature (to some extent) and breadth (to a greater degree) of transmedia practice has been obscured because investigations have been specific to certain industries, artistic sectors and forms" (2009: 3).

Another concern with this definition is the fact that video games were not included in the list of platforms. It goes without saying that video games have long been acknowledged to be at the core of numerous transmedia universes, for instance, *World of Warcraft* (WoW).

Part of the body of knowledge of TS is constituted by the analysis of specific productions. From this perspective, the *Marvel Cinematic Universe* (MCU) is considered to be a reference for transmedia studies given its scale and longevity in the media landscape. As Gomez (cited in Burke, 2018: 38) refers it “epitomizes state of the art transmedia”; Liam Burke additionally mentions it is “one of the first successful examples of transmedia storytelling “ (p. 32).

From the production point of view, Caitlin Burns draws attention to the fact that a transmedia strategy is vital to the development of MCU.

> Without a production schedule, how do you engage licensees to create games or book trilogies that will satisfy audiences who have shared 9 films worth of storytelling with their favorite characters? [...] ensuring that [the] production team includes people with eyes on the health and well-being of storyworld’s overall development is not just useful, it’s essential.
>
> (Burns, 2016)

Using MCU as a basis of the study, Burke identifies a set of key criteria that are prevalent in transmedia franchises. The following is an overview of the criteria proposed by Burke with examples from the MCU provided by the author (2018: 32-48).

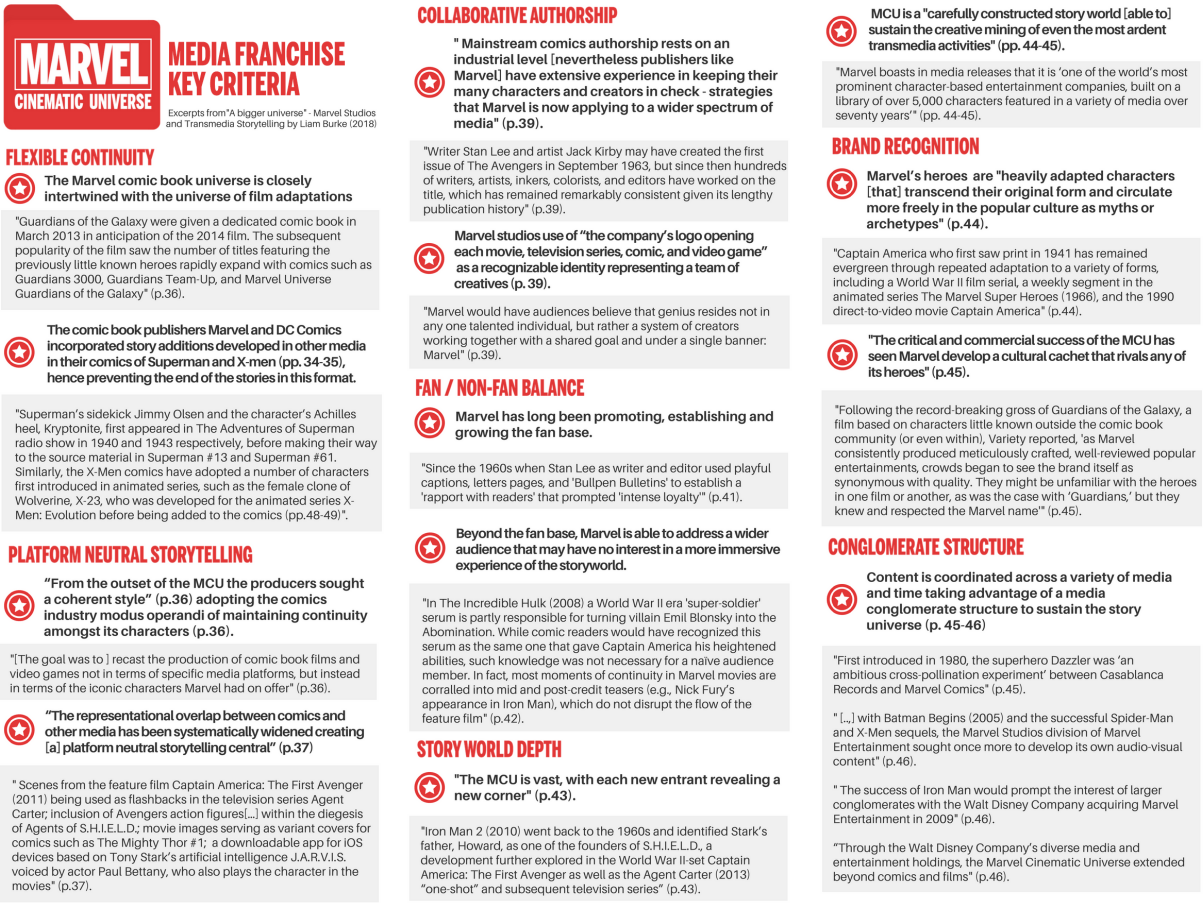


Figure 2.2 Overview of the key criteria prevalent in transmedia franchises based on Liam Burke's study of MCU – " 'A bigger universe' - Marvel Studios and Transmedia Storytelling" (2018).

2.2.7 Adaptation and Expansion

Deriving from the discussion of TS within the media industry is the issue of adaptation. Many theorists argue that adapting a full story to a new medium is redundant and hence shouldn't be considered a transmedia practice. In *Convergence Culture* (2006), Jenkins refers that the "current licensing system typically generates works that are redundant" (p.105) further explaining his argument that, in the case of transmedia stories, each new text should make a distinctive and valuable contribution to the whole (pp. 95-96).

Long distinguishes adaptation from transmediation using LOTR as an example:

> Retelling a story in a different media type is adaptation while using multiple media types to craft a single story is transmediation. For example, Peter Jackson's film versions *of Lord of the Rings* are adaptations of J.R.R. Tolkien's *Lord of the Rings* novels. While this shares some of the same benefits as transmedia storytelling, primarily the creation of new "access points" to a narrative world through alternative media types, it differs from transmedia storytelling due to the lack of one of the key components in Jenkins's definition: distinction.
>
> (Long, 2007: 22)

Nonetheless, the argument that adaptations are redundant is rejected by researchers that acknowledge it as a process which adds new insights to transmedia worlds. Dena resorts to remixes to highlight that reinterpretation is a practice that adds new meaning thus a distinct contribution to the whole. Dena turns to the screen-based experience of the play *Strange Case* by Geoff Taylor and Sally Cookson using footage during a one-off live performance as an example to further clarify her claim:

> While the plot stays the same, and the event is the same, the experiences are quite distinct. But rather than two entirely different productions being produced, two compositions were created from the one event. So, there is exactly the same 'story,' the same script and performance, but the editing and distinct media employed made two unique experiences.
>
> (Dena, 2009: 149)

This flexible approach to adaptation is also echoed in Carlos Scolari's definition of TS:

> TS is a particular narrative structure that expands through both different languages (verbal, iconic, etc.) and media (cinema, comics, television, video games, etc.). TS is not just an adaptation from one media to another. The story that the comics tell is not the same as that told on television or in cinema; the different media and languages participate and contribute to the construction of the transmedia narrative world. This textual dispersion is one of the most important sources of complexity in contemporary popular culture.
>
> (Scolari, 2009: 587)

Scolari further develops his perspective, by comparing adaptation to a process of translation:

> Transmedia narratives can be represented as a centrifugal process: from an initial text a narrative big bang is produced, in which new texts will be generated to reach user-generated content. From this perspective, transmedia storytelling generates a textual galaxy. The intersemiotic translations follow more linear (from book to screen, from comics to television, etc.) and less explosive paths. Can we consider the adaptations a particular form of transmedia narratives? [...] If we consider that every translation is a process of text transformation, in which you always lose and win something, maybe the adaptations could be incorporated as one of the possible strategies of transmedia narratives.
>
> (Scolari, 2011: 130)

The debate about adaptation in the context of transmedia contributed to the development of the concept of TS. Transmedia practices would expand to include adaptations that add something unique and distinct. "Adaptations may be highly literal or deeply transformative. Any adaptation represents an interpretation of the work in question and not simply a reproduction, so all adaptions to some degree add to the range of meanings attached to a story" (Jenkins, 2011).

Another point of contention among theorists and practitioners is how the transmedia narrative is expanded. There are two types of expansions:

- Media expansions - when "the storytelling expands from one media to another" (Scolari, Bertetti &Freeman, 2014: 3) such as the case of MCU or *The Walking Dead* (TWD), "a story born as a comic book expanded to television and video games" (p. 3).
- Narrative expansions - when "the storytelling occurs in the same medium and incorporates new characters and/or narrative events" (p. 3) such is the case of the character "Robin/Dick Grayson debuted in Detective Comics #38 / April 1940, almost one year after the appearance of Batman in Detective Comics #27 / May 1939)" (p. 3).

This poses a challenge for narratology in terms of framing TS.

> In narratologic terms, it could be said that the level of the story (events and worlds) are independent from the medium / semiotic system of manifestation. From this perspective,

> the perfect case for transmedia storytelling occurs when media and narrative expansions converge into a single narrative experience.
>
> Narrative Expansion + Media Expansion = Transmedia Storytelling
>
> In this context transmedia storytelling could be considered a specific case of a more general transtextual storytelling.
>
> (Scolari, Bertetti & Freeman, 2014: 4)

Transmedia narratives are often expanded as part of a commercial strategy. This is evident in the expansion of the most loved storyworlds in popular culture that have been the target of extensive discussion by theorists, such as the case of *The Matrix*, *Lost*, *Doctor Who*, *Star Wars* or MCU. As Scolari, Bertetti, and Freeman (2014: 2) point out - "The storytelling is so strong that the characters require more space and time to tell their stories."

Nevertheless as important as the expansions generated by the authors of a storyworld are the ones created by the ones who experience it - "The expansion of the narrative is […] at the same time a social, commercial and semiotic necessity of certain tales" (p. 2).

Building upon Jenkin's definition, Scolari, Bertetti and Freeman (p. 3) argue for the need to expand it further to include the creation of user-generated content. While the canon of the storyworld may be established in a Hollywood studio, it is also expanded by fans. In light of this, the authors put forward the following formula (p. 3):

Media Industry (*canon*) + Collaborative Culture (*fandom*) = Transmedia Storytelling

Users' level of participation and engagement can vary in the expansion of the narrative world, as the authors propose in this four level model:

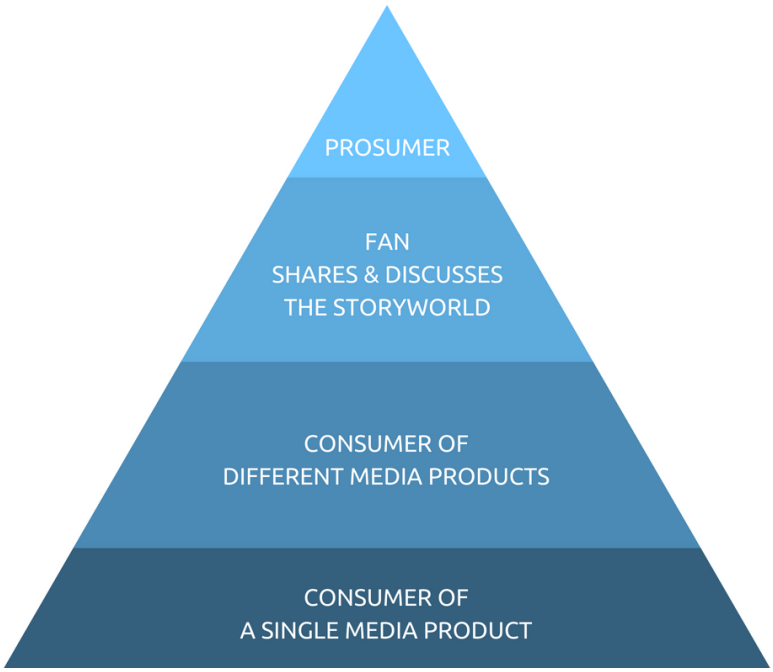


Figure 2.3 Pyramid of user participation and engagement in the extension of narrative worlds based on the model proposed by Scolari, Bertetti, and Freeman in *Towards an Archaeology of Transmedia Storytelling* (2014: 2).

At the bottom layer of the pyramid are the users that access the storyworld through a single media product - followers of a television series or readers of a comic; on the second layer are the users of different media products of the storyworld while on the third are the fans who actively engage in the discussion about the storyworld and share its content. At the top layer are the produsers - users but also producers and contributors; this being the highest level of engagement. Fans generate new contents (parodies; alternative endings, fake trailers, among many other types of media artifacts) that expand the storyworld.

In this context, from a semiotic perspective, TS "could be considered as a network of texts in different media that expand a fictional universe" (p. 3) but " there is no difference from bottom up (fans) and top down (media industry) originated texts" (p. 3) Thus, from the semioticians point of view, collaborative practices could be important in the study of transmedia but they are not necessary (nor sufficient) to define it" (p. 3).

2.2.8 Design of Transmedia Experiences

As professionals that seek to engage different audiences, it comes as no surprise that particular attention is given to the art of worldbuilding and aesthetics of TS production in the media industry. This is visible in the work of Max Gionavagnoli - *Transmedia Storytelling: Imagery, Shapes, and Techniques* (2011); Robert Pratten - *Getting Started in Transmedia Storytelling* (2011); Nuno Bernardo - *A Producer's Guide to Transmedia* (2011) or Andrea Phillips - *A Creator's Guide to Transmedia Storytelling: How to Captivate and Engage Audiences Across Multiple Platforms* (2012). Based on their prolific work, these producers have disseminated throughout time valuable guidelines towards the design and development of TS experiences for the community of transmedia practitioners.

The definition that Pratten proposes of TS, as well as its depiction, highlight the importance of engagement:

> Transmedia storytelling is telling a story across multiple media and preferably, although it doesn't always happen, with a degree of audience participation, interaction or collaboration. In transmedia storytelling, engagement with each successive media heightens the audience' understanding, enjoyment and affection for the story. To do this successfully, the embodiment of the story in each media needs to be satisfying in its own right while enjoyment from all the media should be greater than the sum of the parts.
>
> (Pratten, 2011: 1)

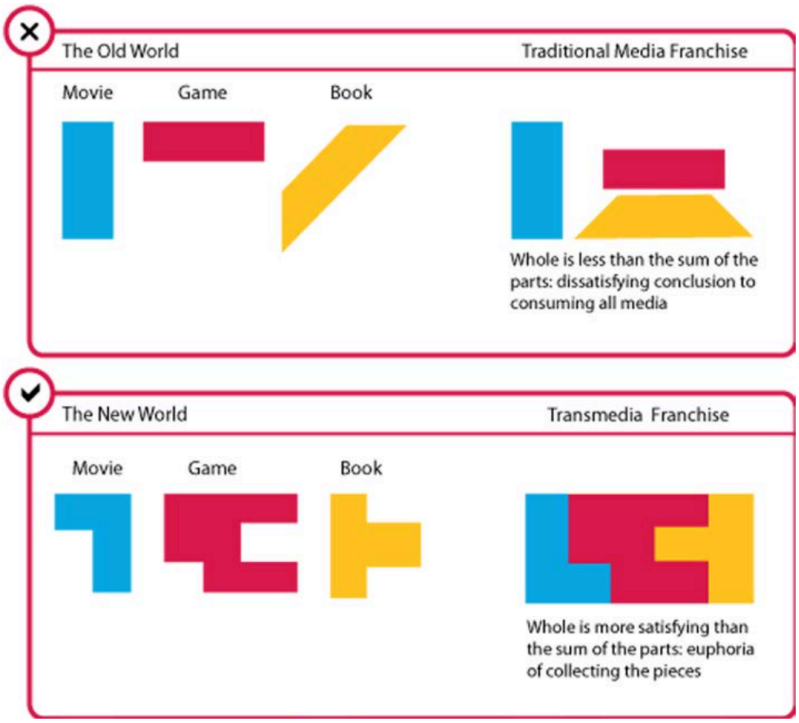


Figure 2.4 Graphic depicting Transmedia Storytelling by Robert Pratten (2011) in *Getting started with transmedia storytelling: A Practical Guide for Beginners* (2nd ed.). Seattle: CreateSpace.

Further expanding the definition, Pratten would set forth the concept of pervasive entertainment (PE), which he considers to be "TS evolved" (2010). If put in an equation (mode of representation used by the author):

PE = ubiquitous media + participatory experience + real world + good storytelling

The concept closely ties the role of the audience to the development and expansion of a world through engagement. By PE, Pratten is referring to entertainment experiences that evolve, morph, are refined, improved, and grow regardless of the original purpose. A "living and breathing" entity.

> [...] the story has you hooked. The evolution of the experience has you hooked. You know that if you turn on your mobile device, they'll be another piece of content to grip you further; to drive you deeper. Soon you'll become addicted; crazy for another fix [...] Pervasive entertainment blurs the line between real-world and fictional world; between work time and play time; between author-directed plot and audience-improvised role-play.
>
> (Pratten, 2010)

TS has been acknowledged by producers to be an effective strategy to lead audiences to take action. In reference to the marketing context, Phillips notes

> [...] transmedia storytelling can provide more engagement and more potential points of sale for any given story, and when it's done well, each piece can effectively become a promotional tool pointing toward every other piece of the whole.
>
> (Phillips, 2012: 41)

In what concerns transmedia design, the audience is as an essential element as the story or the selection of technology. As Siobhan O'Flynn, Karine Halpern and Scott Walker (in Weitbrecht, 2011) point out "[the] audience also becomes a tool in itself, particularly through interactivity and participation." In light

of this, they propose a set of aspects that should be considered by producers in the design of experiences - the five "Es" of experience design:

1. Entice - invite the audience into the experience and guide them across the platforms
2. Enter - provide instructions, be clear about what is expected from the audience (e.g., genre, sign-posts);
3. Engage – allow the audience to engage with the experience and derive satisfaction from engaging with it;
4. E-motion – find ways to prevent audiences from leaving and to move them deeper into the experience. Once a subset of the experience is completed, assist the audience to move to another;
5. Extend – help the audience to share the experience and to draw in others.

On the art of weaving narrative tapestries there is a good amount of literature from which creators can draw upon to build the bible of their transmedia projects. A transmedia bible is a comprehensive reference guide of what informs and determines the different elements of a transmedia world. Regarding the creation and development of transmedia projects, Rampazzo Gambarato (2013: 90-95) proposes a set of analytical considerations, organized around ten key aspects, to operationalize the design process: premise and purpose; narrative; worldbuilding; characters; extensions; media platforms and genres; audience and market; engagement, structure and aesthetics. Rampazzo Gambarato's analytical approach to the design of transmedia experiences puts into consideration the structure of a project and allows for a critical reflection on the elements that constitute the experience. Thus, provides a framework upon which creators can design their experiences.

2.2.9 Social, Political and Cultural Agency through and by Transmedia Storytelling

Transmedia practices are an echo of the pervasiveness and ubiquity of the networked society. A reflection of how humans express and interact with the world

in its manifold ways. Moreover, transmedia as a medium - “because digital media potentially incorporate all previous media, it no longer makes sense to think in medium-specific terms” (Jenkins cited in Harries, 2002: 171) - manifests and is the manifestation of meaning-making processes of how individuals construe and make sense of their context. It is the "message" itself if we repurpose Marshall McLuhan's phrase "the medium is the message," and embodies metacognitive knowledge - "new forms of interactive media may be useful as tools for thinking about thinking" (Branigan, 2014: 46).

Dan Hassler-Forest's rationale behind his definition of transmedia world-building brings to light how transmedia worlds facilitate the emergence of new ways of thinking and reshaping the cultural and political contexts.

The author's approach to defining the phenomenon is underscored by the cultural logic of fantastic storyworlds within the media convergence context (Hassler-Forest, 2016: 5-6). The concept is grounded on three key points:

1. Transmedia world-building takes place across media;
2. Transmedia world-building involves audience participation;
3. Transmedia world-building is a process that defers narrative closure.

Transmedia world-building is distinct from prior attempts at defining TS in two points. The first is that immersion in imaginary storyworlds takes place not within but across media and the second is audience participation - an activity he considers to be closely tied to politics and global capitalism.

> [...] audiences involved in participatory cultures of transmedia world-building should also no longer be viewed primarily as textual poachers 'operating from a position of marginality and social weakness’ [...] instead, [...] as a form of immaterial and affective labor that operates both in opposition to and in collaboration with new forms of corporate power.
>
> (Hassler-Forest, 2016:11)

The author further elaborates on this dialectical relationship by referring that:

> The growing power of media conglomerates with control over multiple platforms has altered the relationship between producer and consumer, raising new questions about the tension between global capitalism and the collaborative creative development of imaginary worlds. The benefit of the 'mainstreaming' of genre fiction and fan culture is that a much larger audience now engages with fantastic storyworlds that can help question, challenge, and perhaps even change the world we live in.
>
> (Hassler-Forest, 2016: 6)

This premise is substantiated through an extensive analysis of transmedia storyworlds in relation to fan culture and the industry modi operandi that the author presents in *Science Fiction, Fantasy, and Politics: Transmedia World-Building Beyond Capitalism* (2016).

In the contrasting analysis of LOTR and *Star Trek*, Hassler-Forest establishes how anticapitalist references can be deeply ingrained in the political and ideological form and content of storyworlds. The author posits that LOTR renders a nostalgic pre-modern and pre-capitalist worldview while *Star Trek* articulates a postcapitalist rendition of humans living in a utopia (p. 16). He highlights how the two storyworlds were pivotal in the setting of "the conceptual vocabulary and tools for transmedia world-building" (p. 16) - LOTR regarding the fantasy genre and *Star Trek* the science fiction genre. The author also accounts on how both storyworlds were appropriated by fans to give rise to countercultural activities.

Hassler-Forest frames *Game of Thrones* (GoT) and *Battlestar Galactica* as representations of the global capitalism's *zeitgeist*. These storyworlds depict "complex negotiations of a politics of cynicism through the combination of a realist aesthetic, on the one hand, and the ambiguous embrace of religion and mysticism, on the other" (p. 18). From the author's point of view, GoT emerges in opposition to LOTR rich fantasy world; while *Battlestar Galactica* can be interpreted to be a reaction to *Star Trek*'s humanist cosmovision (p. 18). Resorting to GoT's fandom paratexts, Hassler-Forest puts into evidence the brand building process and the construction of authenticity of a storyworld.

> [...] the construction of this crucial authenticity relied heavily on fans' immaterial labor and their willingness to contribute actively to the selling of an unfamiliar narrative franchise to a

> wider audience [...] the fan cultures that first emerged as transformative grassroots communities have by now increasingly come to function as ‘legitimizers’ of transmedia franchises.
>
> (Hassler-Forest, 2016: 87)

In opposition, Hassler-Forest presents both *Spartacus* and *The Hunger Games* (THG) as storyworlds that explore class conflict and revolution and present transformative potential to "challenge the hierarchical power structure" (p. 19). Particularly in the context of THG, fans are deeply engaged with diversified forms activism. This could be further extended to include the activities of the community of The Harry Potter Alliance based on the *Harry Potter* storyworld - active since 2005, the members have been involved in the fight for equality, human rights defense, and promotion of literacy ("The Harry Potter Alliance", n.d.); or the *Avatar* storyworld and its community of fans, also a sound example of how the mythology and elements of a universe are mobilized to advocate for larger social concerns.

> The image of the Nav'I has been taken up by protest groups in many parts of the world, the myth has been rewritten to focus on local embodiments of the military-industrial complex: in Bel'in, the focus was on the Israeli army; in China, it was on the struggles of indigenous people against the Chinese government; In Brazil, it was the Amazon Indians against logging companies. Without painting themselves blue, intellectuals such as Arundhati Roy and Slavoj Zizek have used discussions around Avatar to call attention to the plight of the Dongria Kondh peoples of India, who are struggling with their government over access to traditional territories which are rich in Bauxite.
>
> (Jenkins, 2010)

Not only fictional worlds but also non-fictional are ways to make sense of the world - "Fictional texts imagine and design new worlds; documentaries investigate and map existing worlds" (Jenkins, 2016). TS has spread in recent times to non-fiction formats such as the interactive documentary (i-doc) storytelling genre. The appeal, in this context, lies in the participatory nature of TS and the potential to engage audiences to discuss and take action as Jenkins explains:

> A focus on world-building allows documentary producers to share more of what they learned, to encourage their viewers to develop a deeper and more nuanced understanding

> of the institutions being explored, the factors that impacted their characters' lives, and the roots and potential responses to the problems being identified. Some use transmedia to explore multiple points of view or competing realities, which the engaged viewer is encouraged to bring into conversation with each other. A focus on documenting worlds may also allow professionally constructed texts to incorporate various forms of crowdsourcing and participatory storytelling, as the public shares their own experiences with the issue.
>
> (Jenkins, 2016)

As Lina Srivastava (cited in Jenkins, 2016), developer of *Priya's Shakti* - a project that draws attention to gender-based violence in India through graphic novels, AR, and games, acknowledges "Transmedia becomes a verb - something we do to make a difference in the world." Other significant examples are *Pirate Fishing* or *Who is Dayani Cristal?* :

- *Pirate Fishing* - an award-winning interactive project, in which the audience members become reporters for Al Jazeera and learn how to track and expose illegal fishing in Sierra Leone;
- *Who Is Dayani Cristal?* – a project based on a film reporting the story of an undocumented migrant and a social impact campaign targeted to raise awareness about issues related to U.S./ Mexico migration context.

Aside from raising social, cultural and political awareness, transmedia imaginary storyworlds provide the space to question the collective future of humankind and to envision possible scenarios deriving from political, economic and environmental decisions taken in the present. Such is the case of *The Walking Dead* (TWD) or *Black Mirror*. The two storyworlds explore different scenarios - TWD tracks survivors of a catastrophe on their quests to rebuild a low-tech society while *Black Mirror* focuses on individuals being endangered by and subdued to high-technology.

Both storyworlds present "ways of negotiating some of the tensions inherent in our response to the posthuman condition" (Hassler-Forest, 2016: 196 commenting on the TWD) since the audience is faced with its most radical implications (p. 196) and thus is led to question what humanity is and the role it plays in the evolution of humankind. The author further points out that - "By their

very nature, fantastic transmedia storyworlds provide a type of estrangement that encourages critical reflection on the social and political nature of the world, whether real or imaginary" (2016: 200).

Added to the potential that transmedia imaginary worlds possess to drive change; in the real world, transmedia provides visibility and empowers activists and their causes by amplifying their narratives on social and cultural transformation across multiple platforms.

> The concept of transmedia has caught the imagination of educators, activists, nonprofits, NGOs, journalists, and documentary producers, anyone who is struggling to get the attention and deepen the engagement of a particular constituency.
>
> (Jenkins, 2016)

Nonetheless, transmedia movements can also emerge spontaneously by taking advantage of the interconnected online ecosystem. The Arab spring movement demonstrated how the spread of a shared narrative across media platforms was crucial to congregate people and build a social movement. A revolution that started online through the dissemination of concrete actions of protest was able to reach and unite diverse audience groups by making strategic use of different platforms of the "network," and create a real impact in the physical world.

The success of this initiative serves as confirmation to Pratten's proposition of transmedia for change (T4C). Building upon his original proposal to define TS, Pratten argues for the relevance of engagement as a critical factor to drive change. At the core of T4C is the thesis that stories can lead to social change and personal growth considering that they are "told to the right people at the right time" and that they provide a route to a solution. "We should use our stories to engage and our technology to empower. Rather than imagine the interactive documentary (idoc) project as a beacon, it ought to be a solution" (2015).

By the same token as T4C, Sasha Constanza-Chock (2014:188) proposes transmedia organizing as a model to “strengthen participatory democracy within social movements.”

> Transmedia organizing includes the creation of a narrative of social transformation across multiple media platforms, involving the movement's base in participatory media making, and linking attention directly to concrete opportunities for action. Effective transmedia organizing is also accountable to the needs of the movement's base.
>
> (Sasha Constanza-Chock, 2014: 50)

The author contends that transmedia organizing (p. 50):

- involves the construction of social movement identity, beyond individual campaign messaging;
- requires co-creation and collaboration across multiple social movement groups;
- provides roles and actions for movement participants to take on in their daily life;
- is open to participation by the social base of the movement;
- is the key strategic media form for social movements in the current media ecology.

From a transnational social mobilization perspective, both T4C and transmedia organizing are models that provide ways to harness the potential of the contemporary media ecology; along the same lines, the Collective Journey (CJ) promotes activism. Nevertheless, the CJ model seeks to reach beyond the surgical, targeted intervention. It proposes the creation of a metanarrative, one Maya Zuckerman (2016) refers to as "the synthesis of all stories, history, ideas, beliefs of all humanity, and all of the beings of the earth […] an intertwining of all narratives reaching from the dawn of humanity and stretching to our destiny" (p. 23).

The CJ model is deeply rooted in Jenkins' concept of collective intelligence and emerges as a counterproposal to Joseph Campbell's monomyth model. The hero's journey has been primarily applied both in literary and filmic works. Commodified by Hollywood, the audience is drawn to explore the universal battle of good versus evil while following the footsteps of the warrior on his quest.

Jeff Gomez (cited in Staffans, 2017) argues that the model is no longer suitable in the 21st Century given the impact of the digital revolution and the

pervasiveness of the media ecosystem. Gomez contends that the hero's journey is unresponsive to the contemporary produser needs.

> What is required is a new kind of storytelling, a narrative engine that lends itself to our nonlinear, networked, omni-perspective digital age. The kind of storytelling where any audience member can suddenly and at any point start contributing to the narrative.
>
> (Gomez, 2017a)

Gomez and Zuckerman also argue that the model is applied from a biased, male-centric perspective - "The journey perpetuates masculine patterns within its steps […] and the feminine [is] depicted as either a temptress or goddess" (Zuckerman, 2016: 4); even "when we do get a 'woman of action,' she is cast as a stand-in for the masculine warrior" (Gomez, 2017e) such as Ellen Ripley in *Alien*, Beatrix Kiddo in *Kill Bill* or Katniss Everdeen in THG.

Furthermore, the hero's journey does not account for the diversity of the collective, as Zuckerman highlights "what is true for the one hero is seldom true to how a collective might set out on their journey. With a group of people, there are so many more variables, archetypes, personalities and story arcs" (2016: 23). Zuckerman proposes instead that the CJ should also be a "gendered" one. A journey to be engendered and taken by "the masculine, feminine […] and anyone else who falls under the rainbow flag" (p. 23). She argues for a more positive rendition of women harnessing the power of tools and resources of the technological and networked age to scaffold solutions to challenges in their context and the world at large.

> In the Gendered Journey, Dorothy [in reference to The Wizard of Oz] could have gained insight from the people around her while she was awake; like how laws need to be changed about witches taking your dog!
>
> (Zuckerman, 2016: 10)

The hero's archetype further reinforces the dependability on the intervention of a singular individual (most often depicted with exceptional attributes thus unique among his peers) to surpass the challenges and deal with the ordeals of the collective. "The problem with this is that when the hero goes away, the cheering

eventually dies down. The massive amount of energy generated by the event, by the heroic deed, by the hero's presence...it dissipates" (Gomez, 2017b).

On the screen, the hero's journey model has proven to be effective in engaging audiences by forging an emotional bond with the hero that saves the day. Nevertheless, outside the realms of fiction, there are sufficient episodes in the history of the 20th Century, and regrettably, in the present, that serve as distressing and stark reminders how such sort of expectation might give rise to adverse effects. In this context, the Nazi narrative is illustrative of how to exert control over the masses through the dissemination of the saviour ideation.

> Under the adverse economic and political conditions of a demoralized Germany, it would not take long for Goebbels to shape an epic narrative where culture, lifestyle, and yearning would all be streamlined into the fanatical worship of this one man, Hitler, slayer of dragons, saviour of the Aryan race.
>
> (Gomez, 2017c)

By the same token, Vladimir Putin came to power in Russia during the post-Soviet Union era. Putin projects the image of the leader able to bring law and order to the country and of a fierce player when dealing with frictions both in the national and international political arenas. Moreover, the Kremlin exercises its control over the territory by spreading multilateral narratives across the mediascape.

> Vladislav Surkov, who would become known as the 'political technologist of all of Russia' […] convinced Putin that if the media were used to generate a climate of uncertainty, confusion, contradiction, a polarizing mixture of truth and fiction, then the people of Russia would be forced to turn to the Kremlin for reassurance, for stability, for effective management.
>
> (Gomez, 2017c)

As early as 2010, Gomez would have forewarned of the risks of the use of multilateral narratives - "[…] one day soon, we will experience firsthand the dangers of the transmedia conveyance of 'pseudo-facts' and highly convincing movements that can become destructive" (Gomez, 2017c). In 2018, we address the phenomenon by "Fake News."

On a global scale, behind the scene algorithms orchestrate the media landscape to shape people's perception of the world. Google or Facebook and other giant platforms are now part of everyday lives, yet their neutrality towards how they facilitate access to information or use your own data is questionable. The majority of us is only now processing the challenges of living in a time when Twitter becomes a political arena or trying to grasp the level of impact of events such as the Cambridge Analytica episode. The visionary writer Douglas Coupland reflecting on the legacy of Marshall McLuhan remarks:

> […] McLuhan foresaw a fully wired, connected world […] New cross-border (effectively online) communities would form, breaking old political barriers, creating genuinely new kinds of electronic identity. But with this McLuhan offered a warning: older ideas of privacy and the self would evaporate under new media he said, leading to the rise of what he called 'discarnate' man - the lost, disembodied user extended across an unrelenting, unforgiving electronic global nervous system.
>
> (Coupland in BBC Radio 4, 2018)

Coupland mentions "McLuhan's ideas seem more prescient than ever. The future has never happened so quickly, to so many people, in such an extreme way - just as Marshall predicted, an uncanny prophet of our own digital age." McLuhan's and Coupland's cautions concerning the disruptive nature of our times should not be regarded as apocalyptic worldviews. As Sohail Inayatullah, future studies researcher, points out

> […] in this type of time, impact and influence are exponential since old systems are falling apart. The ability to change the future increases, not decreases. […] more significant is to bring agency back in the equation. […] How we see the world is complicit in the world we see, the world we create. People are attached to their worldview, but through the creation of alternative futures, the capacity to influence comes back.
>
> (Inayatullah in Chlopczyk, 2018)

In this context, the CJ model emerges as a response to the developments unfolding in the mediascape and as a process to empower citizens to redefine social and political agendas, *ergo* forging a future for the collective. It is a

paradigm shift that abandons the hero archetype to embrace the concerted action of the collective in the system.

> We are looking far beyond the individual hero, who in reality so often fails us, and now we cheer on the collective. Perhaps what we are now looking for is a kind of collective journey -- one in which a society grows capable of changing itself for the better by seeking embraces answers en masse through digital communications, operating in concert to raise the potential of individuals, and working together to surmount challenges and improve their world.
>
> (Zuckerman, 2016: 5)

The CJ model is constituted by the following four key-elements (Gomez, 2017b):

1. Regenerative Listening;
2. Superpositioning;
3. Social Self-organization;
4. Change-making.

It is deeply rooted in the participatory nature of storytelling.

> [...] the story has become porous. It is now participative, the way it was in many of those ancient tribes. We influence and reinforce one another. What we have to say is actually changing the course of the stories that are being told to us by huge corporations and political leaders.
>
> (Gomez, 2017b)

In the CJ, the storyteller and the audience stand side by side. By acknowledging and addressing the audiences' concerns, the storyteller is opening up a space to share values and interests with and of the audience. In turn, the audience feels these are recognized and validated and will thence extend the dialog to other members of the community. This is what Gomez refers to as regenerative listening - "a caring conversation with the audience."

> […] a process where the storyteller listens so intently to the audience, that the audience's language, attitudes, and concerns start to show up in the story itself. This excites the audience, building a bond of loyalty and support, that is in return supported by more story.
>
> (Gomez, 2017a)

The CJ is networked and pervasive by harnessing the potential of the interactions and means of self-expression of the online world to amplify ideas. A phenomenon which Gomez and Zuckerman comprehend as being superpositioning - "the idea of operating from the individual perspective while being part of a collective, and the seamless behavior we are starting to experience as we lead lives online and offline — almost at the same time" (Zuckerman, 2016: 26). Gomez compares superpositioning to fractals to further explain the concept.

> Fractals are complex, dynamic shapes that grow and branch o smaller versions of themselves, that in turn grow and branch o smaller versions of themselves, and so on. What happens with ideas that are driven by strong enough stories is that they don't fade. Instead, they gain momentum across your social media, blossoming out like fractals. When story spreads this way, it surrounds us, immerses us, comes back to us in the voices of our family, friends, and colleagues, the people we admire. The story becomes ubiquitous.
>
> (Gomez, 2017a)

The third and fourth elements address the need to consider the aspects that may mobilize people to act cohesively towards a shared goal and the creation of incentives to lead people into taking action upon the cause (Gomez in Bucholska, 2018).

In the CJ, the hero's journey mentor archetype is replaced by the collective intelligence. Instead of relying on a singular possessor of knowledge to enlighten the community (Gomez in Gamification Europe, 2017), CJ adopts a bottom-up approach, making use of the total of knowledge gathered by the whole distributed and available in a ubiquitous way. Furthermore, Zuckerman (2016: 16) proposes to replace the unbalanced mentor/ hero partnership by the champion/ steward partnership. One the author considers being empowering not only for both the archetypes but also the collective. The champion, from the author's perspective, is driven by the needs of the community - "They have a sense of duty to the

collective to make sure everyone's role is empowered" (p. 16), while the steward is "an empathic character who cares for the land, people, and spirit" (p. 16).

Zuckerman also underlines that the CJ model is constituted by a diversified range of archetypes that put their own specific set of skills and knowledge to serve a higher cause – "The collective is formed by the assembly of different archetypes, coming together at a certain moment in time, empowered by their own journey with each individual bringing their own personal gifts to a higher cause" (Zuckerman, 2016: 32). The following is a diagram (p. 32), provided by the author, representing the process of how the different participants may interact within the system. Zuckerman notes that within the fluid, multidimensional system, participants actions progress from the inside of the collective towards the outside world (pp. 32 - 33).

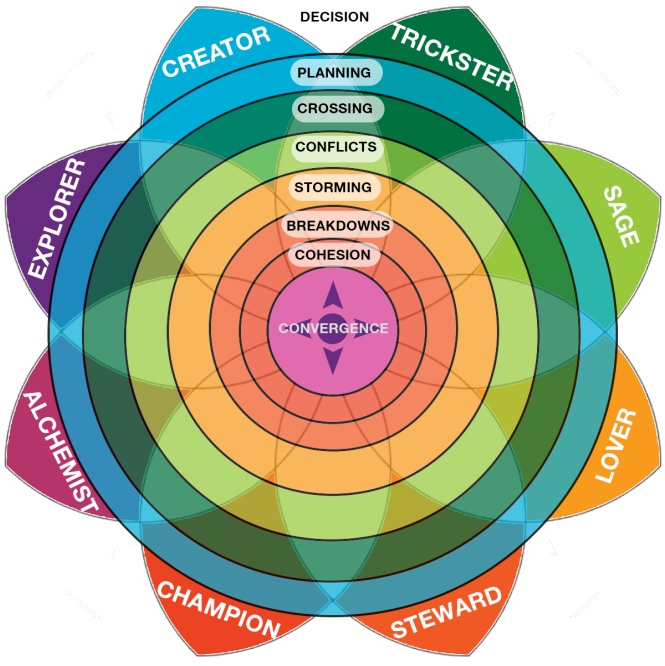


Figure 2.5 The gift to the world of the collective, courtesy of Maya Zuckerman in Zuckerman, M. (2016: 32). The New Human Narrative - Our Collective Journey [Ebook]

The stages to operationalize the CJ model proposed by Zuckerman are:

1. Decision - “Individuals/ archetypes on different levels of self-awareness making a conscious, or at times, unconscious choice to do something together: a journey, a project, or an adventure” (p. 33);
2. Planning - the participants set the “rules of engagement, a sense of how to embark on this journey” (p. 33);
3. Crossing - refers to “an event or decision that throws the individuals into the shared experience” (p. 33);
4. Conflicts - refers to the stage when “internal and external multifaceted conflicts arise within each individual and in the collective as a group working towards cohesion” (p. 33);
5. Storming - in reference to the “ breakdowns in the collective as people start shedding their egos and start tuning into a bigger concept than themselves” (p. 33);
6. Cohesion - refers to when “each individual finds their voice, call and role within the collective” (p. 33);
7. Convergence - refers to “when a new fully cohesive group has emerged — the collective. They move as one, and still have space for each individual to be fully expressed” (p. 33);
8. The Gifts to the World - at this stage, “the collective now working together, superpositioned and powerful, can serve a bigger cause or community” (p. 33).

The CJ aims at creating a concerted narrative that provides a voice to the community and propels it into a future envisioned and shaped by the whole. It is a tool to “accelerate positive systemic change” (Gomez in Staffans, 2017) and harness the potential of the networked world to create a counter-narrative to emergent processes of control in the contemporary mediascape.

> Those who understand the fundamental components of Collective Journey narratives will be empowered to anticipate and deal with these disruptions, and those who learn how to develop, produce, and communicate these narratives will find extraordinary success.
>
> (Gomez in Deutsche Welle, 2017)

2.2.10 Putting Transmedia Storytelling into Perspective

TS can be traced far beyond convergence culture if we take into account its participatory nature as well as the commercial features that might be attributed to it. For instance, Matthew Freeman's study of *The Wizard of Oz* is indicative of how strategies to expand transmedia storyworlds in the 21st Century were already in use a hundred years before. Freeman relates Lyman Frank Baum's multi-platform strategy to disseminate the storyworld to the rise of the advertising industry at the time and the development of mass culture in the United States - "[Baum] developed his fictional universe using the promotional strategies of the show, characters, colors, and posters as so many narrative elements" (p. 72). Scolari, Bertetti and Freeman (2014: 6) argue for need of an archaeology of transmedia.

> TS as an experience characterised by the expansion of the narrative through different media and, in many cases, by the participation of the users in that expansion, […] is not a new phenomenon. As early as the 1930s many popular narratives – such as Batman or Mickey Mouse – had been expanded to different media (comic, pulp magazines, radio, etc.). At the same time, the fan communities were very active and participated greatly in their expansion of the fictional world.
>
> (Scolari, Bertetti & Freeman, 2014: 6)

The authors further contend that if transmedia storytelling emerges from a cultural convergence between the media industry and collaborative practices, "it could be said that the researcher has a territory to explore at least 500 years' worth of history (since Gutenberg created the first media industry: the printed book)" (p. 6).

Building a corpus of study for transmedia archaeology is critical since "it provides for a clearer grasp of transmedia as a trans-historical practice of media production that bridges […] older and newer practices together" (p. 7). The authors point to the fact that even though TS is often a phenomenon associated with the digital transformations in the contemporary age, it is also relevant "to re-examine and synthesize more traditional media while tracing the relations between older storytelling practices and seemingly newer strategies of transmedia" (pp. 7 - 8).

Framing TS solely within the media-industry practices or for commercial purposes is restrictive and would not account for the far-ranging number of contexts it is applied to in the present. It is a social and cultural phenomenon that mirrors the way individuals interact and express themselves through the technological and media apparatus. Moreover, it presents the potential to be used as a metacognitive tool to envision the posthuman condition.

Drawing from the etymology of transmedia, the Latin prefix trans- (beyond, through, transverse) added to media, Rampazzo Gambarato (2013: 82) construes that transmedia entails transcendence; it transcends a variety of media. Along the same lines, accounting for transmedia's overarching nature, Geoffrey Long proposes considering transmedia as a qualifier of practices rather than an identifier of the practice - "the term 'trans- media' should be considered an adjective, not a noun" (2007: 32). This is evident in concepts such as transmedia literacy, transmedia learning, transmedia journalism, transmedia documentary; transmedia activism to name a few.

Even though, when it first emerged, the concept was exclusively related to Hollywood's film industry, transmedia is now appropriated by many. It is a mean of expression for the independent film industry; game industry and more importantly for citizens shaping their social-cultural and even political realities.

In the Portuguese context, TS has progressively been gaining traction and visibility in the form of projects and experiences in entertainment, tourism, ecological and cultural areas:

- *Diário de Sofia* (*Sofia's Diary*) was developed for RTP by beActive in 2003. It is the world's first interactive multiplatform TV series mixing TV, the Internet, Mobile and other Media. Produced and localized in ten different territories, the TV series became a global hit and has reached an audience of more than 500 million viewers and has been shown in 30 countries including China, Brazil, and Australia. (beActive Entertainment, nd) "[*Sofia's Diary*] effectively incorporate[s] audience inputs, giving the possibility to participants to shape the content. The protagonist is a sort of virtual friend who interacts with the audience and allows people to participate in her life in a way that their voices can be heard. The relationship between the story and audience was possible by daily SMS/MMS alerts sent by Sofia, voting service to decide next episode, premium call service with the summary of

daily episode, blogging, and e-mails, for instance. Participants could also communicate and get heard. As friends, they express their opinions in different ways (voting, discussing, blogging, etc.) to help Sofia to solve her dilemmas" (Rampazzo Gambarato, 2013: 88);

- *The Blue Pencil project* was collectively developed by "CICANT/ Universidade Lusófona, in Lisbon, Portugal, and the Portuguese media group Impresa, as part of a European Commission- funded project named CIAKL – Cinema and Industry Alliance for Knowledge and Learning […] Taking as its central theme the censorship in Portugal during the Estado Novo, the narrative extends into a short fiction film, a documentary, a site with archive material, an online game that challenges writing on freedom of the press, an online store, and a school program, in partnership with the network of school libraries, to launch the debate of censorship in schools" (Antunes, 2014: 28);
- *The TravelPlot Porto* is a location-based transmedia storytelling experience designed and developed within the context of Soraia Ferreira's research work on the use of transmedia storytelling techniques in tourism. The experience allows for tourists to explore the city's historical heritage through a fictional story that takes form both in the physical experience of the city and in the online world through the protagonist's social networks. TravelPlot Porto -"strives to provide its users a fun and engaging way to visit Porto through the process of locating a hidden treasure. It offers a challenge to users and sparks curiosity to explore Porto's history, monuments and historical characters as well as to experience Porto's events, sights, wine and gastronomical delights" (Ferreira, 2015: 85);
- *Fragments of Laura* is a project "inspired by the natural capital of the local UNESCO World Heritage Laurisilva Forest, a primary forest" (Dionisio et al., 2017: 352). The experience resorts to the use of storytelling in conjunction with mobile interactive technologies to "bring awareness and engage people in understanding the benefits of ecosystems and their underlying biodiversity. While on a "quest to find the ancient book of knowledge and its author, Laura" (p.355), users have access to cultural, historical and scientific aspects regarding the natural capital and cultural heritage of Madeira's Island. Users have access to the story's artifacts such as

> “handwritten journals, letters, and interactive artifacts […] placed in significant locations as part of the immersive experience” (p. 355) through a location-aware mobile platform.

“What’s Happened To Transmedia”? is an article by Andrea Phillips (2016) that would ignite a lively discussion about transmedia on the online world. The reflection emerging from responses to the article would put into evidence how transmedia has evolved as the 21st Century form of storytelling and how it is deeply ingrained in our lives even becoming a way of life.

> It has become the default for supply, and assumed by demand: a strategy for advertisers, an ethos for young creators, and a way for independent media makers to find an audience for their work. Where transmedia was once an option, now it is a necessity. A way of life.
>
> (Pringle, 2016)

In her article, Phillips (2016) refers a diaspora movement implying that the ones that have put transmedia on the map have moved to different areas of practice in search for a sustainable career.

> […] we've spread our transmedia-like tentacles into a lot of distinct and separate industries and arts in the interest of building longer-term careers and businesses […] some of us have taken our know-how in-house at places like, say, Disney Imagineering. Some of us are dedicated indie game developers now, or writers, or authors. And some of us have kinda dropped out of sight entirely.
>
> (Phillips, 2016)

Phillips draws attention to the fact that VR has somewhat replaced the interest for transmedia – “A lot of the air and energy that used to be invested in transmedia has moved to virtual reality, with Campfire making award-winning experiences for the likes of *Westworld*.” She further adds that in comparison as to when transmedia was gaining relevance among artists and producers, the community discourse has shifted and is less vibrant - “the core of creators that coalesced around that word "transmedia," though, has gradually decentralized.

There's not one place you can go to find out what's happening in transmedia, or if anything is happening at all" (Phillips, 2016).

In addition to the diaspora of TS pioneers, Phillips points out that the use of transmedia strategies did not convert into a viable business model which in turn affected the development of creative practices.

> We never really cracked a business model for social media storytelling where the social media bits paid their own way in terms of ROI [Return on Investment]. […] it's become harder to grab attention in the flood of free content out there, much harder to get press coverage for methods of storytelling that we've maybe seen before, and old funding sources are shyer about spending money on stuff when they're not sure if it'll work. 'It's on the web' doesn't sound like an automatic Cannes Lion anymore.
>
> (Phillips, 2016)

Regardless of how things stand in the community, Phillips acknowledges and calls attention to the knowledge and know-how that has been constructed through the discussion and application of transmedia practices up to this point.

> The genie is out of the bottle and can never be returned to it. Techniques for social storytelling, immersive narrative, and interaction have all come a long way; we can't forget what we've learned, and we apply that knowledge everywhere we go.
>
> (Phillips, 2016)

She also envisions the future of transmedia (perhaps under a different name) with inspiring optimism.

> There are probably a dozen other things going on right now that I don't even know about, because they're taking place in communities and under names that aren't 'transmedia.' I am dead sure a new, vivid, incredible art scene is happening right now with a group of starry-eyed creators who just want to make amazing things.
>
> (Phillips, 2016)

The lack of lexicon or framing for emerging creative practices is not a novelty as Lance Weiler, Director of the Columbia University Digital Storytelling Lab, explains based on his career path while commenting on Phillips' article.

> It's been over a decade since I came to the realization that calling myself a filmmaker was useless. As my work began to mix storytelling, design thinking, game mechanics and code, I found myself in a space where running times, formats and platforms didn't matter anymore. It became clear to me that a single medium couldn't define what I was attempting to do.
>
> (Weiler, 2016)

Weiler instead extends the discussion, sparked by Phillips's article, to include the use of immersive storytelling practices as an innovation driver. In reference to the Digital Storytelling Lab line of action, Weiler highlights:

> Our mission is to design stories that build on a diverse range of creative and research practices originating from the arts, humanities and technology. We are a place of speculation, creativity, and collaboration that isn't driven by market conditions, but instead explores new forms and functions of purposeful storytelling. Our hope is that we can harness story as an innovation driver and in the process enable humanity to help shape technology instead of exclusively allowing technology to shape us.
>
> (Weiler, 2016)

He argues for an "empathy epidemic" spread by committed citizens to change the world.

> Through a collection of immersive storytelling initiatives that mix AI, VR, IoT [Internet of Things] and AR the lab is working to build simulations that evoke empathy, inform curriculum design, explore assessment models and help to develop a series of open tool kits and resources.
>
> (Weiler, 2016)

Commenting Phillips' article, Jenkins (2016) regards the diaspora that Phillips draws attention to, as a migration of a particular group of creators "largely springing up around the space that used to be alternative reality games" thus, not representative of a collective. From his perspective, the diaspora is something to be expected if the expansion of creative practices and technological development is taken into account.

> […] we should not be surprised that individual creators, even those who have deeply invested in particular models, will migrate into other media sectors and adopt new models, bringing insights with them. This is what Phillips calls the 'transmedia diaspora.' Otherwise, things would have become very static. That said, the discussions around transmedia are continuing to expand, bringing new people to the table.
>
> (Jenkins, 2016)

Jenkins (2016) rejects the perspective of transmedia as a paradigm or a movement and prefers instead "a looser definition, one elastic enough to encompass new and emerging experiments." For the media scholar, current transmedia practices are determined by two factors: location and logics.

1. Location "refers to the context from which transmedia products emerge […] the transmedia strategies currently shaping Hollywood franchises […] look different from locations where transmedia production is state-subsidized to promote multiculturalism, education, or social change, all goals that dominate in countries where media production is shaped by public service priorities. […] We now can locate more models for transmedia as we start to look at exemplars beyond the United States;"
2. Logics in reference to "different kinds of goals that transmedia producers pursue: early work centered on transmedia characters, stories, performances, and promotion, but more and more interest surrounds transmedia documentary, learning/ education, mobilization/ activism, diplomacy, and so forth."

In light of this, Jenkins concludes "Transmedia — broadly defined — continues to grow in many different directions as people respond to the challenge and opportunities of communicating systematically across multiple platforms" (2016).

Christy Dena's reflection on Phillips' article is also worthy of mention in this discussion. On a lighter note, Dena wittily compares transmedia to a tween; a more mature, independent version of what it used to be. "She doesn't need us around all the time […] she has grown up, so evangelists aren't needed as much as before" (2016). A remark on Phillips mentioning the fact that is more difficult in the present to find discussions about transmedia.

Dena also addresses some of the challenges inherent to the development of transmedia practices. She first mentions the conflicting demands that are laid upon transmedia creatives.

> For media makers, there is still the fear about being called a 'generalist' or a 'jack of all trades, master of none' (ignoring the actual last part of the quote 'but oftentimes better than a master of one')". Transmedia practitioners are challenged to "work with different mental models of creation: ones that work in film, TV, games, theatre, and so on.
>
> (Dena, 2016)

Although Dena recognizes the high cognitive load that the job entails, she also celebrates the role of the transmedia creative as someone who can think outside the box. Grounded on Arthur Koestler proposal that bisociation is creativity, Dena mentions

> [...] it's important to note the benefit of being someone who comes at things from a different perspective.[…] The bringing together of incompatible elements is what artists do. But more recently too, scientists are seeing the benefits of solving problems through "outside solvers" or people who have expertise in another field.
>
> (Dena, 2016)

In the same line as Jenkins and Weiler, Dena also points to the potential of social agency through transmedia practices and implies that is the responsibility of transmedia creators to use their practices for a greater good. "She is growing up fast. Now our parenting duties shift to nurture our transmedia tween to be decent, wise, to reach high, think deep, and bring out the best in lots of people. She may rebel, she's a tween" (Dena, 2016).

Dena's concern and acknowledgment of the role of transmedia creatives in the 21st Century are also echoed in Ramona Pringle's response to Phillips article:

> Where movies and video games were born out of a desire to translate our hopes, dreams, fears and anxieties into a consumable narrative form that we could enjoy, engage with, and learn from, now, we're bringing those experiences back to the real world they're based on. […] In this newfound role as designers, storytellers are uniquely equipped to bridge chasms in society, to point out what we don't want to see, and what the algorithm-obsessed tech

> junkies keep hidden from sight, lest it drive down clicks. They shine light on the darkness, and cast shadows in the sunny days that are just a little too saccharine, a little too artificial. They are at once the fantasy weavers and the truth tellers. They are the fixers.
>
> (Pringle, 2016)

Discourses in and about TS are abundant. They may collide or strengthen specific approaches, nevertheless, first and foremost they are driven by the urge of creating knowledge about a complex and multifaceted phenomenon; one that reflects the intricacy of our networked ecosystem and our interactions within it. It is indeed relevant to attempt to document it, describe it and reflect upon it. Notwithstanding the course that may be traced for TS, the fact is that it spreads and grows, regardless of the efforts of framing it into a concept understood and recognized by all - "To try to channel an emerging form of narrative into a single definition is not just a mistake; it's antithetical to the spirit of the time" (Rose, 2011).

TS is not a buzzword anymore and can be traced back to ancient times, yet it continues to evolve and expand. Thus, the debate should remain open to allow for the expression of new voices and the integration of emerging practices.

The following section addresses one of the many branches through which transmedia has become visible in the contemporary age - learning. Jenkins (2016) draws attention to the fact that "transmedia connects with a new educational emphasis on multimodal learning or on models of multiple intelligences, both of which stress the need to communicate ideas through multiple modes of representation to stimulate the interests of diverse learners."

Applying transmedia in educational settings is far from being a straightforward translation of media franchise *modi operandi* into teaching and learning processes. Nevertheless, the critical reflection of what a transmedia worldview entails in contemporary discussions about education is not only advantageous but also vital.

If we take on the view of education as being a primary agent in preparing students to become empowered citizens and active members of society, then, in the 21st Century, it is a necessity to bring the practices of the mediated world to educational grounds and provide the means to reflect upon it critically.

Despite the emergent trend to “return to the basics of education” without technological mediation - visible in the recent ban of mobile phones use in French schools, the contemporary educational discourse is built by many voices across the academia that seek to integrate the interactions and practices of the mediated, transmedia ecosystem into the discussion and construction of new educational paradigms.

In light of this, the next section seeks to draw attention to some of the most pressing issues arising in educational contexts, as well as, provide a selection of examples of how educators are trying to take steps towards the creation of practices that suit the needs of 21st-century students.

2.3 Learning in the Contemporary Age

Do you know what 'l33t' is?
Julián Woodside
at the discussion of the session
"Approaches on New Literacies"
at the Transmedia Literacy
International Conference 2018

Leet (often written as '1337' or 'l33t') was originally used by hackers, in the eighties, to prevent direct access to their newsgroups via regular keyword search. In the present, 'leet' is commonly used in text messaging and in online communities. This alternative alphabet makes use of ASCII characters to replace alphabetic characters, makes a play on the resemblance of characters and acts like a system of modified spelling. Curiously, l33t is also part of the gamers' lexicon (as a short form of 'elite') implying the notion of a skilled player. Leetspeak can hence be considered a form of expression and interaction, a way of operating in the digital world.

The reference to to this language was brought up during the discussion of the session "Approaches on New Literacies" at the Transmedia Literacy International Conference in 2018. Specifically, what was being explored was that educators were unaware of how students express themselves outside the classroom and unaware of learning processes they regularly engaged with which allowed them to develop a vast array of literacy related skills.

What is then considered to be literacy in this day and age? Are educators addressing the processes through which students make meaning of the mediated world or how they interact within it? What is that students should be exploring to become literate?

Defining literacy is challenging.

> [...] 'literacy' is a complex concept that allows for both perspectives: it can suggest a spontaneous, osmotic, or organic flow of meanings at the same time as it suggests the mind in society has learnt various interpretive processes which can simultaneously construct and produce meanings.

(Street, 1985 cited by Sefton-Green in De Abreu et al., 2017: viii)

It becomes even more so, if the students' cultural and social meaning-making forms in the mediated world are accounted for.

> For some, including many people who work in education, literacy is an inarguable, uncontested, neutral set of skills and competencies around communicating and making meaning. For others, at the same time as recognising those skills and competencies should be developed and practised, literacy is nevertheless inherently contentious and contested, changing in response to wider social and economic conditions represented in new communicative modes of practices; for some, the codes and conventions of meaning-making themselves change in response to what Lievrouw and Livingstone describe as 'the changed artefacts, social arrangements and practices' (Lievrouw and Livingstone 2006) in and around new media.
>
> (Potter & McDougall, 2017: 16-17)

Stravoula Kalogeras draws attention to the fact that "as media saturation increases, people will increasingly need to make sense of it critically" (2014: 74). Research in the field and documents such as the *Paris Declaration on Media and Information Literacy (MIL) in the Digital Era* (2014) also acknowledge this issue:

> All citizens need the critical MIL competencies to demand transparency and to analyse information about what freedoms they gain or lose, what opportunities they face, and what risks they take, by interacting with computer programming languages that are normally invisible. Moreover while moving from 'an industry society to a knowledge society.' Cultivating a media-information-literate population becomes essential for the development of society.
>
> (UNESCO, 2014: 2)

"Media literacy has never not been with us" as Sefton-Green (in De Abreu et al., 2017: viii) points out "if there are media, then by definition there is media literacy" (p. viii). Nevertheless, if the mediascape has changed, then the challenges that emerge from it need to be addressed on educational grounds. Against the backdrop of a participatory culture, how can educators "reconcile the

stupendous opportunities digital and social media have afforded with the myriad risks they have simultaneously produced?" (De Abreu et al., 2017: xiii).

As an educational intervention, De Abreu et al. (2017: 1) identify five different approaches to media literacy:

1. The inoculation approach - protecting students against negative media messages;
2. The critical analytical approach - through which students deconstruct ideology and values of media messages;
3. The media arts approach - in which media production and consumption is considered to be creative, participatory and related to students' lifestyles;
4. The social, participatory approach - based on exploring a constructive role in media democracy;
5. The reflective media production approach - that combines critical analysis with media production.

The latter, according to the authors, is symptomatic of the ever more "blurred boundary between high culture and popular culture; and politics and poetics" (p. 2) and allows for the development of social contextualized media production while supporting the development of critical analytical processes of media content.

Increasingly the topic of data collection and online privacy has been on the agenda of media literacy education. Even if one has no interest in cybersecurity issues or is aloof of current events in the mediascape such as the Cambridge Analytica episode, it takes only two simple exercises to understand how the applications that are used in everyday life are harvesting data from users for undisclosed purposes and without their consent. The first regards the service "Have I been pwned?" (available at https://haveibeenpwned.com). Developed by the cybersecurity expert Troy Hunt, it is a service that aggregates data breaches and helps people establish if they have been impacted by malicious activity on the web. The second requires the user to dig deep into the settings of the mobile application of Google - the output will be a staggering amount of personal data collected from emails and other connected platforms.

Privacy issues as well as data exploitation and protection matters are not only relevant to the students, who use social media platforms and who consider their smartphone to be their best friend, but also to educational institutions and educators at large - “even those whose job it is to protect children/ students may have also allowed for breaches of data such as educational institutions. These issues are just beginning to take shape so the research in this area is just growing” (De Abreu, 2017: 4).

Nevertheless, challenges regarding surveillance and control continue to emerge while the field of media literacy education struggles to keep up with the fast-paced unfolding of events. Such is the case with the use of facial recognition technology in schools. There is a false sense of remoteness in assuming that implementation of these technologies in educational settings will only take place in the future or that they are references to dystopian novels or science fiction scenarios. Examples in the present contradict this belief, however. Such is the case of a Chinese high school (@evankirstel, 2018) that makes use of an intelligent classroom behavior management system. By scanning and recording every 30 seconds students’ facial expressions, the system keeps track of attendance and is able to recognize and categorize students’ expressions and gestures into emotional states such as being happy, confused or upset. Despite the affordances that one might recognize in the use of facial recognition for educational purposes, there are privacy and data protection issues at stake. The same country that is at a fast pace developing and deploying this technology in schools, has to handle cybersecurity breaches such as the following event:

> […] the Chinese company Qihoo 360 shut down hundreds of its surveillance live streaming channels after an uptick in privacy concerns. The channels streamed camera footage from several public locations including swimming pools, restaurants, and classrooms — the latter protected only by a password.
>
> (Chan, 2018)

What are then the implications of learning in this context?

In the post-truth era, matters concerning the dissemination of ‘fake news’ are evidently put into focus in the context of media literacy. The term is misleading,

as the authors of the *Information Disorder: Toward an interdisciplinary framework for research and policy making*, a Council of Europe Report (2017), point out:

> […] we refrain from using the term 'fake news', for two reasons. First, it is woefully inadequate to describe the complex phenomena of information pollution. The term has also begun to be appropriated by politicians around the world to describe news organisations whose coverage they find disagreeable. In this way, it's becoming a mechanism by which the powerful can clamp down upon, restrict, undermine and circumvent the free press.
>
> (Wardle & Derakhshan, 2017: 5)

The authors (2017: 5) propose instead, the following conceptual framework for examining information disorder:

- Mis-information is when false information is shared, but no harm is meant;
- Dis-information is when false information is knowingly shared to cause harm;
- Mal-information is when genuine information is shared to cause harm, often by moving information designed to stay private into the public sphere.

Affecting the interactions of millions of users on the online platforms, tackling disinformation disorder requires a global-scale approach. To address the spread and impact of online disinformation, in the context of the European Commission action plan (High Level Expert Group - European Commission, 2018: 35), the EU High Level Group of Experts (the HLEG) on Media Literacy seeks to promote the exchange of best practices on media literacy and provides a set interdependent actions to be taken by multiple stakeholders to tackle online disinformation. Inevitably, the problem has also to be tackled by educators to support students in the exploration of dissemination mechanisms of disinformation disorder.

In many ways, the media landscape resembles a scenery of the Wild West - still not thoroughly explored or regulated. Furthermore, it is in a state of constant flux or what some refer to as a state of perpetual beta. Media literacy education is not *per se* a solution to the challenges mentioned above. It is a call to be addressed through a concerted effort of policymakers, institutions and society at

large. Sonia Livingstone (2018a), in this context, puts to the fore some of the factors that are at play:

> It's never going to be a silver-bullet solution.
>
> - What media literacy includes is a moving target. As society becomes more dependent on the media, the media are becoming more complex, fast-changing, commercial and globalised. So any media literacy strategy requires sustained attention, resources and commitment – to education, to curriculum development, to teacher training, to research and evaluation.
> - We cannot teach everyone all they need to know. Education has never reached 100% of the population (think of the UK's struggle for basic literacy for all). Also, unless education is carefully targeted, it tends to increase rather than reduce the knowledge gap between more and less privileged groups.
> - We cannot teach what is unlearnable, and people cannot learn to be literate in what is illegible. Terms and Conditions written in legalese are a case in point. Should we really try to teach these or, rather, shouldn't they be made interpretable, as the General Data Protection Regulation (GDPR) promises? Relatedly, we cannot teach people data literacy without transparency, or what to trust without authoritative markers of authenticity and expertise. So people's media literacy depends on how their digital environment has been designed and regulated.

Despite the constraints presented by Livingstone, media literacy education is a necessity at present times:

> Since, in so many places around the world, media frequently constitute so many interpersonal and institutional interactions, it is impossible to imagine life without media - especially digital media - and thus not to put media literacy as a key objective in any educational program seems perverse.
>
> (Sefton-Green in De Abreu et al., 2017: ix)

2.3.1 Tracking Media Literacy in the Portuguese Educational Community

Portuguese studies on media literacy are scarce and relatively recent. As Pereira, Jorge and Brites (2017) point out the assessment of media education practices is not frequent. Despite the fact that there's an informal group dedicated

to media literacy - “Grupo Informal sobre Literacia para os Media” (GILM) converging the work and voices of academics with governmental entities that regulate educational practices, the outputs of this community is infrequently shared (Pereira, Jorge and Brites, 2017: 84).

Portugal does not have a long or an established practice of media research and pedagogy such as the United Kingdom or the United States of America. Nevertheless, at present, there are initiatives and a flux of emergent research studies in the field, some being conducted and others already available for public discussion, which put into evidence that media literacy education is at last on the researchers’ and the public agenda.

Such is the case of *Code Content Creation for Digital Education and Culture* (4CDE), a two and half years Erasmus+ project (2016 - 2019) being run in Belgium, the United Kingdom, France, Italy and in Portugal by researchers of the Research Center for the Arts and Communication (CIAC) of University of Algarve. Targeted to teachers and professionals in the educational sector, the primary goal of the project is to transfer the foundations of teaching ICT through a broader approach that goes beyond the pure technical knowledge and promote critical thinking towards the use of new technologies (CIAC, n.d.).

The country is also a part of the EU Kids Online Network whose goal is to analyze quantitative and qualitative data to map children’s and young people’s practices in the online world. At present, involving 33 countries, the study has been conducted in Portugal, since 2006, by researchers of the Faculty of Social and Human Sciences, at University of Nova de Lisboa. Besides studying, for more than a decade, children’s media use in the country, the outputs of this project have contributed to map the context in which it occurs throughout time and to draw attention to issues that need to be address by the educational community, such as the role of social networks in the dissemination of extremist ideologies (EU Kids Online Portugal, 2017).

Another national reference of interest in this area is the ongoing research project, started in 2014 - *Audiences, News and Literacy* (ANLite). Conducted by Maria José Brites, Assistant Professor at the Lusófona University of Porto and researcher at CICANT - Centre for Research in Applied Communication, Culture,

and New Technologies, the project's target is to explore youth, participation as well as literacy and journalism. The project also aims to converge researchers outputs and different projects and partners from civil society active in these areas (Brites, n.d.).

Particularly relevant to this research is the Transmedia Literacy project, part of the European Comission's Horizon 2020 Research and Innovation Actions. It is targeted to the exploration of transmedia skills and informal learning strategies to improve formal education. Running from 2015 to 2018, the project was developed in eight countries across three continents - Australia, Colombia, Finland, Italy, Portugal, Spain, United Kingdom, and Uruguay and was conducted by an interdisciplinary group of 25 researchers of media literacy, transmedia storytelling, user-generated content and participatory culture, traditional and virtual ethnography, and pedagogy and innovation in education (Scolari, 2018a: 10). In the national territory, the fieldwork was developed by researchers of the Communication and Society Research Centre (CECS) of University of Minho.

The project sought to (Scolari, 2018a: 9):

- contribute to a better understanding of how teens are consuming, producing, sharing, creating and learning in digital environments;
- map transmedia skills and informal learning strategies used by teenagers and identify how these might be harnessed in formal learning settings;
- develop and provide resources for teachers to facilitate the adaptation and application of transmedia skills and learning strategies in the countries' formal learning contexts.

The developed taxonomy, transmedia literacy map as well as outputs emerging from this research are further discussed in section 2.3.7 of this document.

Integrated in the Transmedia Literacy research project, the researchers Sara Pereira and Pedro Moura conducted research on the media use and production practices of national teenagers aged between 12 and 19 years old. As part of a larger comparative research study, which analyses what teenagers in Portugal, Spain, and Italy are consuming and producing in terms of media and the underlying strategies and motivations present in their practices in the media ecosystem (Pereira, Moura, Masanet, Taddeo & Tirocchi, 2018: 89 - 90), this study

assumes particular relevance since it is the first in the country to address specifically these matters and attempts to map and trace teenagers' activity in the current mediascape. The study specifically addresses the following research questions (the first three targeted to explore production and the last two dissemination both in terms of practices and motivations) (Pereira, et al., 2018: 95):

1. What do they create?
2. How do they create?

2.1 Are their creations spontaneous or planned?

2.2 What media do they use to create?

3. Why do they create (or not)?
4. Do they share their productions?

4.1 With whom?

4.2 Using what kind of platforms?

5. Why do they share (or not)?

To gain a comprehensive insight on media practices, motivations, and strategies of participants in this study, researchers used in their fieldwork the following research tools (Pereira, et al., 2018: 94):

1. a questionnaire, to assess teens' socio-cultural backgrounds and media access, uses and preferences;
2. participatory workshops, to explore the teens' practices and motivations while promoting content creation and gameplay;
3. in-depth interviews with a sample of participants with the most striking practices and/or motivations;
4. their media diaries, which would cover ideally a week of media practices.

In the national territory, the study was conducted with students of two public schools, one in an urban area and the other in a rural context, with basic education and secondary students (pp. 93-94).

In terms of access to media devices, out of a sample of 77 Portuguese participants in this study - 75 have access to mobile phones, 72 to Wi-Fi and 71 to a TV set; laptops and tablets are also used by more than half, 57 and 40 respectively (p. 98).

Students indicated to give preference to watching TV and to the use of social networks. These activities ranked more than 4 on a scale in which 5 is the highest. In this case, there are no major discrepancies between the preferences of national students and students of the other two countries taking part in this study. Nevertheless, there are differences in what concerns which social media platforms they prefer to access. YouTube was ranked as a first option and Instagram third by students of all countries. In Portugal, nevertheless, students placed Facebook as a second option; while in Italy and Spain students considered it to be their fourth option (p. 98).

In the case of Portuguese participants of the study, social networks were used to share information and content about school and leisure activities with their close network of peers. Nevertheless, this is done in private groups within the platforms, away from public scrutiny (p. 102). Teenagers disapprove that others share publilcy their personal preferences or even their image (p. 102), as it is clear in one the participants remark “No, I have a reputation to preserve!” (p. 103).

Very much like teenagers in Spain and Italy, media consumption is more present in the lives of Portuguese teenagers than media production and participation practices (p. 99). An interesting aspect emerging from this case study is the fact that Portuguese teenagers along with teenagers in Italy develop more their transmedia skills (in this case specific to navigation and cross-consumption) than teenagers in Spain -

> […] online search for series, music, videos and tutorials also achieve relevant values –all of them have means above 3.5 points. Portuguese (= 3.42) and Italian (= 3.09) teens stand out in comparison with their peers from Spain (= 2.51) in an activity intrinsically related to the consumption of transmedia narratives: to search for other contents related to movies they liked.
>
> (Pereira et al., 2018: 99)

Similar to Italian teenagers, Portuguese teenagers enjoy sharing things with friends in social media as well as taking and uploading pictures of themselves as their peers in Spain. However, teenagers’ media production activities are mainly targeted to their close network of friends and family and not to a broader public

domain (p. 99). They may shoot videos with their friends but not upload them to the public online world. This can be attributed to online privacy and security concerns not only expressed by Portuguese participants but also by teenagers of the other two countries taking part in this study (p. 100).

Along with privacy issues, Portuguese participants demonstrated particular care in managing their online identity - “Attitudes such as thinking twice before uploading a picture of themselves or about the impact their own videos might have if uploaded scored high mean values: 4.22 and 3.95” (p. 103). They also expect peers to be careful and ask for permission to share content related to them (p. 103). Researchers didn’t find significant variation in terms of attitude towards this matter between participants of the school located in the urban area and the ones of the school located in the rural area (p.103).

Researchers also highlight that in what regards the case of national teenagers, despite being regular media consumers and showing some level of critical understanding, media production is done in a small level scale, occasional and is not complex - “Among the 78 teens, very few used to create regularly and in a structured way, producing with some kind of an authorial dimension, going beyond unedited and automatic creations or interactions with their everyday social circle” (p. 101).

Another peculiar research output concerning media production practices is the fact that girls tend to create contents more regularly than boys (p. 103). These include fan-fiction writing or digital photography edition as researchers point out through the perspective of one of the female participants in the workshops:

> Ema was a 13-year-old female student and she was a huge Harry Potter fan, having created an anonymous Instagram account to follow and interact with other fans and to upload images (slightly editing them, for instance, by adding some sentences) about this transmedia story. She was also a regular fanfiction reader and a writer herself. However, she never shared her own texts or tried to produce image-based stories. On the one hand, she felt she did not have the time and technical knowledge to do it. On the other hand, when we asked if she was also afraid of other people’s comments, she just nodded her head.
>
> (Pereira et al., 2018: 103)

In contrast, boys tend to play more video games than girls (p. 98), therefore, despite not being a frequent activity among male participants, media production is targeted to develop tutorials, on YouTube for instance, on how to play a game or dissecting the game's mechanics and environment (p. 101).

Regardless if it is fanfiction or gameplay that is at the root of media production practices what becomes clear through this study is that Portuguese teenagers' presence in the online world and content creation is driven by the exploration of their personal interests and by activities they jointly take part in the online and physical world. They seek and gather information about matters that are close to them in a platform agnostic manner and their media production activities revolve around them.

By taking into account the outputs of this case study, there are two aspects that cause apprehension and stand out: despite Portuguese teenagers being concerned with online privacy issues, indicating they are aware of risks associated with navigating and interacting in online environments, this might also be perceived as an impeding factor to a more active and empowered participation in the online world; secondly, the low level of complexity in media production practices, identified by the researchers, might indicate that students might not feel comfortable or that they have the necessary skills to tap into or to thrive in more sophisticated or technically challenging tasks to develop media artifacts that express their worldviews appropriately. Hence, as researchers of this case study recommend

> "[…] more relevant than to know if they comply with the convergence culture's prescriptions on creation and participation, is to understand their reasons for doing it or not, to assess and promote the quality of their practices. If they do not create despite wanting to, because they are lacking skills to go beyond automatic productions, then these should be developed. If they do not participate because they recognize they are not ready to say something meaningful, this could be regarded as a sign of media literacy competence and should be discussed and improved namely by teachers at school."
>
> (Pereira et al., 2018: 113)

As the national researchers highlight in their presentation "The informal meets the formal: Portuguese outcomes of the Transliteracy research project" at

the Transmedia Literacy International Conference held in 2018 - “Leisure activities and media practices do not have space in the classrooms and they are not even a topic in the conversation between students and teachers” (Pereira, Fillol & Moura, 2018). The researchers also put into evidence the existence of informal learning practices stemming from teenagers’ needs and peers’ influence.

Tapping into how teenagers’ media experiences and practices are integrated in formal learning environments, the data collected in this study shows a disconnection between students’ experiences outside the classroom and what is explored during classes:

- only a minority of students refers to having learned something about media and technology in classes;
- technology is not often used to support the development of learning activities and is not explored as a topic of discussion;
- media use is relegated to break time.

In contrast, students develop informal learning practices outside the classroom. They resort to YouTube channels to learn how to play video games; share information with peers and family to learn features of social media platforms, learn by playing video games and resort to online tutorials. In what concerns media and technology, the study also puts into evidence a reversal of roles in the parents/ children dynamic - some students refer to teach their parents on how to manage their mobile devices.

This research also puts to the fore the learning affordances of video games from the students' point of view. For some of the participants in this study, video games allowed them to develop skills and learning strategies that supported formal learning practices. Through video games, students mentioned that they were able to develop:

- English communication skills;
- the speed of reasoning;
- engagement in the topics explored in games;
- resilience;
- research skills (finding information).

Reflecting upon the fieldwork that was developed in the two schools, Professor Pereira, during the presentation of “Usos dos media e práticas de produção e participação. Estudo de caso com jovens de Portugal, Itália e Espanha” – “Media uses and production practices: case study with teens from Portugal, Spain and Italy” (Pereira, Moura, Tirocchi, Taddeo & Scolari, 2017), at the 10th Congress of the Portuguese Communication Sciences Association (SOPCOM), refers that while students may be avid consumers of media, only a few demonstrated to be skilled in the development of more complex media production practices or participatory practices. In particular, students present a lack of transmedia literacy skills.

In the saturated media context of the Information Society, knowledge resources are abundant. Students navigate across the many sources of information available to look for content. Nevertheless, they "tend to do so in a tacit intuitive manner that does not necessarily ensure full appropriation of the media and effective knowledge construction" (Frau-Meigs , 2013: 42).

Pereira also points out that students interactions within this context remain mostly confined to the sphere of peers and that their online interventions are not targeted to a wider audience, levels of participatory action are low. Additionally, at the discussion of the session “Approaches on new literacies” in which the study was presented, Pereira refers the need for a shift towards integrating transmedia literacy skills in Portuguese schools - a different mindset that needs to be encouraged among educators.

The online civic participation gap may be attributed to students’ media literacy level - “online civic involvement and media literacy are co-dependent and mutually reinforcing” (Dias-Fonseca & Potter, 2016: 16).

Through “a set of detailed quantitative and qualitative case studies of the implementation of civic engagement through online activity in several regions of Portugal [-] 12 public secondary school principals, 131 teachers, and 1,392 students in grades 11 and 12 (Dias-Fonseca & Potter, 2016: 9), the researchers sought to explore “classroom-level strategies in both media literacy and citizenship education” (p. 10). This research study brings to the table significant observations

regarding the factors that may be hindering students online civic participation. The data collected puts into evidence that:

- Students (participants of the study) “perceive civic participation as an adult responsibility” (p. 15) and aren’t aware of opportunities to engage in civic participation activities (p. 15);
- Even though a high percentage of teachers participating in the study had training in both digital education resources and media education, the participants presented low scores on the use of classroom strategies to enhance media literacy (p. 16);
- “No correlation was found between training in ICT, media literacy, and citizenship education, on the one hand, and teaching strategies, on the other hand, suggesting that existing teacher training models may emphasize a simple form of knowledge transmission, rather than promoting the effective development” (p. 16);
- “Schools [taking part of this research study] had no clear plans for using available technology and its affordances to empower young people for civic engagement. None of the schools aimed at promoting student contributions to the school website; instead, they focused on using their website and online social networks to motivate students to participate in school activities and access information” (p. 16).

Reflecting upon school curriculum changes as well as education policy over the years, the researchers point out that despite the state’s investment on the technological infrastructures’ of schools (here in reference to the 2005 Technological Plan), and taking measures acknowledging the importance of media literacy in what concerns citizenship (referring to the “Recommendation n.6/2011” proposed by the National Education Council on Education for Media Literacy) (p. 12), there has been a significant disinvestment in ICT education - “the same government gradually withdrew ICT education from the national curriculum until, by 2012, the school curriculum did not include any mandatory ICT classes at any level” (p. 12). The researchers suggest that this might be attributed to the wide dissemination of the digital native myth (p. 12). A concept, first proposed by Prensky in 2001, that has been perpetuating ever since the idea that students born in the digital age have a sense of knowledge and a digital and cultural understanding of what’s happening in the digital spaces that sets them up to be

natives. Nevertheless, students are neither digital natives nor by merely taking part in a mediatized society are they media literate.

In an exploratory study regarding media literacy levels of 12th grade students in 2015, Pereira, Pinto and Moura pinpoint that “all in all, the results show very low levels of media literacy […] the average of the total of students wasn’t higher than 29,01 points, a score considered to be too low and not in line with the initial expectations” (2015: 95) of the researchers. Based on the data collected from this study, the authors further suggest that neither at the basic education level nor at the secondary education level did the students, taking part in the study, acquire the knowledge necessary to understand media and their role in society (p. 96).

Students’ low levels of media literacy put to the fore a need to design and develop effective measures of implementation of media literacy education in schools. This requires to look beyond the development of a frame reference for the pedagogical work on media education issues such as the official document “Media Education Guidance” (2014) proposes. If teachers’ media literacy levels are low as Dias-Fonseca & Potter (2016: 15) show in their study and if media literacy isn’t explicitly targeted or embedded in the national curriculum, i.e. it is not considered a subject nor is it appropriately explored in the context of the varied subjects of the curriculum, how is then possible to promote media literacy among the students? Thus, it is necessary to develop an action plan that includes all participants in the teaching and learning process.

There have been significant initiatives towards the development of digital and media literacy skills such as:

- “7 Dias, 7 Dicas sobre os Media” - Seven Days, Seven Tips on Media (2018). Converging radios, newspapers, TV channels with the schools’ communities, the project targets to explore the critical and creative use of media as well as promote online safety;
- specifically targeted to foreign language teachers, the Faculty of Arts and Humanities of University of Porto runs online the open training course - Digital competence for teachers: innovation in foreign language teaching (2018);

- within the context of the Transmedia Literacy Project, Pereira, Fillol, and Moura, researchers of CECS at University of Minho provided to the educational community an open kit of resources and activities specifically targeting transmedia skills and informal learning strategies to be explored in formal educational settings - the “Agenda de Atividades de Transliteracia” (2018);
- the Ministry of Education has also played a leading role in promoting challenges and competitions that involve creative media production practices - e.g., Cineastas Digit@is - Digit@l Filmmakers (CCEMS, 2017) or Conta-nos uma História - Tell us a Story (ERTE, n.d.); nevertheless, “they fall short on involving children and young people’s communities beyond their role as students” (Pereira et al., 2017: 88);
- seeking to “develop students’ interest and capabilities for civic participation, their financial literacy and engagement in school” (European Commision, 2017: 7), the Minister of Education launched a pilot action consisting of the organization of students’ assemblies to discuss curriculum flexibility as well as future pedagogical challenges in schools. The overarching goal was to make use of participatory processes to improve school governance.

These initiatives at the national level as well as Portuguese academics’ increased participation in international research projects are definite signs of awareness on the relevance of acquiring media literacy skills and the need to tackle the challenges of the mediated world on educational grounds, at the national level but also at a global one. There is considerable work to be accomplished by all the stakeholders in the process of preparing the citizens of tomorrow. It is a complex and challenging endeavor given that the mediated world is in a continuous state of transformation. In the national educational landscape, pedagogical changes are slow and difficult to implement. In spite of all constraints and challenges, significant strides have already been made towards the development of media literacy education in the country. Nevertheless, there is still a long way to go in the improvement of media literacy education in the country,

one that requires the concerted action of all those involved in the field of education.

2.3.2 Educational Challenges

The emergence and convergence of new media forms ignited a shift in educational paradigms. Educators are called to reconsider context and competencies required by citizens in the 21st Century. There seems to be no consensus or a clear understanding of what students will face when they complete their formal education or on how to prepare them for the challenges ahead or in fact, what they are.

In the last two decades, education reform efforts targeted the use of technology. Despite all the apparent benefits of TEL, several studies comparing it to traditional learning have led to inconclusive findings. Nevertheless, "digital-literacy-as-practice approach may be more effective in educational contexts than a techno-centric, skills-based approach" (Warschauer et al., 2014: 11).

The current pervasive sense of urgency concerning educational reforms plus the widespread ‘technological fix’ discourse imply an unquestionable determinism. One that Ferneding argues creates a "lack of a pluralistic dialogue - a silence that arises from the assumption of certain inevitabilities" (2003: 6). Ferneding also stresses how this discourse of inevitability is a reflection of social and political discourses with underlying ends and means. The temptation to override such concerns and the acceptance of pre-determined views puts into question education's existence as a space for public debate and thus hinders the democratic discussion of challenges in learning environments.

In the pursuit of new learning paradigms, there has been substantial interest in outlining the profile of the new generation of students. However, many of the claims concerning the technological skills and learning preferences of the ‘Digital Natives’ (Prensky, 2001) or ‘Millenials’ (Howe & Strauss, 2000) lack a sound empirical basis (Bennett, Matton & Kervin, 2008). Bennett and Matton propose abandoning the digital divide between immigrants and natives and instead give space to the discussion of "what knowledge and assumptions students bring to

academic contexts from other aspects of their lives, and what that means to teaching and learning" (2010:11). Nevertheless, attitudinal and institutional changes are slowly put into practice.

> Most classrooms are still strikingly not a part of the information age, even in terms of students' access to digital learning content and works spaces. Even when there is access, the curriculum content and student work practices are often unimaginatively conventional (content transmission, lock-step sequencing, standardized curriculum, discrete item assessment).
>
> (Kalantzis & Cope, 2012)

In this matter, Freire's problem-posing education model is still very timely when taking into consideration the contemporary mediated world. In contrast to "banking education," in which the teacher fills the students with abstract knowledge; Freire's problem-posing education paradigm involves a constant unveiling of reality, based on creativity and stimulus for true reflection and action upon reality (Freire, 1996 in Kalogeras, 2014: 147). Freire argued for the development of critical consciousness as a vital strategy so that students avoid accepting a passive role and a fragmented view of the world - "The more completely they accept the passive role imposed on them, the more they tend simply to adapt to the world as it is and to the fragmented view of reality deposited in them" (Freire, 2011: 72-73). Hence in this context, educational models that promote media literacy may support students in the development of "an informal and critical understanding of the nature of mass media, the techniques used by them, and the impact of those techniques […] more specifically how they construct reality" (Kalogeras, 2014: 72). This meaning-making approach of the world is also shared by Kendall and McDougall:

> […] in the interests of a universal project for critical media literacy, we should be thinking reflexively about the way that cultural products connect with peoples' construction of their selves and how media play a part in performance of identity – through affiliations and affinities that signify within language games and foster the connecting of people to one another – on or offline. A critical understanding of how we attribute meaning to cultural

material, along with how we attribute meaning to ourselves – must surely be the 'key competence' of media literacy.

(Kendall & McDougall, 2012: 23)

Nevertheless, the scholars stress the challenges in designing educational practices in a changing mediascape and propose a new kind of pedagogy – "a pedagogy of the inexpert":

> […] the apprenticeship we want students serve is not craft or skill determined, but rather that they are apprentices in theorising their culture. Critical media literacy teaching must strive to facilitate 'mastery' in a metalanguage which gives voice to reflexive negotiation of identity – a kind of 'culture literacy.'
>
> Through a pedagogy of the inexpert we draw alternative subject positions for teachers and students engaged in critical media literacy work, predicated on model of post-structuralist educational practice but we refresh these for the contemporary environment in which, we suggest, the fluid, context bound and socially embedded nature of textual relations are more ordinarily and routinely fore-grounded. The apparent paradox of the inexpert teacher is purposeful and intended to communicate a shift in teacher expertise from orientation towards a mastery model of specialist content knowledge to a co-constructivist ethnographic model of finding out that takes as its common sense that the textual object is a fiction of textualisation to which models of reading are indexed and from which the traditional tools of critical literacy emerge.
>
> The model of practice we're proposing is predicated on a model of reading which explores meaning-making as a category. That is to say, rather than elucidating something about genre, narrative, content or author, instead the practice is to ask - how meaning-making is learned; what different kinds there are; what it is; who it is for; what sorts of things signify expertise; and what sorts of meaning-making are done in different kinds of contexts? This approach asserts as primary the constructedness of reading (and attributing meaning) within the context of cultural practice whilst simultaneously noticing the positioning and rootedness of individual agency within wider social relations.
>
> (Kendall & McDougall, 2012: 27)

Such a paradigm shift in the teacher/ student dynamic is complex and difficult to be accomplished. Not only does it require an openness to change by educators, but it also must be assisted by curricular changes and overarching educational policies. The transformation of pedagogic practices towards harnessing students' mediated meaning-making processes, in national educational

settings, remains hampered by the political devaluation of the teaching sector, a dysfunctional and highly bureaucratic system of education, and the lack of a clear regulating policy regarding media education practices in the country. National educational policies have been driven by economic criteria against the backdrop of the economic recession that has been affecting European countries in general but with a more profound social and economic impact in Portugal. Between 2009-2016, confronted with the debt crisis, citizens experienced the application of a pack of austerity measures. The rising governmental debt and a high unemployment rate have during these years led to widespread protest in the national territory. In what concerns investment in education, the European Commission Education and Training report, in 2017, depicts the country as one that is making improvement in efficiency of spending:

> Patterns in general government expenditure on education may signal improvements in efficiency of spending. In 2015 spending accounted for 6 % of GDP, down from 7.6 % in 2010. As nominal level of GDP in these 2 years was nearly identical, education expenditure shrank by some 20% over the period. As a proportion of total general government expenditure, spending on education increased again to 12.4 % in 2015 after falling from 14.8 % in 2010 to 11.8 % in 2014.
>
> (European Comission, 2017: 6)

The state's "efficiency of spending", nevertheless, does not directly translate into better quality in the public provision of education. Despite the positive outlook of the country's education provided in the report, the national education panorama remains a challenging one. In 2018, the Ministry of Education is confronted with strikes, some affecting primary and secondary schools' end of the year assessment meetings as Portuguese teachers protest against the salary freeze implemented in the country over the years and enduring policies that have limited opportunities for career progression. Systematically, different cycles of governance have failed to acknowledge the role of educators in society and to provide stability to teachers. In a study exploring the understanding of the impact of educational and curricular policies on the development and identity of teachers, as well on the

quality of teaching (Silva & Herdeiro, 2014: 940), the researchers put into evidence that:

> Teachers felt that the educational policies interfered negatively with their work, thus provoking: a weakening of their professional relationships, interaction with their peers and their collaborative work, as well as professional demotivation and disinvestment with a resulting negative impact on the quality of their teaching.
>
> (Silva & Herdeiro, 2014: 940)

Based on the teachers feedback, the authors of this longitudinal study draw attention to the absence of professional recognition and demotivation among teachers. The primary factors for teachers' demotivation, indicated in this study, were decontextualized educational and curricular policies, progressive cuts in the remuneration and reduced opportunities for promotion in the career (p. 943). Silva and Herdeiro also highlight professional disillusion, as participants in the study expressed feeling undervalued by "whom they judge to have an obligation to recognize their work" (p. 946). The participants also disclosed that "when teacher uneasiness rules professional development, it promotes professional disillusion and disinvestment with consequences for their person, student learning and in the construction of a school learning environment" (p. 946).

Considering the outputs of this study, it becomes evident that the quality of education is inherently linked to the quality of teaching, educational contexts, and educational policies. Taking into account the points mentioned above, it is possible to assume that not investing in the development of educational contexts that allow and foster good practices as well in those who take part in them has ultimately an impact on students' learning processes.

Rethinking educational practices implies reflecting upon the students' contexts. Students in the present can connect and collaborate with people beyond their physical environment. Hence, the territory where learning can occur becomes amplified. This participatory and mediated learning space was already envisioned in the last century, by McLuhan and Leonard - "The time is coming, if it is not already here, when children can learn far more, far faster in the outside world than within schoolhouse walls" (McLuhan & Leonard, 1967: 23). A vision that is

progressively taking shape in the present, as educators seek to reach students on the spaces they interact and widen opportunities for learning through the use of mobile technologies – an effort visible in the increasing number of studies regarding mobile learning and location-based learning.

Integrating media in educational practices and using information technologies in the classroom may not be a straightforward replacement for the abstract knowledge-based learning or the teacher-centered paradigm. Nevertheless, if these are used purposefully to achieve learning goals, it may allow students to engage in meaningful and authentic learning experiences. On this matter, Wankel and Blessinger highlight that academic success is mostly dependent on application; "on how appropriately instructors utilize these technologies to match the objectives of the course and how they are specifically used to mediate meaningful learning activities for students" (2013: 5).

2.3.3 Moving to Situated Language Learning

In the essay “Why I stopped hating Shakespeare” (1964), a remarkable discussion on language and life, James Baldwin reports on his relationship with the English language:

> My quarrel with the English language has been that the language reflected none of my experience. But now I began to see the matter in quite another way. If the language was not my own, it might be the fault of the language; but it might also be my fault. Perhaps the language was not my own because I had never attempted to use it, had only learned to imitate it.
>
> (Baldwin, 2010: 55)

Baldwin after expressing his struggle with the acquisition of the language exposes a critical factor in the process of learning a language – experience.

> What I began to see — especially since, as I say, I was living and speaking in French — is that it is experience which shapes a language; and it is language which controls an experience. The structure of the French language told me something of the French experience, and also something of the French expectations — which were certainly not the

> American expectations, since the French daily and hourly said things which the Americans could not say at all. (Not even in French.)
>
> (Baldwin, 2010: 55)

Experience of the language, as the author argues, determines the use of it and as he describes with the case of French, it is the language that determines the experience. The debate whether or not languages influence the way we think has been a long time quest for linguists. What has been learned on this matter throughout time puts into evidence that is challenging and complex to describe the role of languages in shaping our perceptions of the world. Birner draws attention that it is not only language or thinking that are involved in the process but also cultural factors come into play.

> To some extent, it's a chicken-and-egg question: Are you unable to think about things you don't have words for, or do you lack words for them because you don't think about them? Part of the problem is that there is more involved than just language and thought; there is also culture. Your culture — the traditions, lifestyle, habits, and so on that you pick up from the people you live and interact with — shapes the way you think, and also shapes the way you talk.
>
> (Birner, n.d)

Language is central to human activity. It is a mode of expression that is evidently present in our social interactions. What is put into discussion among linguists, anthropologists and psychologists is if languages can shape our thoughts. To the enduring debate, recent empirical work has been added identifying the effects of language on how people think about “space, time, colors and objects” (Boroditsky, 2009).

A recurrent example given by researchers is the case of the perception of the blue color. While English speakers use a single word to describe all the shades that fall under that category, Russian speakers distinguish between light blue (голубой -goluboy) and dark blue (синий - siniy). By comparing Russian and English speakers' ability to discriminate shades of blue, Boroditsky argues that differences in color language lead to differences in color perception - “Russian speakers are quicker to distinguish two shades of blue that are called by the

different names in Russian (i.e., one being siniy and the other being goluboy) than if the two fall into the same category" (Boroditsky, 2009).

A second language can play an unconscious role in framing perception, as Flecken et al. (2015) suggest in a study targeting German-English speakers in order to find out how different language patterns affected how they reacted in experiments. Participants of the study were shown video clips of events depicting motion such as a man cycling towards the supermarket or a woman walking towards a car. Participants were then asked to decide whether a scene with an ambiguous goal - a woman walking down a road toward a parked car - was more similar to a clearly goal-oriented scene - a woman walking into a building - or a scene with no goal - a woman walking down a country lane. The results of the study suggest that German speakers assume a holistic perspective. They would tend to describe both the action and the goal - 'A man cycle towards the supermarket.' Instead, English speakers would tend to describe the scene by zooming in on the event and putting the focus on the action - 'A woman is walking.'"

One of the researchers relates the difference in participants' descriptions to differences in the grammar constructions the participants/ speakers of the two languages resort to situate actions in time.

> The linguistic basis of this tendency appears to be rooted in the way different grammatical tool kits situated actions in time. English requires its speakers to grammatically mark events that are ongoing, by obligatorily applying the –ing morpheme: 'I am playing the piano and I cannot come to the phone' or 'I was playing the piano when the phone rang.' German doesn't have this feature.
>
> (Athanasopoulos, 2015)

Even more interesting, this study was able to identify a relationship between linguistic proficiency in the use of this kind of grammatical constructions and the frequency with which speakers mention the goals of events which suggests that when you switch languages, you change perspective.

> When it came to bilingual speakers, they seemed to switch between these perspectives based on the language context they were given the task in. We found that Germans fluent

> in English were just as goal-focused as any other native speaker when tested in German in their home country. However, a similar group of German-English bilinguals tested in English in the United Kingdom were just as action-focused as native English speakers.
>
> (Athanasopoulos, 2015)

Studies in this field have also found effects of language on “how people construe events, reason about causality, keep track of number, understand material substance, perceive and experience emotion, reason about other people's minds” (Boroditsky, 2009). Hence, it is possible to assume that language plays a role in the way we break up reality into categories and how we label these - a process that can be influenced by cultural aspects (Birne, n.d.).

While on the one hand language gets situated meaning from contexts, on the other hand, experience in the world gives meaning to language. “Different languages, registers, and symbol systems help us to put a “grid” on our physical and social worlds so we can see them as organized into certain sorts of elements and combinations of elements” (Gee, 2015: 10). The points discussed above become relevant when considering the way students experience the language and also how they learn it and how the language is mastered in school settings. On this matter, Gee notes the following:

> “It is interesting that learning in schools tends to start with language (talk and texts) and only then move on to experience. Informal learning out of school often moves in the opposite direction starting with experience and then moving to language (talk and texts). In fact, most learners cannot learn deeply without starting with experience so that they have some fodder with which to give useful meanings to language in use.”
>
> (Gee, 2015: 10-11)

This is what Baldwin acknowledged to be missing in his process of acquiring the language - the experience of the language. An attempt to use it rather than merely manipulating its structures through imitation. A language is composed of diversified social languages, which Gee (2015) defines as styles of using words, grammar and discourse to enact a socially significant identity” (p. 12). The scholar argues that language teaching should entail the exploration of these social languages - “This means helping learners to be able to use language in

combination with ways of acting, interacting, valuing, and using objects, tools, and technologies so as to 'pull off' consequential identities" (p. 13). It is about finding ways to tap into what Gee refers to as "talk the talk" - using a recognisable and the appropriate style of language to perform a given social identity but also "walk the walk" - interacting and resorting to the "right tools" to be part of a given social or cultural group. "[People enacting a social identity] have to be, say, and do the 'right' things so that they can get recognized as having the 'right' socially-significant identity at a given time and place (that is, the identity recognized by a social or cultural group who created and sustains that identity)" (pp. 12-13). The author further stresses that enacting and recognising identities within Discourses ("talking the talk" and "walking the walk") is "deeply consequential in society" (p. 13) - "Teaching people just to be able to 'speak English' does not let them actually enact and recognize identities so they can navigate society, institutions, and sociocultural spaces in that language" (p. 14).

A situated learning experience can be perceived as a social process whereby knowledge is co-constructed and is situated in a specific context and embedded within a particular social (physical or online) environment.

The concept is not new, first introduced by Jean Lave and Etienne Wenger (1991), it emerges from the anthropologists' studies on apprenticeship as a learning model. The latter targets the set of complex social relationships within a community of practice in which learning takes place. It requires that educators reflect upon learning experiences in a different light, as an ongoing social and cultural endeavor developed by and through conjoint action.

> [Learning] is not constituted separately from the social world (with its own structures and meanings) of which it is panned. This recommends a decentered view of the locus and meaning of learning, in which learning is recognized as a social phenomenon constituted in the experienced, lived-in world, through legitimate peripheral participation in ongoing social practice; the process of changing knowledgeable skill is subsumed in processes of changing identity in and through membership in a community of practitioners.
>
> (Lave,1991: 64)

Situated language learning is increasingly becoming a topic of discussion within the ESL community, yet the field remains mostly unexplored. Recent studies

tend to focus on how knowledge is constructed in the networked world - e.g., Darvin, 2017; Norton, 2013; how 21st-century media are shaping language learning - e.g., Kuppens, 2010; or online informal language learning practices - e.g., Sockett, 2014. One could argue that experiential language learning has always been in the sight of CLIL (Content and Language Integrated Learning); TELL or CALL practitioners.

CLIL, a term coined by David Marsh in 1994, refers to “situations where subjects, or parts of subjects, are taught through a foreign language with dual-focused aims, namely the learning of content, and the simultaneous learning of a foreign language” (Marsh, 2002: 2). CLIL is content- and not language- oriented. This approach is primarily concerned with the assessment of subject content, taking the focus off the assessment of the student's mastery of the language structures and placing it on the student’s ability to use it in the appropriate places. In CLIL content is at the centre instead of being used to illustrate a language structure. Nevertheless, one could argue that what happens in the CLIL classroom is largely the appropriation of the specific discourse of the subject (biology or chemistry for instance) in a second language. The approach is also top-down, reliant on the transmission of knowledge thus not implicitly exploring students’ experiences of the language.

Both the fields of CALL and TELL address the role of the use of computers and digital media as tools for learning languages. They have over the past two decades reflected “an understanding of literacy as socially bounded and contextual, no longer accessible solely through command of language as traditionally presented in many [foreign language] classrooms” (Swaffar & Arens, 2005: 3). However, studies in these fields tend to focus more on the affordances of technological tools for language learning and less in the context in which they are used. In this manner they are sidelining the proper examination of social and cultural biases associated with the use of these tools (Bayne, 2014: 5) in learning settings or with students’ experiences and contexts of the language. Moreover, these tools are largely unused or are applied to further extend the application of traditional approaches to language learning.

> Unfortunately, the multimodal, visual, written, and audio texts provided in some textbook programs are often little more than tools that teachers can use for comprehension checking. While it is certainly important (and central to language acquisition) for learners to understand what they read, view, and/or hear, a review of most textbook programs reveals that a linguistic perspective of literacy dominates, resulting in a scope of literacy-based activities that is essentially limited to phonetics, morphology, syntax, and semantics. Notably missing are the cultural, pragmatic, and sociolinguistic dimensions of language and communication as well as other important notions such as, for example, learner agency.
>
> (Guikema & Williams, 2014: 2)

What has become progressively visible in the fields of foreign and second language education is the integration of media literacy in the curriculum. The rationale behind this change is the understanding that the linguistic and the sociocultural dimensions are interdependent and carry the same weight in the process of language learning (Kern, 2000). This, in turn, urges educators to reconceptualize literacy as a social practice and to consider meaning-making processes present in the mediated, multimodal acts of communication of the networked world.

> […] rather than simply adding media or digital literacy to the curriculum menu or hiving off information and communication technology into a separate school subject, we need a much broader reconceptualization of what we mean by literacy in a world that is increasingly dominated by electronic media.
>
> (Buckingham, 2008: 88)

Despite the increasing interest in changing methodologies and praxis in ESL, there are little references or study cases to guide educators' work in the field. Gee proposes a model of teaching social languages - teaching language for Discourses (Gee, 2015: 21) based on the universe of *Yu-Gi-Oh*, an anime card game. The author uses it as a metaphor for "a whole class of methods that incorporate the same principles [of *Yu-Gi-Oh*] but in different ways with different tools" (p. 14).

Yu-Gi-Oh is a complex card game played face to face or in video games (p. 14), and it implies the use of a specific social language. Besides knowing how to "talk the talk" (p. 17), a *Yu-Gi-Oh* player needs a specific set of "tools" to take part

in this world - attitudes; values, how to interact with other players (p. 17), in other words, players also need to know how to “walk the walk”.

Gee draws attention to the fact that language in *Yu-Gi-Oh* “is given meaning by specific actions, images, effects, and dialogue in the game (by experience) [...] language on a card is associated with an action in the game play” (p.17).

Rule books and guides across the online spaces related to the game provide an inside look on *Yu-Gi-Oh* language and play (p. 17). Hence, the player is given the opportunity to “learn to articulate in words and arguments the tacit understanding [he/she has] gained from play” (p. 17).

Prompted by an extensive and diversified array of online tutorials in fan sites of the game, players can learn either individually or collectively (p. 18). Storytelling blocks of the world such as movies, books or TV series support the players in amplififying their view of the *Yu-Gi-Oh* world as well as the game and its language (p. 18). Gee stresses that these elements of the game world are showed instead of just telling the player what the words of the *Yu-Gi-Oh* language mean (p. 18). The storytelling platforms and the affinity spaces of the game together with game play support the player in managing the cognitive load in the face of the complexity of experience (p. 18). This, in turn, sets the player for more complex and higher levels of the game.

Gee also puts into focus how failure can be approached as a form of feedback for learning (p. 18). Video games are sandboxes where players can experiment “with a low cost of failure” (p. 18).

In the game, “language is never divorced from action and purpose. Players either speak and apply *Yu-Gi-Oh* language ‘just in time,’ move by move in game play, and see what happens or they seek out lots of language […] when they need it, are ready for it, and have a purpose for getting it” (p. 19).

Video games such as *Yu-Gi-Oh* are highly interactive social spaces where players discuss, strategize, share information and give or receive guidance. The author points out that in these affinity spaces the focus is on active participation, making, producing instead of consuming content or spectating (p. 19). The affordances of these spaces as well as other video games in learning related matters are further discussed in a sequent section of this document.

Another important aspect is how learning is measured in the context of the video game. It is the mastery and the trajectory of the player in the game that is used as a measure of learning (p. 19). This implies that are different paces and different paths to achieve mastery - a common piece of knowledge in the learning world that not often is taken into consideration in current pedagogical practices.

> *Yu-Gi-Oh* is not assessed by one-off grades or 'drop out of the sky' decontextualized tests. Players can find out how they stand on multiple variables compared to many other players across different trajectories of development towards mastery. Data is everywhere and there are lots of people there to help interpret it. The focus is on growth and progress on multiple fronts, not on getting a grade with no real operational meaning. Learners expect to get feedback that helps them know what to do and how to get better and they expect to get feedback from multiple sources with different perspectives or focuses. Furthermore, peers know where each other stand, discuss it, and regularly see models of exemplary play, so they know what to shoot for.
>
> (Gee, 2015, 19-20)

By putting into evidence the learning affordances of the *Yu-Gi-Oh* world, Gee is arguing that any social language is "given meaning by the activities, goals, experiences, and interactions that it fuels" (p. 20) and that this situated meaning approach to learning can be used to counter the abstract knowledge-based approach that is currently in practice.

> When we treat something like physics as just a body of inert content we are not teaching physics as a 'game' but as dead letters. When physicists play (work) they use information (content) — just as *Yu-Gi-Oh* players do — but they use content to do and be things. Facts and information — formulas and principles — are tools to solve problems.
>
> (Gee, 2015, 19-20)

The following is an overview of the principles guiding the Teaching Language for Discourses model proposed by the author.



Figure 2.6 Teaching Language for Discourses principles proposed by Gee in "A Situated Approach to Language Teaching" (2015: 21-23) retrieved from http://jamespaulgee.com/pdfs/Situated%20Approach%20to%20Language%20Teaching.pdf

Adapting Homi K. Bhabha's (1994) "Third Space" theory and drawing from Kris Gutierrez exploration of the concept (2008), Potter and McDougall (2017) propose the development of a third space in relation to identity and language. The authors highlight that Bhabha frames the concept of third space as "a way of defining communication both as the production of meaning and, more importantly perhaps, as a complex act of 'cultural performance' […] the 'pact of interpretation' in the communicative act between the designated cultural locations of 'I' and 'You' (Potter & McDougall, 2017: 40). It is a metaphorical hybridized place in which cultures of both the first and second spaces merge and can interact. Bhabha relates the first space to indigenous cultural knowledge and identity and the second to imposed knowledge and cultures. Gutierrez's work (2008 discussed by Potter & McDougall, 2017: 41) reconceptualizes the third space as a space for learning. One in which students can entwine social and cultural practices and knowledge acquired from experience with formal learning practices.

In light of this, for Potter and McDougall, the third space has the potential to mesh formal and informal learning spaces and is able to defy the direct instruction paradigm. It is an in-between space and time - "located outside of the strict temporal structures of the working day of the classroom, in a lunchtime or after school club which may still be located in the formal setting but which exists under very specific conditions" (p. 43). Constructed across the experiences of those who take part in it, it is in this manner that the third space becomes visible.

The authors suggest blogging as an activity able to create the third space. A counter-proposal "into the ways in which atomised teaching of various learning objectives is skewing writing way from actual communicative acts altogether" (p. 45). "[Blogging instead replaces] them with writing which demonstrates technical ability at the expense of meaning and affect" (p. 45).

Ultimately, what the authors argue is that

> schools systems which do not work in some way with the lives of their learners in the context of their lived experience, cannot, arguably, be said to be fully agentive in their approach, rather they are curriculum-centred and institution facing. As a result, they cannot build on and develop skills and dispositions which are evident in the earliest social and

> cultural experiences of learners outside school, which is a prerequisite of the negotiation which enables a third space.
>
> (Potter & McDougall, 2017: 59)

It is to the construction of third spaces and to the ways educators may start designing new learning practices that the next section is dedicated to.

2.3.4 Towards New Learning Ecosystems

Published in 2013, the *Connected Learning: An Agenda for Research and Design* (Ito et al.) converges the reflections from the most prominent British and American scholars in the fields of media, youth, and learning. Based on a synthesis of research, the report proposes "an approach to learning and education reform that leverages the opportunities afforded by new media in the service of a more equitable educational system" (Ito et al., 2013: 87).

The report presents a map of issues and tensions in contemporary educational environments against the backdrop of the modern networked mediated ecosystem and addresses the need to transform learning processes to better respond to the needs of contemporary students. It puts into focus issues of inequality not only in access to the technological infrastructure but also the existent gap between those who have the opportunities and the required skills to take part in the connected world and those who have not.

> Despite its power to advance learning, many parents, educators, and policymakers perceive new media as a distraction from academic learning, civic engagement, and future opportunity. Digital media also threaten to exacerbate growing inequities in education. Progressive digital media users are a privileged minority. There is also a growing gap between the progressive use of digital media outside of the classroom and the no-frills offerings of most public schools that educate our most vulnerable populations. This gap contributes to widespread alienation from educational institutions, particularly among non-dominant youth. Without a proactive educational reform agenda that begins with questions of equity, leverages both in-school and out-of-school learning, and embraces the opportunities new media offer for learning, we risk a growth in educational alienation by our most vulnerable populations.
>
> (Ito et al., 2013: 7)

The *Connected Learning* (CL) *report* emerges from the research carried out for more than six years within the Digital Media and Learning Initiative, from which it is possible to indicate the following challenges (McPherson and Wanner in Ito et al., 2013, 13):

- "Broken pathways from education to opportunity" (p. 15) – while establishing the dynamics between educational and economic opportunities, the researchers pinpoint the necessity of an educational reform that is oriented towards equity - "we need to confront these market realities as well as take into account the highly unequal educational playing field dominant and non-dominant youth encounter" (p. 19);
- "A growing learning divide" (p. 22) - addressing the asymmetries of access to educational, economic and political opportunities, the authors draw attention to "growing populations of non-dominant youth who are being shut out of educational pathways to opportunity" (p. 23) and the fact that there is a "trend for privileged young people and parents to mine the learning opportunities of networked and digital media" (p. 25); in the face of this phenomenon, the researchers recommend that the public education system should develop a pro-active and well-resourced agenda for enriched and interest-driven learning, preventing young people dependent on public institutions for learning from being doubly disadvantaged (p. 25);
- "A commercialized and fragmented media ecology" (p. 27) - the authors highlight the underlying commercial interests present in the young people's engagement with media (p. 29) as well as the risks of the prevailing disconnection between classroom learning and everyday lives and interests of young people (p. 30); despite the multifarious range of choice of media young people have in the present, "only some are choosing to engage with academic culture and knowledge […] as media become increasingly personalized and individualized, a balkanization occurs as people gravitate toward sources that exemplify their interests and perspectives. This can lead to a polarization of political discourse, and a growing equity gap

between those who have a well-rounded view of public culture and current events, and those who do not" (p. 29).

The principles that ground a CL experience mirror the interactions of the online world. They embody how users appropriate media at present. The report *Now & Next: Future of Engagement* (MSL Group, 2013: 7) identifies the following trends in terms of consumption and creation of media content:

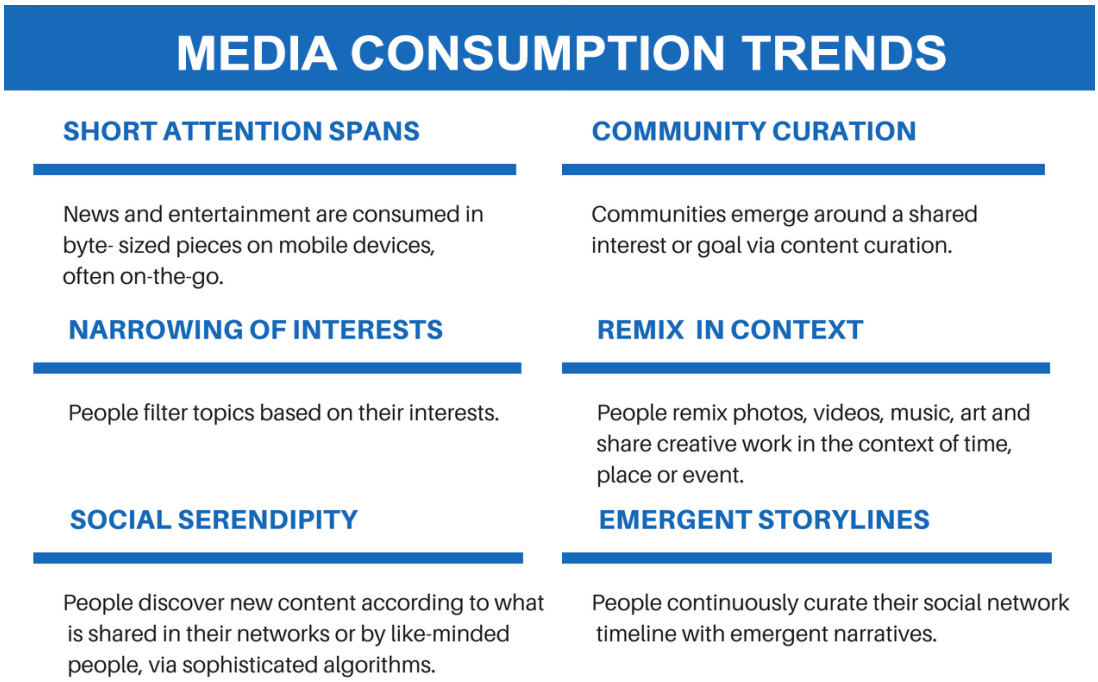


Figure 2.7 Media content creation and use based on the outputs of the report *Now & Next: Future of Engagement* (MSL Group, 2013: 7) retrieved from http://peopleslab.mslgroup.com/peoplesinsights/future-of-engagement/

The CL framework proposes to harness the opportunities of the mediated networked world to transform learning practices and promote the reform of the educational system (Ito et al., 2013: 33).

> Our connected learning agenda involves building more diverse entry points and pathways to opportunity as an avenue to this broader reform and equity agenda, by leveraging the affordances of new media. We see new media, particularly as it is linked to youth-centered interests and community contribution, as providing new entry points into learning, opportunity, achievement, and civic participation.
>
> (Ito et al., 2013: 34)

The following is an overview of the principles and core properties of CL experiences (pp. 62, 74) in relation to the media content creation and use trends mentioned above.

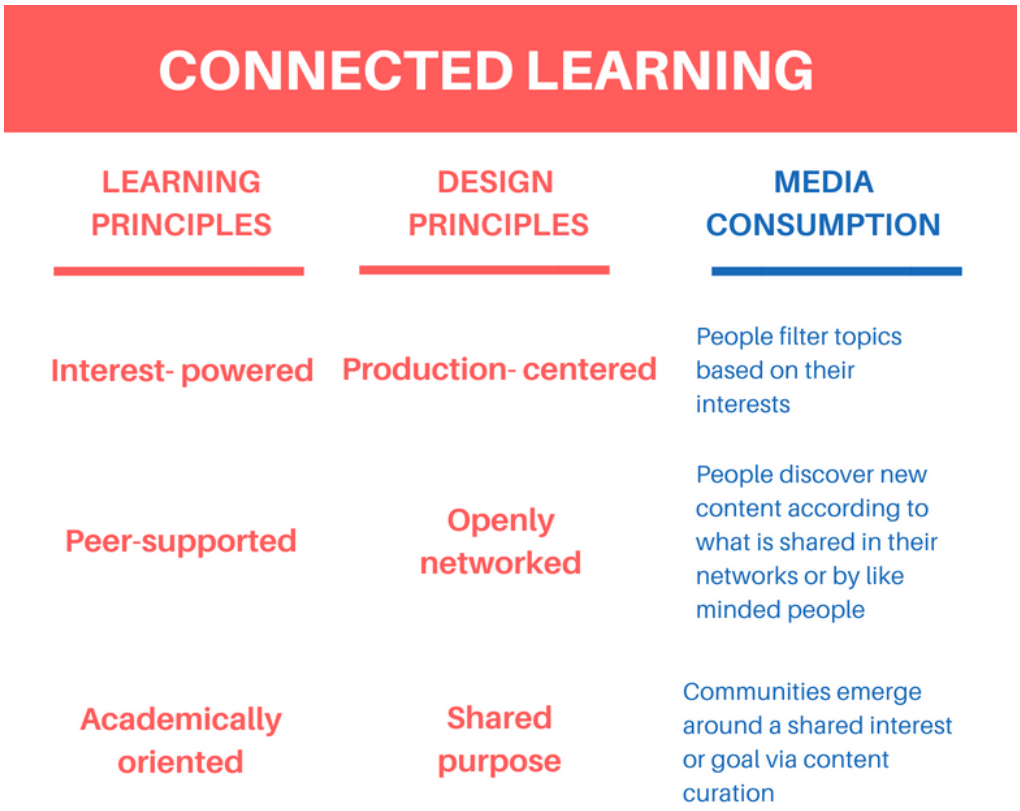


Figure 2.8 Principles and core properties of CL experiences (Ito et al., 2013: 62, 74) retrieved from https://dmlhub.net/publications/connected-learning-agenda-for-research-and-design/

CL is rooted in the active participation of learners and educators and nurtures the ability to connect people in amplified spaces of learning - “Broadly speaking, our orientation is both social and technical in nature; it addresses platforms and spaces for learning, the production of learning resources, as well as the creation of social norms and policies.” (Ito et al., 2013: 78). It is centered on learners' agency and underlines the importance of students pursuing meaningful and authentic experiences in their (formal and informal learning) contexts.

Other factors come into play when considering putting a CL experience into action. Participants’ lack of proficiency in media literacy skills or access to

technological devices are aspects that may need to be equated in the contexts these experiences are developed (even though CL experiences do not solely resort to technological infrastructures).

There's also something to be said in what regards connections within the educational ecosystem. Pursuing the overarching goal of facilitating learning requires a bottom-up approach. Connecting all those involved in the "quest" is a process that requires more attention than is given at present times. In *In The Class: Living and Learning in the Digital Age* (2016), Livingstone and Sefton-Green expose a disconnection between school and home.

> Digital connectivity can link home and school, youth and adults, local and global spheres. But as we have documented, both teachers and young people have a lot invested in keeping their spheres of interest and identity separate, under their autonomous control, and away from the scrutiny of the other.
>
> (Livingstone and Sefton-Green, 2016: 235)

This ethnographic study that, during a school year, documents the mediated lives of a group of 13 to 14-year-old students of a school in the suburbs of London, explores three central areas - school, peers, and home. It puts into evidence on one hand how these adolescents have resorted to the online world to maintain and build connections in the offline world with peers and strategically managed the use of online platforms considering different levels of relationships and boundaries and on the other hand how the formal learning settings of these students are sometimes distant from the interactions and the ways they develop learning processes with peers and at home. Despite the fact that the study reports on a group of British students' and hence cannot be generalized, the account provided by the authors also challenges widespread conceptions regarding the way adolescents are using digital media to construct their identity in the online world. Interactions with peers through media are varied and used for different ends, as different case studies in the book put to the fore.

> For the class, Facebook was a unified and simple way of making arrangements and of knowing what is new. But spaces such as Tumblr offered more aesthetic opportunities for

> expressive and sometimes exploratory or transgressive identity work. For Megan, then, Tumblr allowed space for a self not even seen by her close friends.
>
> (Livingstone & Sefton-Green, 2016: 94)

Furthermore, the authors draw attention to the fact that the adolescents (participants in this study) preferred face-to-face communication and used online spaces to facilitate it.

> Digital networks underpin face-to-face networks rather than creating alternative connections and modes of identity. As Adriana explained about her use of her phone, 'I don't just talk to people. If I want to, like, call someone up and do something, … I prefer to meet up with people.' In other words, face-to-face communication is hardly displaced by digital media.
>
> (Livingstone & Sefton-Green, 2016: 104)

From multiple perspectives, this longitudinal study indicates that more research and discussion among educators is required to understand students' interests as well as the ways students make use of the online world. The questions that the researchers addressed in this study are valid starting points to any debate concerning the development of contemporary educational practices.

> To throw some light on the many competing claims about youth today, this book asks, What matters to them? How do they approach life at home and school? Is it really a matter of "all change" in the so-called digital age? What vision of the future do they think their parents and teachers are preparing them for?
>
> (Livingstone & Sefton-Green, 2016: 4)

Since the launch of the CL agenda, research studies have targeted the formative evaluation of learning environments adopting the CL approach, not only educational institutions but also learning spaces in which increasingly adolescents have become involved through digital media. Professor Richard Arum (Connected Learning Allliance, 2016) discussing a five years mix-method research on CL environments refers that young people that had engaged in CL practices had improved educational attitudes, persistence in grit as well as showed improvement in educational outcomes in terms of achievement measures. Whilst research

studies have effectively put into evidence how young people can benefit from CL practices, there is still work to be done to tap into educators' rationales and the ways they are designing CL experiences.

> While these pieces often went into great detail about how young people responded to the innovative learning opportunities designed by the educators in their lives, they did not usually delve deeply into how these educators developed the knowledge, skills, and dispositions that helped them design these opportunities in the first place. Instead of magical devices, I seemed to be encountering magical teachers who had somehow internalized this orientation toward learning and knew exactly how to embody it. That is when I realized that we need a model of connected teaching to complement the model of connected learning.
>
> (Mirra, 2018)

Conducting research on learning practices situated across space and time, such as the case of CL experiences, is challenging but necessary to explore and attempt to understand how students' "competence in moving between settings and in taking an active role in learning has significant implications for the quality of their lives" (Kumpulainen & Sefton-Green, 2014: 15). In light of this, Kumpulainen and Sefton-Green propose three dimensions to investigate CL:

> The first of these are research methodologies that can capture duration and process. These are ways of observing change over time within and across space-time configurations. The second are research methodologies, which can capture movements across boundaries and places and, in particular, across complementary social spaces and domains. This also entails the idea that intertextuality can help us explore the process of cross-referencing and dialogue implicit in any conceptualization of making connections in situated practice. The third is research that analyzes individuals' 'learning lives,' that assesses them holistically as they grow, change, and bring together different experiences, including life-wide and life-long learning.
>
> (Kumpulainen & Sefton-Green, 2014: 11)

Recently the CL Framework has been revised emphasizing three broad dimensions. CL is presented at the intersection of "personal interests, meaningful relationships, and real-world opportunities" (Connected Learning Alliance, 2018).

The emphasis is on establishing connections. Within this context, technology tools are not perceived as valuable per se; instead, they constitute the means to establish connections. The evolution of the model acknowledges more visibly the role of informal learning arenas. As the anthropologist and researcher of the CL Alliance, Mimi Ito (2018), points out “there’s a gap in informal education. When you look particularly at sort of fast-paced, new, creative areas, like coding technology, digital arts, and innovation, then so much of that learning now is happening through more informal peer-based, community-based kinds of contexts.”

The pillars that sustain the updated version of the CL framework are:

- Sponsorship of youth interests addressing the need for institutions and educators to promote young people’s interests and “recognize diverse interests and providing mentorship, space, and other resources” (CL Alliance, 2018);
- Shared practices related to the development of collaborative production activities, civic action and joint research with adults and young people;
- Shared Purpose concerning the promotion of active participants within a community and the creation of supportive affinity spaces;
- Connection Across Settings assumes that CL is transversal and “In order to support diverse learner pathways, organizations and caring adults can form partnerships, broker connections across settings, and share on openly networked platforms and portfolios” (CL Alliance, 2018).



Figure 2.9 Presentation of the CL revised framework at the CL Summit , 2018, Screenshot of the video “CLS2018 - The Connected Learning Research Network: Reflections on a Decade of Engaged Scholarship” retrieved from https://youtu.be/c1R-UlbScFA

It is not the case that the previous CL framework was abandoned. The core elements that constitute the original CL model of reference are framed in more inclusive dimensions; for instance, the production-centered principle is framed within shared practices.

Another issue that the CL Alliance researchers are attempting to address is the fact that not all forms of application of technology in educational grounds translate into the support of young people’s interests or link them to mentoring or expertise opportunities. Digital learning can oftentimes be instrumental and not foster collaborative practices.

> Often, schools reflect the demographics of the kids they’re serving. What we’re seeing is that there has always been a minority of schools that use technology in very student-centered and progressive ways, and those schools are still doing exactly that same thing with the new crop of technology. […] the majority of schools tend to domesticate technology to the traditional direct instruction modes that are prevalent in that school.
>
> (Ito in Nazerian, 2018)

If inequity is present in formal learning environments, it is also present in informal ones. Despite the widespread use of digital technologies, young people

across different social backgrounds do not have equal access to learning opportunities. Livingstone (2018b) based upon the “Parenting for a Digital Future”, a qualitative research work, conducted with parents in London, exposing social inequalities in terms of the provision of informal learning opportunities to children, highlights that

> “[…] it’s disheartening to see how digital technologies contribute to the social reproduction of dis/advantage more than they undermine it. […] insofar as connected learning is facilitated by parents’ helping their children to follow their interests across different learning sites, it may be failing to promote the social justice goals its advocates have hoped for.
>
> (Livingstone, 2018b).

Survey findings presented at the CL Summit 2018 indicate that:

- There are few differences by socio-economic status for the amount parents and children used the internet, but there are considerable differences in the range of devices they used and in their digital skills. The importance of inequalities in skills is perhaps more obvious than that of access to a range of devices – the latter hints at the benefits of personalized, flexible control over devices.
- As well as differences across families, there are also some meaningful similarities. Notably, parents often watch television and films with their children, as a key part of family activities, and this turn to digital media for shared positive experiences should be recognised. But some of their other uses of technologies (playing computer games together, contacting relatives and friends via Skype or similar, and using technology for creative activities) are again more common among middle-class families.
- Less surprising, but also problematic, is the finding that middle-class parents more often use the internet to support their children’s learning (and, indeed, their own). This has serious implications for the role of digital technologies in supporting connected learning.

(Livingstone, 2018)

Taking into account the issues mentioned above, researchers of the CL Alliance are investing in the development of learning ecosystems that support connections; collaboration across different spaces where at present students are developing learning practices, these include both formal and informal contexts, online and offline environments. The overarching goal is to remove barriers some students may face in the access to equal participation opportunities. It is an

attempt to tap into learning opportunities within students' affinity spaces and move beyond the digital divide.

Similar to the CL report, *Learner at the Center of a Networked World* (Aspen Institute Task Force on Learning and the Internet, 2014) targets the promotion of learning networks that "allow learners and teachers alike to connect directly to resources, people and activities" (Aspen Institute Task Force on Learning and the Internet, 2014: 4).

The report is based on the following five cornerstones (pp. 16-17):

1. Learners need to be at the center of new learning networks;
2. Every student should have access to learning networks;
3. Learning networks need to be interoperable;
4. Learners should have the literacies necessary to utilize media as well as safeguard themselves in the digital age;
5. Students should have safe and trusted environments for learning.

This report is targeted to the educational community of the United States of America; nevertheless the challenges it addresses and the recommendations it puts forward can be extrapolated to other educational communities. *Learner at the Center of a Networked World* draws on a year of study and the outreach to 20 different stakeholders in the education, technology sector as well in the civic sphere to envision a diverse system of educational opportunities placing the learner at the center. The principles and recommendations it proposes attempt to address the following topics: access to technology; development of media literacy; online safety and privacy issues. Interoperability is used throughout the report as a core concept to support the vision of a trusted networked environment for learning.

One of the strengths of this report is that provides concrete guidelines that might be used by stakeholders, parents, educators, school district leaders, students, foundations, non-profits and businesses to transform or enhance their learning contexts. The authors propose 26 recommendations aggregated around the following concepts (pp. 18-23):

- Learners need to be at the center of new learning networks, e.g., “Action A - Redesign learning environments to empower learners to learn any time, any place, and at any pace, both in school and beyond” (p.18);
- Enhance the ability of educators to support and guide learners in a networked learning environment, e.g. “Action E - Invest in research and professional training to better prepare educators for changing roles in supporting students’ use of new and existing learning networks” (p.19);
- Build an infrastructure that will connect all students in all of the places they learn, e.g. “Action J - Provide pathways to high-quality content, courses and educational experiences through platforms, applications and curation efforts by educators, students and parents” (p. 20);
- Support the maximum feasible degree of interoperability across learning networks, e.g., “Action M - Adopt open standards and protocols that simplify and promote interoperability of learning resources” (p. 21);
- Adopt policies to incorporate digital, media and social-emotional literacies as basic skills for living and learning in the digital age, e.g., “Action P - Fund the development and use of online programs and innovative peer platforms to build digital age literacies in adults, youth and parents” (p. 21);
- Create trusted environments for learning e.g. “Action W - Re-examine federal and state regulations governing collection and access to student educational data to provide appropriate safeguards that protect against specific harms relating to learners’ privacy and security and, at the same time, accommodate the future of learning tools and services” (p. 23).

Aimed at a broader scope of application - an educational system, the set of recommendations can also be considered in the setting of a learning ecosystem such as a transmedia learning storyworld, specifically in what concerns - access to media platforms; establishing dynamics between platforms and the design of media content production activities.

Another report of interest in the fields of learning and media literacy is *T is for transmedia: Learning through transmedia play* (Herr-Stephenson et al., 2013). In it the authors present the concept of transmedia play (TP) - "a way of thinking

about children's experimentation with, expression through, and participation in media" (Alper & Herr-Stephenson, 2013: 366). The report emerges from the authors' experiences in the research and development of experimental transmedia play experiences and series of discussions with scholars, educators and children's media industry professionals about TS, play, performance and the relationship between transmedia and learning (Herr-Stephenson et al., 2013: 29). More than identifying the relationship between transmedia and storytelling, play, and learning, and providing case studies of meaningful transmedia play experiences, the report provides insights on the design of transmedia learning experiences that can also be considered in transmedia learning experiences for older audiences. In fact, open-ended transmedia play experiences are popular among children and adults alike (Herr-Stephenson et al., 2013: 26). A notorious example is *Minecraft*, a video game in which players are challenged to build with virtual blocks. Even though at first sight this description might indicate it is a basic game, in the *Minecraft* world players are engaged in a wide array of learning activities.

> Discovering, researching, gathering, and experimenting with different kinds of blocks, involves developing and leveraging knowledge of the 'natural' properties of these resources within the world of Minecraft. It also involves reaching out to various other media resources, including online videos, wikis, and other websites, to learn from other players' experiences. All of these activities can be described as 'tinkering,' casual experimentation with the intention of learning how something works and/or repairing it; tinkering has been found to be a useful mode for learning in formal and informal learning spaces.
>
> (Kafai & Peppler, 2011; Guzzetti, Elliot, & Welsch, 2010 in Herr-Stephenson et al., 2013: 26)

The following is an overview of the features the authors attribute to TP experiences (p. 27):

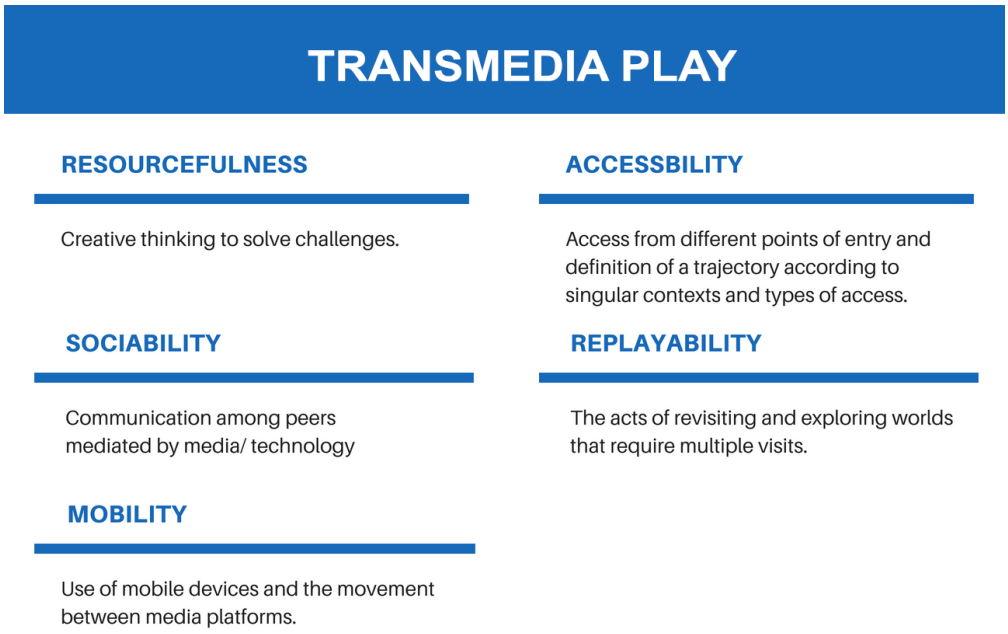


Figure 2.10 Core features of transmedia play experiences indicated in the report *T is for transmedia: Learning through transmedia play* (2013: 27) by Herr-Stephenson et al. Retrieved from http://www.joanganzcooneycenter.org/wp-content/uploads/2013/03/t_is_for_transmedia.pdf

Alper & Herr-Stephenson (2013: 367) suggest that TP model experiences promote learner-centered practices, experiential learning and develops literacy. Furthermore, it implies the development of media literacy skills by encouraging:

- "critical and active inquiry […] asking young people not only to consider that all media messages are produced for a specific purpose, but also to gain a deeper understanding of how those media messages are systematically spread across various networks" (p. 367);
- "new types of reading and authorship using a wide array of media texts. Since there are many ways to enter a transmedia storyworld, students with varied learning styles have multiple opportunities to revisit a story and reinforce skills of analysis and expression over sustained periods of time" (p. 367);
- "participation and citizenship […] with a particular emphasis on understanding the ways in which media elements travel locally as well as transnationally. Learners not only construct their own meanings from transmedia messages, but also derive meaning from the paths they make for consuming, creating, and sharing media elements" (p. 367).

Even though TP experiences may facilitate the development of learning practices, there are factors concerning participation in a TP experience that should

be considered. Transmedia experiences imply the interpretation of narrative information dispersed through multiple media platforms. In this matter, Hassler-Forest (2016: 16) points out “transmedia world-building depends on and demands from its audience a high degree of participatory activity, media literacy, and a playful sense of engagement with the storyworlds it creates.” Children, the primary target audience of TP experiences, may often lack the skills to take part in it. The level of participation in TP experiences might then be dependent on their developmental stages (Pietschmann, Völkel & Ohler, 2014: 2261). There are also ethical and legal matters regarding children’s sharing content online (Alper & Herr-Stephenson, 2013: 368) that should be accounted for - concerns that have increasingly become more visible in the discussion of policies concerning online privacy and the regulation of users’ data protection.

Alper and Herr-Stephenson (2013: 368-369) point to future research targeting the five characteristics of TP to further explore the use of transmedia logics in the crafting of learning experiences and to determine in what ways transmedia supports social skills, cultural competencies as well as digital, textual, visual, and media literacies. The authors also argue that further research must be conducted to capture learning practices and processes that may occur over time – “If a transmedia play experience takes place over a prolonged period of time, how does the duration of participation affect learning?” (p. 369).

Ultimately, this report provides “a much-needed guidebook to transmedia in the lives of children age 5-11 and its applications to storytelling, play, and learning” (Jenkins, 2013). It identifies critical links between transmedia and learning and provides design recommendations to bring play and learning to the forefront (Herr-Stephenson in Jenkins, 2013). The latter are of interest not only to media makers but also to educators. In light of this, the report can be considered a valuable contribution to the field of transmedia learning, as Jenkins (2013) stresses this is an area of study that needs to be increasingly developed.

> Transmedia is not the monster at the end of the book; it’s not something you need to be afraid of encountering. So far, we know more about transmedia in entertainment and branding contexts than in relation to learning. That’s not a reason to take off running down the street. That’s a reason for people who care deeply about insuring the most diverse

> learning opportunities for our children to take transmedia seriously, to try to understand how to link multiple media together to create new pedagogical experiences, to be ready to explore how we might play together around the materials of a transmedia franchise, to invite children to explore what it means to read a story across the borders and boundaries between different texts and different media.
>
> (Jenkins, 2013)

2.3.5 Video Games as Learning Spaces

There are lessons to be learned from the world of video games. Game-based learning (GBL) is at present a wide-ranging area of research that explores how to intertwine principles of learning with game mechanics, visible in processes such as gamification, and studies educational, edutainment, serious or alternate reality games. Increasingly MMORPGs (massively multiple online role-playing games) given their popularity are the target of attention of this community. Worlds students are especially attuned to and engage during their leisure time.

This section provides a selection of approaches and examples from the field that put into evidence educational practices that emerge from playing and from being a part of communities of MMORPGs as well as dimensions of games and game design principles that can be used to integrate a learning dimension in the design of transmedia learning environments.

MMORPGs present elements that can be used for the creation of interactive learning environments and constitute a space that fosters learning of various types of knowledge: knowledge of a world's infrastructures and world logic. As Wolf (2012: 143) points out " […] such knowledge gains new importance in an interactive world, where it can be used directly by the player who is a participant in the world whose goals and objectives cannot be completed without that knowledge." The acquisition of this sort of knowledge can also, in turn, be used to understand the events and stories of the non-interactive world - the physical world. Furthermore, MMPORGs engage players to take part in the world and shape it. Wolf while contrasting fan fiction creation to the participation of gamers in a MMORPG highlights that:

> Participation in a MMORPG is collaborative, and differs from the creation of fan fiction, video game level modding, and other such activities in which fans change or add onto an existing world without affecting the world, as it is experienced by others; to an extent, everything that happens within an on-line virtual world is automatically a part of that world, rather than merely an independent fan production.
>
> (Wolf, 2012: 144-145)

Professor James Paul Gee in “Good Video Games and Good Learning” (2005) argues for the importance of video games in learning and suggests a set of learning principles that are built into video games. Each principle, according to Gee, is relevant to learning in video games but also to learning in content areas in the classroom. The following is an overview that presents the principles proposed by the author:

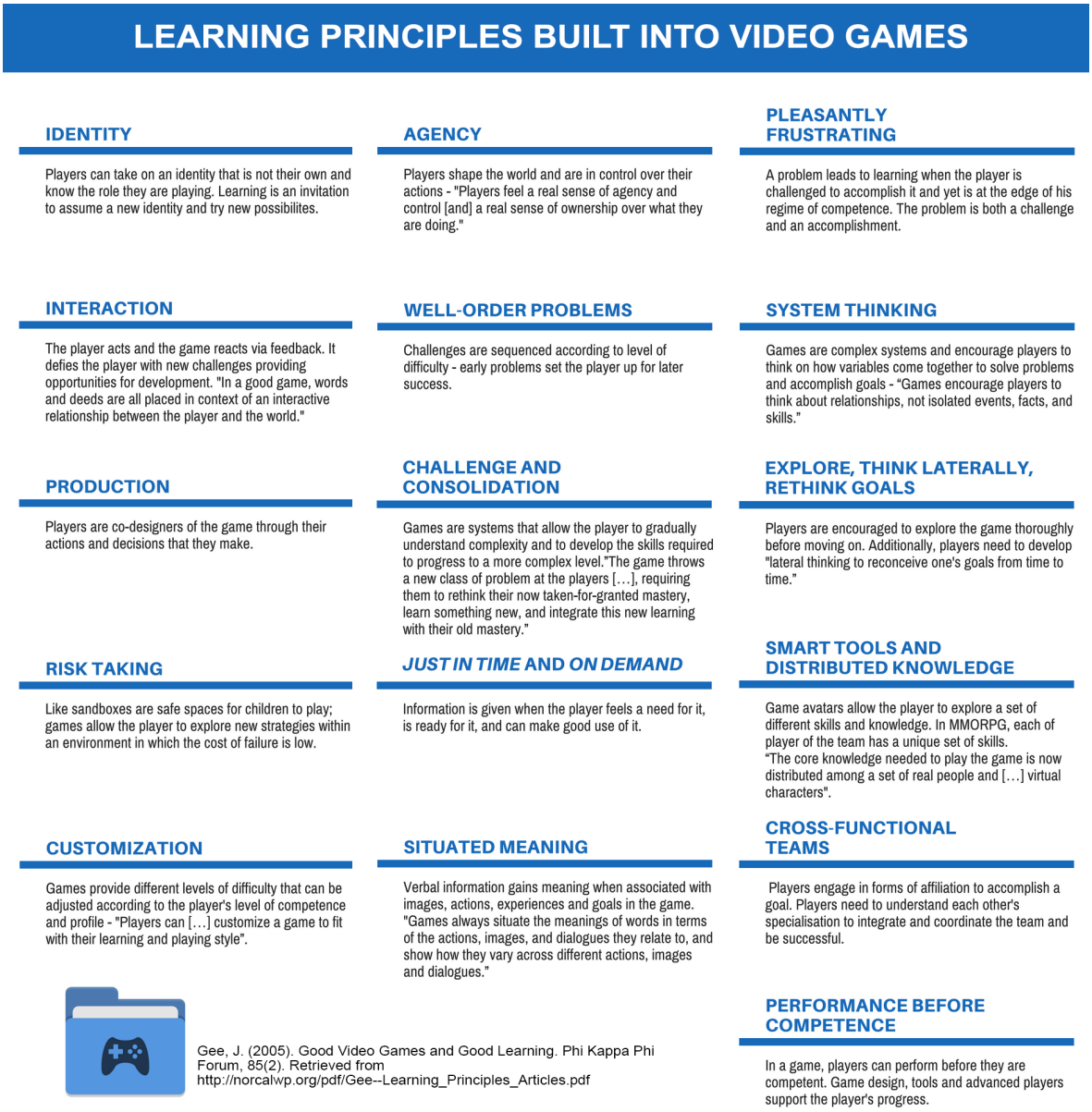


Figure 2.11 Learning Principles built into video games proposed by James P.Gee in Good Video Games and Good Learning. Phi Kappa Phi Forum 85(2) retrieved from http://norcalwp.org/pdf/Gee--Learning_Principles_Articles.pdf

Games favor the manipulation of content. They have been used in the context of varied subjects. *Assassin's Creed*, for instance, allows learners to "replay history" (Steinkuehler & Squire, 2014). In the science field

Simulations and games have great potential to advance multiple science learning goals, including motivation to learn science, conceptual understanding, science process skills,

> understanding of the nature of science, scientific discourse and argumentation, and identification with science and science learning.
>
> (Honey & Hilton, 2011: 2)

Games are also spaces in which students can manipulate language. “The rich multimodal environments that games provide function to ground language learning in the situated context of its meaning and use” (Gee & Hayes, 2010), thereby enabling meaningful language acquisition to take place. "They allow the grounded use of language in a rich context, both virtually and, in many cases, socially” (Steinkuehler & Squire, 2014).

By taking a closer look on the spaces of *League of Legends* (LoL), it is possible to understand how such processes are developed. The following is a text sample of one of the discussions taking place in the LoL forum regarding one of the fictional characters of the game – “Ahri, the nine-tailed fox”. The text sample was analyzed through a Fry readability calculator. The Fry readability formula is a readability metric for English texts. It is often used to determine the level of complexity of a text.

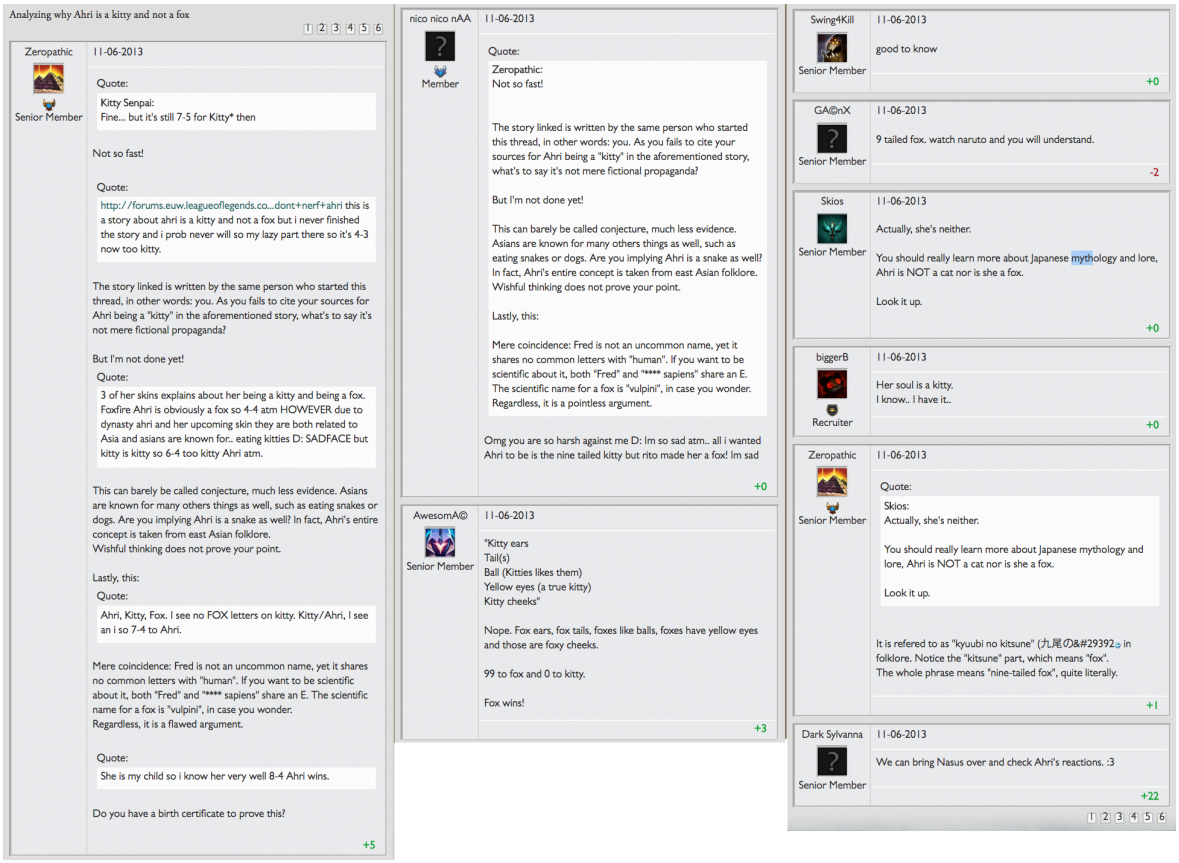


Figure 2.12 A text sample taken from the LoL forum discussion “Analyzing why Ahri is a kitty and not a fox” (2013) retrieved from http://forums.euw.leagueoflegends.com/board/showthread.php?t=1465447&page=2

The score of this text sample is the following:

- K1 words: 73%
- K2 words: 3.8%
- AWL (academic) words: 3.3%
- Off-list words: 19.7
- Fry reading level: 5 grade

Despite the fact that the reading level is low indicating that is not a complex text, the percentage of off-list words is significant. This might be attributed to the use of the game’s lexicon. What perhaps is surprising is the percentage of academic words used, a priori not expected to appear at this reading level.

The topic’s choice is relevant in this context. The participants of the forum were engaged in exploring the origins of the name and traits of a character of their

interest in the game. A significant enough interest that led players to resort to scientific and cultural references to support their claims.

> The scientific name for a fox is ‘vulpini’ [⋯] It is referred to as ‘kyuubi no kitsune’ (九尾の狐) in folklore. Notice the ‘kitsune’ part, which means ‘fox.’ The whole phrase means ‘nine-tailed fox,’ quite literally [⋯] You should really learn more about Japanese mythology and lore.“
>
> ("Analyzing why Ahri is a kitty and not a fox - League of Legends Community", 2013)

This discussion shows that players are prepared to go to great lengths to present their perspectives if interested in a topic that captivates them. Actively seeking information and use of (on occasion) elaborate argumentative writing is also not anticipated in this informal space of discussion. Even though this is just an anecdotal example, it puts into evidence that the acts of playing and interacting within the spaces of this type of games can also be perceived as opportunities to explore curricular subject matters. Matters that at prima facie seem disconnected from this sort of contexts.

By combining aesthetics, sound and play mechanics, games are a medium by excellence to convey information. Such is the case of *Type: Rider* (2013), a typographic video game created by Cosmografik for the French cultural TV channel Arte.

The player is led on an interactive journey through the history of typography. While navigating the curls and serifs of typefaces by controlling a colon, turned on its side, players explore ten stages that go from cave paintings, hieroglyphics through the development of written language, the Gutenberg press to the dawn of the digital world. Each level is a world designed around a specific font and reflects the historical and cultural context from which it emerges. For instance, monasteries and Gregorian chants are used to illustrate the Gothic while the underground, clandestine press of the sixties is the landscape for the bubble fonts of the time. The font designs the landscape, which in turn influences the gameplay.

The player’s mission is to collect letters from each font group and asterisks. The latter unlock information on the historical background of the font provided in a

concise manner but still able to bring the player into contact with the real world use of the font.

In *Type: Rider* information is intertwined at a deep level making use of cleverly devised sound and visual landscapes and easy yet challenging gameplay. The game becomes an almost tactile experience with leaps, turns and climbs in, on and through the letters at each level.

The experience became even more tangible through a video art installation that combined video projection with the video game and a typographic wall. Users could customize it by arranging letters in the same way as typographers did in the past. The experience of *Type: Rider* becomes a social one through a Facebook page. A space for players to create, play and share typographical levels via a creative resources kit provided in this space.

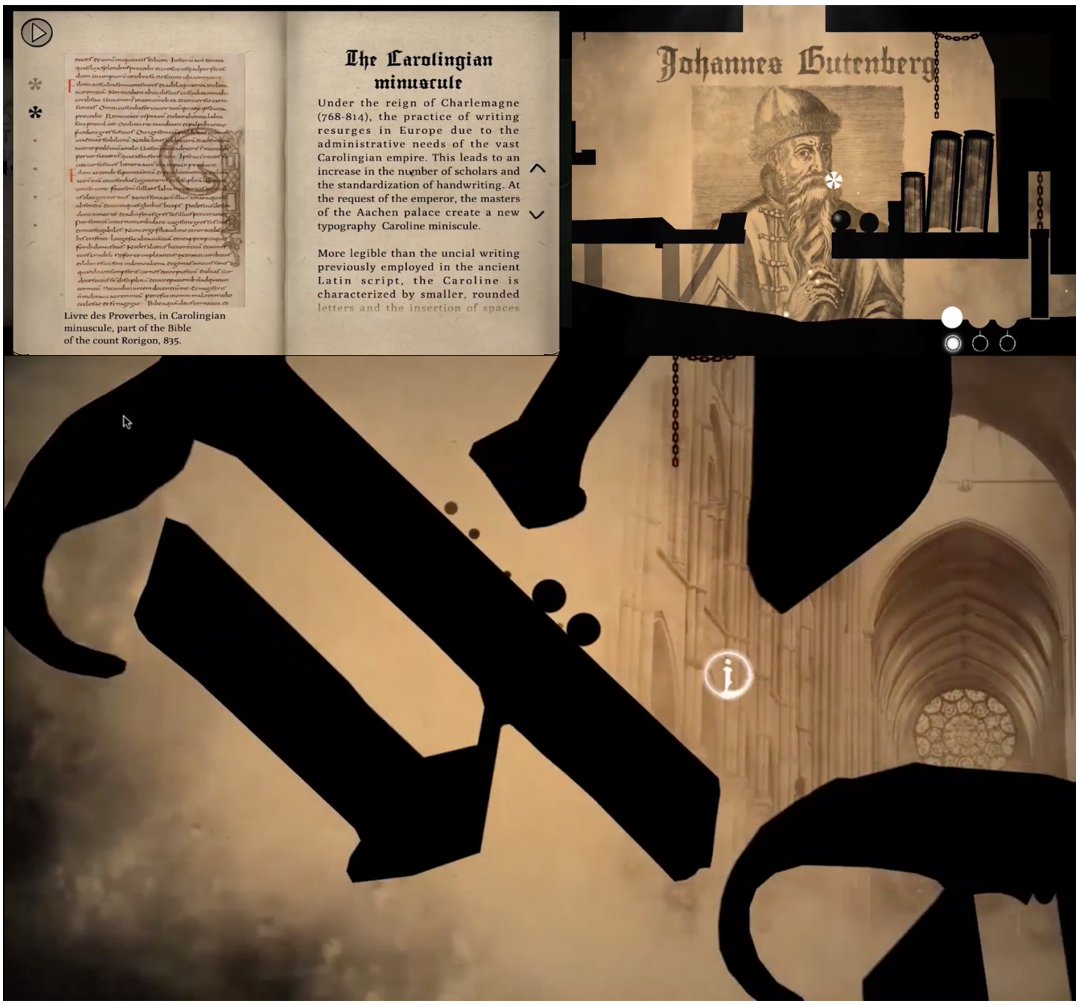


Figure. 2.13 Screenshots of the video game Type:Rider retrieved from https://store.steampowered.com/app/258890/TypeRider/

Games are redefining the nature of learning. As important as the game itself are the participatory spaces constructed around it. These spaces develop collaborative processes and foster the motivation to learn. As an assessment tool, the player's logs allow mapping decisions in the course of the player's problem-solving process. Equally relevant to learning is the game design. It scaffolds the gaming experience. Context and mentoring mechanisms assume a teaching role to support the player in the quest. Games can also be used as creative tools allowing learners to explore worlds constructed by them. Different dimensions of the game address different aspects of the learning process such as motivation, design, assessment and collaboration:

- Motivation - Gee (2005) points to the fact that the game is based on the recognition that learning is a deep motivation for the human. Learning within the game has to be appealing and engaging which implies, according to Gee, to explore the motivation for learning within the human.
- Design - The game design is crucial because it lends itself to mentoring and teaching functions. It shapes the players' goals, decisions, and actions but doesn't take away their freedom of choice and accountability in the decision making process. According to Gee (2005), it also allows for the convergence of various forms of exposure, description, and languages that promote the articulation of different types of knowledge in the act of play. Through Scratch - a platform to create games, interactive stories, animations and music, Kafai and Peppler (2012: 355-358) put into evidence that adolescents are engaged in the game design creative process to the extent that they develop it in their spare time spontaneously. As an interactive form of art, the authors highlight three dimensions that are explored in the creation of games: the technical, critical and creative dimensions. The authors argue that the combination of the three develops gaming fluencies without the need for instructional support.
- Assessment - Engagement in the game is paired with an ongoing assessment process (Gee, 2012). Games more than articulating knowledge, provide ways to assess problem-solving skills, quality of choices and decisions putting their impact into perspective in short and

long-term. Through query logs or discussion boards, it is possible to track the player's performance and more importantly the knowledge building process and interactions.

- Collaboration - Games create social engagement "most positive social engagement in and around games involves, in part, players acting and thinking like designers." In MMORPGs, such as WoW, theorycrafting is an example of collaborative practices developed in the spaces of the community of players - "an exemplary form of engagement with participatory media" that "entails the use of mathematics, logic, experimental design, and writing" (Gee & Hayes, 2012: 123). "[…] players are 'raiding'; that is, they are engaged in a tightly coordinated activity of between ten and forty people in which they collaborate to slay fantasy monsters. In their desire to play as effectively as possible – to defeat the monsters and to perform well in front of their peers – raiders engage theorycraft, that is, analysis of game mechanics.[…] Games such as WoW are complex, and players cannot discover everything they want to know simply by playing. Some players, then, undertake mathematical and logical analyses to interrogate the game more deeply. They share their analyses with other players on forums and blogs" (Choontanom & Nardi, 2012, 185). This type of social and collaborative practice has the potential to be extended to educational contexts. It promotes the discussion and interpretation of experiments results - "within the space of a single website or blog, students can publish, comment, edit and update (Gee & Hayes, 2012: 123). It is a multifaceted activity that encourages community participation and contribution.

A concept that has increasingly gained relevance, not only in game-based learning but also in educational areas in general, is what James Paul Gee and Elizabeth Hayes propose to be affinity spaces. The authors point out that players create nurturing affinity spaces –

> open spaces where groups of people are drawn together because of a shared interest or engagement in a common goal […] affinity spaces are able to bridge barriers of age, race, socio-economic status, and educational level, and thus allow each user to participate as he/ she chooses.
>
> (Gee & Hayes, 2012: 123)

At the core of the affinity space is an interest shared by many. Teaching in this context emerges from the collective. These social and cultural clusters are “where one often finds the most passionate members of the group — the key organizers, motivators, teachers, and standard bearers — and where people often come together to engage in the activities that keep them linked to each other” (Gee, 2018).

In the same lines as the principles that ground the collective journey, members of the affinity spaces work towards solving a problem that is relevant to the group. These spaces are often borderless and decentralized - “Teaching and learning are not confined to one site or any kind of person; they are distributed across many locations, people, and practices” (Gee, 2018). Gee argues for the need to understand how these spaces work – “If you want to understand how today’s young people are living and learning online, you need to understand how such affinity spaces function” (2018). The author further highlights that "children that don’t have the opportunity to participate in these spaces are deprived of “critical opportunities, to learn, interact with peers, and develop their own identity […] it is by joining and exploring such spaces that young people pursue their interests and passions, define who they want to be, and develop important knowledge and skills” (2018).

The traditional role of schools as the unique place to acquire academic skills is challenged by the emergence of affinity spaces - “How can they compete with the sort of passion that animates the myriad online affinity groups that young people are now involved in on their own time?” (2018). Affinity spaces must be scrutinized by educators since not all are indicative of or promote “healthy forms of socialization” (Gee, 2018). It becomes a responsibility for educators to support students in the selection of affinity spaces that support their needs - “Today, teachers must learn to curate the spaces available on the internet and help students find ones that will serve their needs" (Gee, 2018).

Perhaps the first step towards dealing with the challenges that schools and educators face, in the present, is to acknowledge that learning takes place outside classroom walls and validate that students make use of informal learning practices through the media of their choice. In the case of games, it becomes a distributed

and "a truly socio-cultural experience […] their gaming room at home is connected not only to the virtual spaces of the games themselves but to other interest-driven internet sites where they discuss, learn, and teach about the games they play" (Gee, 2018). Games can be then conducive to social, experiential and situated learning that may lead to the acquisition of 21st-century skills, like critical thinking, curiosity, creativity, collaboration, consideration of multiple perspectives, social awareness, responsibility, and media fluency (Choontanom & Nardi, 2012: 187).

Learning institutions and educators need to grapple the nature and interactions that emerge on these open learning ecosystems. Disregarding the ways students acquire and explore knowledge in their contexts and not being able to support the students in their choices of and in these learning spaces is not only disadvantageous but also perilous in the long run - assuming that students/ future citizens need to harness ways to interact within the spaces of a mediated world and develop strategies to thrive in this type of environments.

2.3.6 Transliteracy

Competence in ESL encompasses not only grammatical but also communicative, symbolic (Kramsch, 2009), and relational (Kern, 2014) aspects, which are controlled by sociolinguistic, pragmatic and cultural variables. Thus, it is necessary to account for the mediated and participatory landscape of the 21st Century in language learning processes. Firstly, because it occurs within particular cultural contexts; not least significant, communication takes place in technology-mediated ecosystems. Hence, language practice should not be dissociated from its social and cultural contexts in which it occurs.

Communicating in the present mediascape implies the ability to move across a wide range of media platforms while developing meaningful interactions with information. This is the same as to say that one has to develop transliteracy skills to engage in the platforms of the media ecosystem.

Transliteracy stems from the word transliterate - trans- "across" + *littera* (in Latin) "letter or character" to designate the act of rewriting in a different script. Marshall McLuhan's (1964) media ecology theory is here of importance to

observe. While exploring the cultural implications of moving to a globalized arena, McLuhan argues that media translates and transforms the experience. For the media philosopher translation is a "'spelling out' of forms of knowing" (1964: 56), and he posits that in this media ecosystem we "translate ourselves into the other forms of expression that exceed ourselves, moving toward technological extensions of consciousness" (p. 57). In this context, McLuhan encourages us to develop awareness of the technological impact on culture and how to cope with the social consequences of a new technology (p. 66) since "as long as we adopt the Narcissus attitude of regarding the extensions of our own bodies [media] as out there, and really independent of us, we will meet all technological challenges with the same sort of banana-skin pirouette and collapse" (p. 68). From this perspective, transliteracy becomes a critical tool to interact in the media ecosystem.

The definition of transliteracy is first proposed in the paper "Transliteracy: Crossing Divides" (Thomas et al., 2007) in an attempt to frame the relationships between different literacies; technologies; social and cultural contexts. For the authors, transliteracy is "the ability to read, write and interact across a range of platforms, tools and media from signing and orality through handwriting, print, TV, radio, and film, to digital social networks" (Thomas et al., 2007). The point here is that more than targeting different skills and being proficient in an array of knowledge areas, technologies or media, it is necessary to develop a broader view of what literacy encompasses in the present mediascape. As Ipri puts to the fore - "transliteracy is concerned with mapping meaning across different media and not about developing particular literacies about various media" (Ipri, 2010: 532).

The emphasis on the movement across different media in Ipri's definition of transliteracy is particularly pertinent when reflecting upon the traditional methodologies that formal learning environments, in general, resort to provide instruction. In these settings, learning takes place through the exposure to fragmented and confined areas of knowledge ignoring the intricate but also fluid knowledge acquisition practices that students engage with outside classroom walls – "While disciplinary knowledge is important and relevant, it cannot support the

development of cross-disciplinary skills and types of lateral thinking required in working with information in real life" (Sukovic, 2016: 5).

Transliteracy supports the exploration of meaning-making processes across different socio-cultural contexts and platforms, as Sukovic highlights "transliteracy consists of skills, knowledge, thinking, and acting, which enable fluid 'movement across' in a way that is defined by situational, social, cultural, and technological contexts" (Sukovic, 2017: 8).

Transliteracy is both an idea and a practice, "it is not only an abstract idea but also an embodied practice and sensory experience" (Sukovic, 2017: 8). Sukovic's perspective on transliteracy entails the development of acts of communicating meanings and new knowledge through the use of different tones, genres, modalities and media resorting to the manifold set of resources available in the collaborative and participatory spaces of the networked world (p. 52). In this light, the design and development of situated language learning experiences should be oriented to the enhancement of students' transliteracy skills.

What is the skills-set or what are the core competencies that students need to develop? Not in direct reference to transliteracy but in the context of the participatory culture (one that supports creating and sharing of creations in which members feel their contribution is meaningful), therefore appropriate to understand the interactions and movements across the media ecosystem, Jenkins (2006) proposes the incorporation of the following social skills and cultural competencies into educational practices:

- Play - the capacity to experiment with your surroundings as a form of problem-solving;
- Performance - the ability to adopt alternative identities for the purpose of improvisation and discovery;
- Simulation - the ability to interpret and construct dynamic models of real world processes;
- Appropriation - the ability to meaningfully sample and remix media content;
- Multitasking - the ability to scan one's environment and shift focus as needed to salient details;
- Distributed Cognition - the ability to interact meaningfully with tools that expand mental capacities;
- Collective Intelligence - the ability to pool knowledge and compare notes with others toward a common goal;

- Judgement - the ability to evaluate the reliability and credibility of different information sources;
- Transmedia Navigation - the ability to follow the flow of stories and information across multiple modalities;
- Networking - the ability to search for, synthesize, and disseminate information;
- Negotiation - the ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms.

(Jenkins, 2006)

Hovious (2013) extends the discussion and proposes the development of a set of seven different literacies: multimodal; critical; digital; media; visual; information and game (the latter relating to problem-solving; use of logical and strategic thinking).

Jenkins draws attention to the fact that "media change is affecting every aspect of our contemporary experience, and as a consequence, every school discipline needs to take responsibility for helping students to master the skills and knowledge they need to function in a hypermediated environment" (2006). The scholar also argues for a systemic approach - "a paradigm shift, one that, like multiculturalism or globalization, reshapes how we teach every existing subject" (2006).

Drawing from research data gathered in university and practice-based projects and connecting it with studies and theories in a broader field (Sukovic, 2017: 8), Sukovic proposes a model of transliteracy palettes "as a tool to aid the development of transliteracy in teaching and learning" (p. 87).

> The transliteracy palette […] consists of both information and form palettes and offers the ability to mix them in many different combinations. If context is a frame, information and form palettes provide materials to create a transliterate design. Learning to apply different colors to many different forms in a range of different situations is a way to develop transliteracy.
>
> (Sukovic, 2017: 87)

The following is a representation of the model provided by the author.

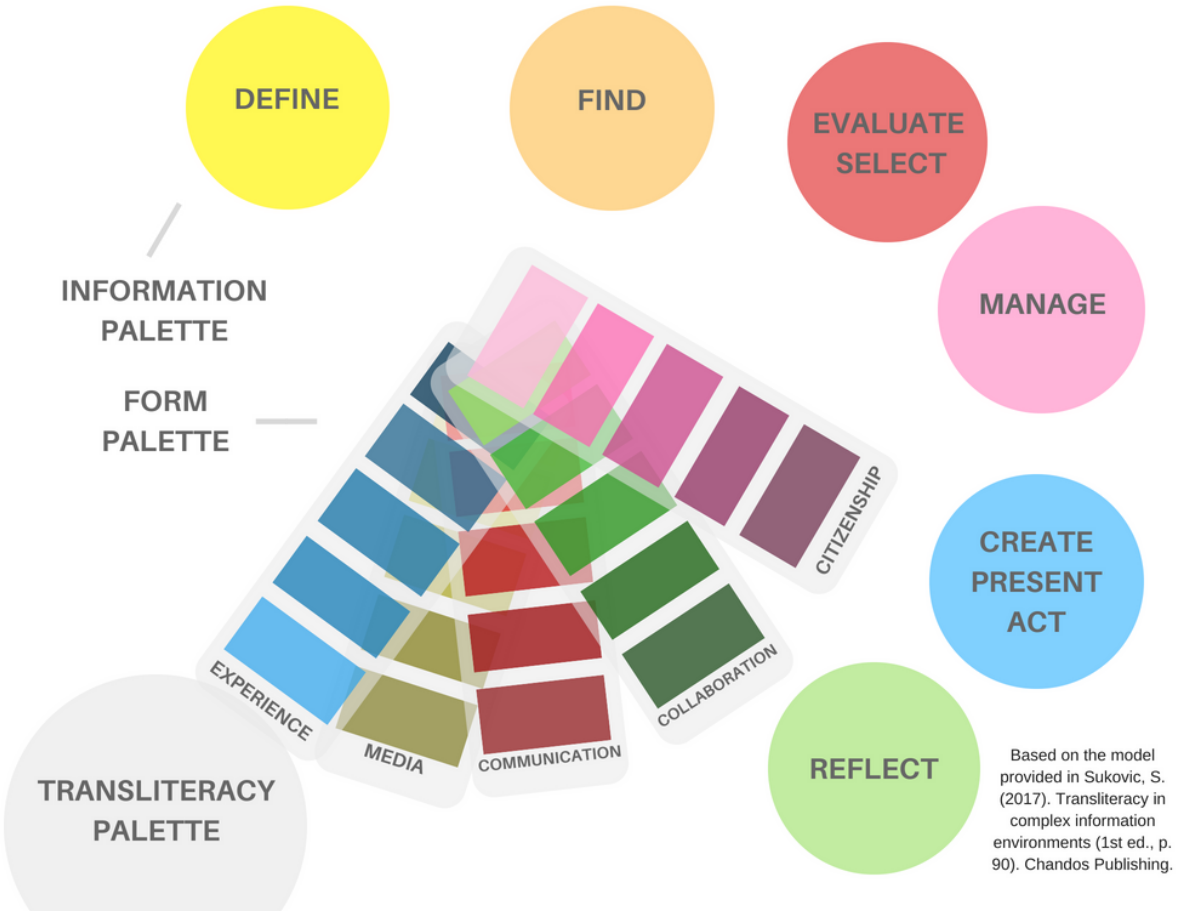


Figure 2.14 Representation of the Transliteracy Palette model by Suzana Sukovic (2017) in Transliteracy in complex information environments (p. 90). Chandos Publishing

The author uses a palette to further enhance a holistic understanding of the information process and its components as a whole (p. 88). While the information palette presents essential information qualities and practices in relation to transliteracy, the form palette represents the forms that shape interaction with information (p. 88). The author describes the elements of both palettes as follows:

Information Palette

- DEFINE question, information needed and main sources relates to the conscious understanding, which takes a person in a particular direction in the information process. It is based on identifying an information need.
- FIND AND ACCESS sources and relevant information captures the search process in which relevant information may be found in a range of sources. Finding the sources and relevant information is a part of the process, but so is an ability to access them. Access has

been clearly identified here as it relates to the findings of my transliteracy study pointing to the significance of access conditions and understanding of social contexts surrounding information access.

- EVALUATE - SELECT refers to evaluation as a well-recognised aspect of the process, but it also brings to the fore selection. Valuable information may or may not be selected for a number of reasons, which may be related to considerations other than the quality of information. Selection decisions need to be a distinct part of a holistic understanding of the process and conscious information strategy.
- MANAGE is about organising information based on content, technical and any other relevant characteristics. The word 'manage' has been chosen instead of 'organise' as it better captures potential complexity of working with information.
- CREATE- PRESENT- ACT is about various forms of information use to create new information, understanding and knowledge; combine existing information for presentation purposes; and the use of information to inform decisions and action.
- REFLECT is part of the process in which individuals and groups reflect on the process, ethics, norms and personal meanings. Reflection comes at the beginning of the process as people think and realise an information need, throughout the process as they decide about the next step, and at the end of the process to evaluate and understand recent experience. In educational contexts, it is important to embed reflection as a formal part of the process.

Forms Palette

- EXPERIENCE is about opportunities to act, sense, and think through a range of different experiences such as writing a story, performing, reading, and working visually.
- MEDIA relates to the use of different media formats (e.g., book, video, database).
- COMMUNICATION is about using different forms of communication through different channels in a variety of genres, languages, and for different audiences.
- COLLABORATION is about working with others formally and informally face to face, online, and in blended environments.
- CITIZENSHIP refers to understanding of a range of social issues, which determine successful participation in information environments. It includes legal, normative, cultural, and ethical issues. Copyright, plagiarism, and appropriate online behavior as they are commonly taught in educational settings are part of this 'form'.

(Sukovic, 2016)

Sukovic stresses that transliteracy should be implemented in a cross-disciplinary manner so that students may connect different areas of learning (p. 91) though it "can and should be taught in individual subjects" (p. 91) as well. The

author proposes that in formal learning environments the process of implementing transliteracy skills should start with transliteracy curriculum mapping. The development of this document by the collective will first ensure that the main skills are taught and second it will map opportunities for students to “move across”.

> In an arborescent structure of curriculum mapping, following the structure of the curriculum, this means learning across the curricular content, experimenting with a wide range of media, technologies, and genres, with opportunities for cross-disciplinary application of knowledge and skills. Using a rhizomatic perspective, the emphasis is on the student’s and the educator’s recognition of personal meanings and learning that happens outside the classroom and school space. Individual projects, which connect with a range of student experiences and interests, provide opportunities for students to explore less structured approaches and to use mapping as a tool of reflection.
>
> (Sukovic, 2017: 92)

Besides curriculum mapping, Sukovic argues that students’ needs play a critical role in the definition of the “mixing and matching” of the skills required to develop transliteracy learning experiences. The overarching goal should be to cover as many combinations as possible of the information and form palette across different contexts (p. 92).

The author also puts into focus the importance of emotion and creativity in learning processes. In the context of developing transliteracy learning practices, the construction of personal meaning; self-reflection or creativity cannot be dissociated from emotion. Moreover, though often sidelined in formal learning settings in preference of analytical thinking, creativity should be fostered to support divergent thinking as well as focus and task commitment and openness and tolerance of ambiguity (pp. 100-101).

Based on the fieldwork developed to explore transliteracy in terms of contribution to learning and knowledge production as well as the identification of challenges in transliteracy experiences (p. 15), the researcher also indicates a set of valuable aspects to take in consideration in what regards the development of transliteracy experiences in the classroom (p. 102):

- Timing is important - The researcher notes the need to “block out longer periods of time” (p. 102) in transliteracy learning programs, in particular at

the initial stage “to set the tone and initiate student connections around the content” (p. 102). This poses a challenge, for Portuguese teachers in public schools, since classes are either 45 or 90 minutes long. However this does not inhibit the implementation of transliteracy learning experiences in after-school programs or in allocated time periods spread across the school year.

- Space and the way it is used matter - Sukovic recommends the use of spaces that allow students to move freely to engage in collaborative activities but also to keep some distance from peers. Also critical is to have resources and tools available. Transliteracy programs explored by the researcher used the library, a space where students had access to a broad range of resources and tools (p. 102).
- Rules and spontaneity are both needed - Acknowledging the fact that most students may not be familiarised with transliterate working methods, Sukovic points to the need to establish rules and expectations to build “security, trust, and a shared understanding” (p. 102). Nevertheless, the researcher stresses that a “sense of flexibility, playfulness, and connection” (p. 102) is also of the essence.
- Playfulness and a sense of surprise are required to “ignite wonder and open pathways to creativity” (p. 102).
- Team teaching is advisable - Educators involved in transliteracy projects need to be agile, “think quickly and laterally” (p. 102) as well as be resourceful. The researcher also remarks that it might be a time consuming task for educators - “Guiding lots of individual projects, especially when they are cross-disciplinary and require significant use of technology, is time-intensive for teaching staff” (p. 102). In light of this, the researcher advises the use of teams. Based on her fieldwork, the researcher observes that collaborative practices are beneficial for students - “students enjoyed a sense of being in a learning community in which they fed off each other’s ideas and benefited from the competent guidance of the adults” (p. 102) but also educators can feel supported in collaborative environments - “ [librarians and teachers] gained insights from everyone’s ideas, but felt they particularly benefited from learning from and with their colleagues” (p. 102).

- Tools and resources - The selection of tools should not be dictated by price but rather chosen according to the appropriateness to the goal in question and availability. The researcher suggests the use of free software for specialised tasks in the projects (p. 102). Another fundamental aspect is diversity of information sources - “A sense that education is multifarious gains strength in the process of collaborative transliterate learning from sources of different quality and provenance, regardless of the setting” (p. 102). From this perspective, knowledge and information acquired by students in informal contexts is valuable for all the participants of the experience. Experts, not necessarily part of the schools’ community may also share experiences and knowledge, therefore bringing diversity and more inputs to the experience (p. 103).

Transliteracy as a practice is not guided by fixed rules or methods, ultimately, transliteracy is about developing a broader perspective on how and to what learning should be oriented to. It is also about appropriating the participants’ contexts as Sukovic notes - “what seems to matter in transliteracy is a whole picture, rather than particular teaching methods and techniques […] [transliteracy is] a dynamic pattern of new combinations and connections developed for real people in their unique contexts” (p. 103).

2.3.7 Transmedia Literacy

Transliteracy and transmedia literacy focus on harnessing students’ interactions in the spaces of the media landscape and the ways students’ create and share knowledge in and about the world. The primary distinction, as it will be discussed next, is that the map of transmedia literacy skills, proposed by the transmedia literacy project, emerges from concrete empirical research outputs exploring these pivotal questions (Scolari, 2018a: 9):

- What are teens doing with new digital interactive media?
- What kinds of practices are they using?
- What kinds of contents are they producing and sharing?

- How did they learn to do it?
- How can these skills be 'exploited' inside the classroom?

Research outputs reflect a data-gathering process of participants aged from 12 to 18 years old in schools with diverse profiles - "private/ public, urban /suburban, high-tech/ low-tech schools, etc." (Scolari, 2018b: 7) of eight countries. The selection of these, as Scolari, the head coordinator of this research project, elucidates was based on having a sample that reflected the diversity of learning scenarios. The countries (Spain, Australia, Colombia, Finland, Italy, Portugal, United Kingdom and Uruguay) (Scolari, 2018a: 9) taking part in this research were selected so as to have a global representation of countries that were ranked below, average and above levels in the PISA[3] test results (Scolari in a webinar hosted by Asociación Civil Chicos.net, 2018). Besides being set in a reliable representation of educational environments across the world, the methodological approach chosen allowed for an in-depth insight into "media production, consumption and post-production in the context of youth transmedia cultures" (Scolari, 2018a: 18). Data informing this report is both qualitative and quantitative and was collected through questionnaires, participatory culture and video game workshops as well as interviews.

While Sukovic's definition of transliteracy is informed by an academic attempt to frame transmedia, hence a top-down approach, and further developed by emergent outputs of the fieldwork in a singular context (Australia); the taxonomy of transmedia literacy skills and practices stems from a diversified sample - therefore a bottom-up approach - and the study of a broad range of mediated formal and informal learning practices. Both are pertinent contributions to discuss literacy in the current media ecology, and in different dimensions, they complement each other and reinforce the critical value of similar skills.

Transmedia literacy extends the media literacy concept by embracing produsing skills, i.e. "skills necessary to produce/ create media contents" (Scolari, 2018a: 14) and acknowledging that these skills are related with "distribution,

[3] PISA (Programme for International Student Assessment) is an OECD (Organisation for Economic Co-operation and Development) worldwide study that evaluates 15-year-old students' academic performance on reading, mathematics and science.

remixing and participation skills" (Lin et al., 2013 cited in Scolari, 2018a: 14). Transmedia literacy also reconceptualizes the teacher's role. From this perspective, the teacher is a knowledge facilitator and cultural translator (2018a: 16).

> In traditional literacy the teacher plays the role of a knowledge authority and, at the same time, a mediator between the text and the student. In this context the teacher manages the reading process – as a part of the learning process – and verifies that the text is interpreted correctly. In media literacy, the teacher's role is extended to the inoculation of critical antibodies through the de-automation of the media reception process. In transmedia literacy the teacher is a knowledge facilitator, an actor who involves learners in a collaborative learning process. In this context, the teacher is a flexible, decentralized actor who promotes bottom-up learning. This role includes another set of activities that could be defined as cultural translation: the teacher as an interface between the educational institution (the classroom, the school) and the external media ecology where the students live and create.
>
> (Scolari, 2018a: 15)

Ultimately, transmedia literacy does not dismiss previous work done in the field of media literacy, it is instead an attempt to explore the practices and processes of the present media ecosystem (p. 13) - an "alternative and complementary conception to '(new) media literacies' based on informal learning environments (Sefton-Green, 2013), bottom-up processes (Livingstone, 2004), and participatory cultures (Jenkins et al., 2006; Jenkins, Ito & boyd, 2016)" (pp. 12-13). In this perspective, the researchers frame transmedia literacy "as a set of skills, practices, values, priorities, sensibilities, and learning/ sharing strategies developed and applied in the context of the new participatory cultures" (p. 15). Transmedia literacy encompasses three different sets of media practices (pp. 17-18):

1. Videogame literacy - related to the skills players develop in and around video games, such as modding or threoycrafting, as discussed in the previous section;
2. Web/ Social media literacy - the necessary skills to navigate the mediascape - "web navigation, information gathering, taking and sharing pictures,

managing different levels of communication, constructing an identity in a virtual environment, watching a webseries, or managing the privacy and their personal identity in online platforms" (p. 17);

3. Participatory cultures literacy - refers to the skills necessary to what Gee (2015: 13) designates as enacting and recognising identities within Discourses, i.e., using a recognisable and appropriate style of language to perform a given social identity and interacting and resorting to the 'right tools to be part of a given social or cultural group.

A transmedia literacy learning environment can be classified as a third space (Potter & McDougall, 2017) - one that acknowledges the existence of informal learning practices and harnesses and explores their potential in formal learning settings (p. 16). Through their fieldwork, researchers from the transmedia literacy project identified six modalities of informal learning strategies: learning by doing, problem solving, imitation, playing, evaluating, and teaching (p. 19). Scolari points out "although some teachers and after-school programmes are incorporating some of these skills into their teaching and activities, the integration of these important social skills and cultural competencies 'remains haphazard at best'" (p. 19).

The following is a dynamic map that represents the teenagers' transmedia skills and informal learning strategies identified by the researchers.

> The map aims to represent the human emotional and rational spheres and is conceived as a whole. The circle emphasizes the close connection between the transmedia skills on one hand, and more generic individual and social skills on the other hand […] Exploring the circumference, users discover the specific skills associated with the main topic [...].
>
> (Taddeo & Amici in Scolari, 2018a: 123)

The skills were organized under the following nine dimensions: production, risk prevention, performance, narrative and aesthetic skills, ideology and ethics, media technology, content management, individual management, social management skills. The map also explores the informal learning strategies

mentioned above. Each dimension identifies “44 main skills, and in a second level, 190 specific skills” (p. 18).

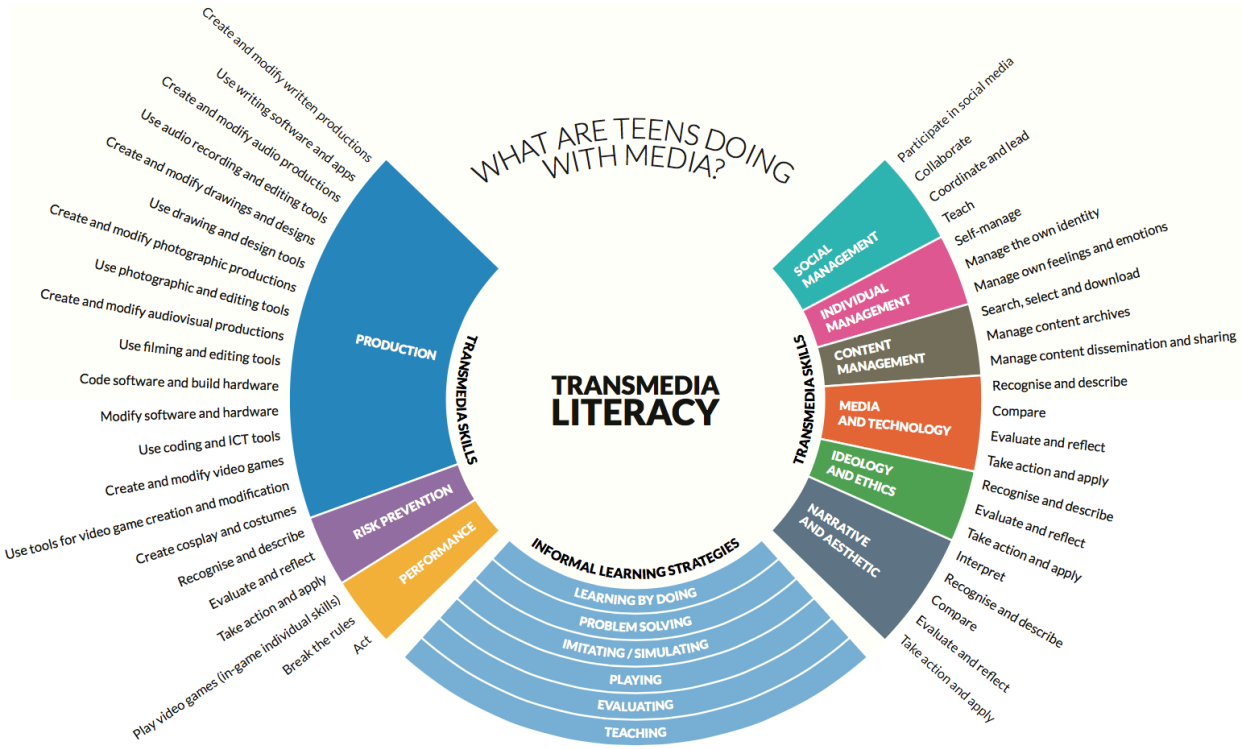


Figure 2.15 Transmedia skills and informal learning strategies dynamic map emerging from research outputs of the transmedia literacy project in Scolari, 2018b: 9) retrieved from http://hdl.handle.net/10230/33910 (An interactive version of the map is available at http://transmedialiteracy.upf.edu/en/transmedia-skills-map).

This pioneering topography brings to the attention of media literacy scholars and educators critical issues that need to be addressed in educational environments. Scolari highlights that skills related to ideology values remain underdeveloped by teenagers in sharp contrast to productive skills that are developed by the majority. Hence, in the long term, “there is a much higher probability of having teens with an elevated level of productive skills in the classroom than teens with skills related to ideology and values” (p. 18).

It is also noteworthy that outputs of this research project indicate that teenagers’ development of transmedia skills is influenced by contextual circumstances and media content consumption preferences - “The ways in which certain media practices are valued in relation to others shape media use as much as factors such as gender and age” (Gaspard & Horst in Scolari, 2018a: 53) -

these research findings serve basically to debunk the myth of the digital native. Further reinforcing the need to abandon this perspective, Scolari pinpoints that not all teenagers have the same transmedia literacy skills (p. 18). This is put into evidence in the fieldwork developed by the researchers of the transmedia literacy project in Australia - “While girls appear more interested in creative-based pieces of software, survey responses suggest that boys express more interest in technically oriented software, namely computer coding and video-editing” (Gaspard & Horst in Scolari, 2018a: 54).

The outputs concerning the narrative and aesthetic skills dimension presented in this research are also significant contributions to extend the study of transmedia learning storyworlds – How do teenagers relate to transmedia storyworlds? Guerrero-Pico and Lugo (in Scolari, 2018a: 60) stress that teenagers’ affinities and emotions towards stories and content are more relevant to them than the media platforms in which they are told.

The narrative and aesthetic skills dimension is segmented into three broad categories (p. 60):

1. Appreciating aesthetic values;
2. Recognizing genres, reconstructing narrative worlds and comparing stories;
3. Expressing identities and cosmovisions through narrative.

In what regards the first, the researchers remark that there is “a clear tendency for teenagers to observe graphic or visual quality […] usually linked to ideals of authenticity or realism (video games)” (p. 61) In relation to the second, research findings indicate that teenagers/ participants of this study are able to establish comparisons among narrative genres presented across different platforms; when producing or evaluating content, teenagers are able to identify influences in both contents and narrative productions (p. 61). Participants of this study demonstrated to be interested in television series such as GoT or *Criminal Minds*; they justify their preference based on genre; and episode structure (p. 61). The researchers also draw attention to the fact that transmedia storyworlds emergent from video games such as *Assassin’s Creed* bring “young people closer to the cultural re-appropriation processes carried out by their peers in creative

communities formed around these practices on social platforms like Wattpad or Tumblr" (p. 62). Teenagers are consumers of this type of transmedia worlds pursuing preferred extensions of them in diverse platforms (p. 62). The researchers also suggest that the cultural dimension of these media products can be exploited in educational interventions (p. 63). In what concerns the third category, Guerrero-Pico and Lugo refer that "young people use characters from fiction or famous people as narrative devices to understand themselves and others at a critical moment in the formation of their identity and their cosmovision" (p. 64).

The researchers also lay emphasis on teenagers noting the disconnection between their daily practices and the type of instruction they are exposed to in school (p. 65). Outside the classroom, while engaging with and exploring transmedia storyworlds of their interest, teenagers are constructing their identities and developing practical skills as well as sharing these with peers. The potential of these practices remains untapped in formal learning environments. In light of this, the researchers suggest:

> […] if storytelling is introduced into the classroom, if characters and narrative worlds are presented and used effectively, teachers will have a powerful tool for improving their practice. Storytelling has the advantage of approaching the reality of students through non-fiction materials, as well as inviting them to play with their imagination in fictional contexts, and thus put into play creative skills such as simulation, imagination and other performative competencies […] Students seek to establish a continuum between home and school that pushes them to want to learn based on points of reference that are meaningful to them.
>
> (Guerrero-Pico & Lugo in Scolari, 2018a: 65)

Given their importance in teenagers' lives, the report discusses how participants use the following media platforms:

- YouTube - this platform is used by teenagers not only as a gateway to entertainment but also as an access point to information and both practical and academic knowledge (Rey & Melo in Scolari, 2018a: 89). Students/ users of this community "have shown to have acquired competences concerning media and ICT usage, texting, sharing, search of information, content selection and evaluation, peer reviewing, persuasion, and a dominion over transmedia narrations" (p. 91). Rey and Melo mention that

participants in this the study who had engaged in video production in this community, often through collaborative work, “have developed skills such as video editing, aesthetics criteria for design and storytelling, ethical values when they manage information (such as copyright), even proficiency of a second language (by way of fandubbing and tutorials)” (p. 91). Nevertheless, the researchers mark that video production is only a practice of a minority and that most participants are just consumers of videos (p. 91). “Vlogging,” i.e., blogging in video form, is a widespread content creation practice in this video sharing community and it has increasingly become a part of teenagers’ interests. Vloggers act as social references for them- “The massive consumption of their content has established them as influencers and a kind of transmedia commodity […] their quick popularity and seeming financial independence has become a desirable option for viewers (especially in precarious contexts)” (p. 90). YouTube is also an affinity space for players. The researchers note that gameplays (screencasts of players sessions) are used as guides for playing video games and as a participatory spaces to comment video games (p. 90). Rey and Melo argue that the affordances of YouTube’s culture and ecosystem should be put into perspective by educators to develop a participatory learning environment. They point out that “the collective intelligence of YouTube is built on participation, so informational education and the detected strategies should be the first competences to be approached and developed as a foundation for raising users with criteria and proactive participatory learning competences” (p. 92).

- Wattpad – It is a publishing platform to “read and write books or short stories and comment and review the works of other people in a collaborative and participatory way” (Tirochhi in Scolari, 2018a: 93). Participants in this study have demonstrated to use it both to read “well-known stories that are often recommended by their friends” (p. 94) and as a way to express their “emotions, joys, discomfort or inner needs” (p. 94) through the production of content published in this platform. In this context, Tirocchi draws attention to the storytelling affordances for learning that can

be developed in this platform - stories support a sense of identity and belonging and in the case of Wattpad users engage in creative remix processes using as resources well-known contents (p. 94). The researcher stresses that the writing experience in open content worlds such as fandom communities favors the development of classroom literacy practices (p. 97). Wattpad as a participatory space in which users discuss and share their interests and values with peers may provide a viable alternative to teacher-centered instruction practices (p. 97). Despite developing writing as well as media literacy skills in Wattpad, teenagers do not regard their experiences in this space to be useful for formal learning processes (p. 97).

- Instagram - Alongside YouTube, this photo and video sharing platform is at the top of teenagers' preferences (p. 99). Participants in this study use Instagram as a form to manage their online persona - "on Instagram they are aware that the content remains online and visible to anyone ('It stays there'), so they think carefully about their own images and offer a more edited, built and aesthetically characterized version of themselves" (Márquez & Lanzeni in Scolari, 2018a: 99). In a natural manner, the platform lends itself to the development of photo editing skills. Márquez and Lanzeni observe that it is the simple editing process that draws teenagers to this platform (p. 100). More than being an aesthetic window (p. 101) to the world, teenagers resort to the platform to follow celebrities or peers they respect, e.g., "fashionable and popular girls or good football players in their neighborhood" (p.101). The numbers of followers and likes are used as a measure of their online success (p. 100).
- Facebook - There are more and diverse platforms since Facebook first appeared on the media landscape and as previously discussed teenagers/ participants of this study use them for different ends taking into account the attributes of the platforms. In this study, Facebook remains "the most important one among young people between 16 and 18 years old" (Winocur & Morales, in Scolari 2018a: 102). The researchers note that this age group uses the platform to keep in contact with close friends and family. They also point out that content is shared, in the specific case of photos, according to

the affective “value” rather than the aesthetic interest teenagers attribute to it (p. 103). As in the case of YouTube, Facebook forums are also spaces used by video game players to discuss strategies and support and mentor the members of video games communities (p. 103). Moreover, the platform is also used as a collaborative space for creation and discussion of content as is evident in singers, bands or actors fan pages created by teenagers. Winocur and Morales also draw attention to how teenagers use memes as a form of expression of irony; satire and sarcasm and how they engage in informal learning practices on the online world driven by the interest of creating and editing memes (p. 104). Teenagers exploit transmedia practices and make sense of them on this platform and the ones mentioned above (as well as many others) within a particular cultural context, “[…] the educational challenge is to recontextualize [these practices] without decontextualizing [them]. That is, being able to promote pedagogical sites where the students can recontextualize these skills in the school so as not to find them totally disconnected from the meanings and cultural values these skills have in their original contexts” (Winocur & Morales, in Scolari 2018a: 104-105).

One of the strengths of this study is that it not only maps teenagers’ transmedia skills but it also proposes, based on the research outputs, how to explore them in educational settings. At present, educators struggle to develop on their contexts situated and meaningful learning practices. Taking into consideration the need to operationalize transmedia literacy skills and integrating these in learning experiences, the transmedia literacy project proposes a teacher’s kit with a set didactic of cards that supports and facilitates educators’ development of transmedia literacy practices.

The didactic cards can be explored by educators as references or guidelines to design contextualised learning experiences - “[…] the aim is also to establish a participatory path in which, having completed a first phase in experimenting with the proposed didactic cards, teachers can produce and activate their own new cards” (Amici & Taddeo in Scolari, 2018a: 126). Furthermore, congruent with the processes teenagers resort to seek knowledge out, the collection of didactic cards, available through the portal on the Transmedia

Literacy Project site[4], can be expanded with contributions from members of the educational community. As increasingly educators need to work collaboratively, an online space targeted to the sharing and curation of transmedia learning experiences proposals becomes a valuable resource for the community.

This report also provides valuable guidelines on how to set transmedia literacy learning experiences that complement the ones indicated earlier on the development of transliteracy practices. The following insights are particularly relevant to frame the teacher's role in the learning experience:

- Emotional engagement - Amici and Taddeo highlight that "the creation of a spontaneous and genuine emotional environment is the key factor in developing meaningful interactions" (in Scolari, 2018a: 119). The latter requires that teachers are receptive to sharing their worldviews with students, for instance, personal stories or beliefs (p. 119);
- Managing self-disclosure - "[…] teachers must also determine what information to conceal from their students in order to avoid the negative ramifications of such communication and to protect their credibility in the classroom" (p. 120);
- Exploiting the use of social networks - Not only students but also teachers need to explore what Gee (2015) designates as social languages. As the transmedia literacy researchers argue teachers' use and know-how of social media (visible in how teachers communicate with students or on their teaching resources - selection of fonts; language style or use of emoticons) may further enhance the connection with students and ultimately have a positive impact on students' performances (p. 120).

Specific to the design of transmedia literacy resources, Amici and Taddeo draw attention to how information should be conveyed or made available to students. Aspects such as layout/ color/ images/ fonts should be selected bearing in mind the users' experiences. Moreover, it is necessary to take into account how students have access to the necessary resources; thus the use of platform

[4] The projects' key recommendations for teachers are available at http://transmedialiteracy.upf.edu/ and the collection of didactic cards at http://transmedialiteracy.upf.edu/en/search-a-didactic-card.

agnostic media, i.e., that run on any device, is advisable (p. 122). In essence, it is about using a user-centered design approach; and reflecting upon the quality of content as well as thinking about how students will interact with it (p. 122).

Transliteracy or transmedia literacy are not the first attempts to translate and transpose students' experiences of transmedia environments to learning practices. The Learning and Teaching as Communicative Actions (LTCA) framework (Warren, Wakefield & Mills, 2013) addresses the design of transmedia learning experiences. The researchers argue "meaningful learning stems from communicative actions and interactions, ardent inquiry, and critical thinking, leading to knowledge construction" (p. 71). At the core of this framework are the following communicative actions (pp. 72-74):

- Normative Communicative Actions are related to the requirements and expectations of the type of activity being developed;
- Strategic Communicative Actions scaffold the knowledge construction process; students are directed to entry points to knowledge "from which they may further explore and explore and critique established facts and truths" (p. 73);
- Constative Communicative Actions refer to interactions between the participants of the learning experience - "the back-and-forth sharing of meaningful expressions, arguments, and validity claims allow students and instructor to engage in discursive argumentation and construct new truths through reaching social consensus" (p. 74);
- Dramaturgical Communicative Actions relate to the "expression of an intersubjective understanding in an objective way through creative and artistic means" (p. 74).

Specifically targeting higher education, Kalogeras puts to the fore the concept of Transmedia Edutainment. The author, based on the creation and implementation of an e-module, proposes the following list of guidelines that ground and shape this type of learning experiences (2014: 110-111):

1. Instruct/moderate with passion and provide an inspirational performance;
2. Incorporate storytelling in the form of a popular film and have students create digital stories (learning-by-doing);

3. Aggregate the best content. Bring in short instructional videos on the subject matter (must be current and interesting);
4. Incorporate multimedia and new forms of reading material (i.e., hypertext and hypertext screenplay);
5. Develop personalized creative content that is unique to the learning objectives using elements of edutainment;
6. Allow room for student-centered, self-directed, and interest-based learning around a story-based curriculum;
7. Define the material to be taught based on the needs of the learner; then identify the order of presentation, while keeping in mind story-based principles;
8. Design conversations for discussion and collaboration;
9. Design coursework with flexibility and provide cases with real-life situations, taking into account the continuing path of learners. Curriculums should be defined by the needs of the next learning stage, and what comes next varies from student to student;
10. Design creative assessments around different literacies that accurately measure learning outcomes.

Despite the fact that these recommendations were originally targeted to the design of learning experiences in higher education contexts, it is possible to observe affinity points with the structure and design of transliteracy or transmedia literacy learning experiences previously discussed.

What becomes evident both on the transliteracy and transmedia literacy proposals, as well as previously discussed frameworks and models, is that there is a need to connect the physical and the online world; formal and informal spaces of learning. These reports also indicate that educators must acknowledge and transform educational experiences taking into account the nature of the networked world - interactions and how information is mediated and transformed through technological processes but also impacted by social and cultural events happening on the platforms of this world. The challenge here is to understand how are students integrating and making sense of the numerous and diversified pieces of knowledge they acquire on different spaces and at different times and consequently how to guide students interactions on these spaces while fostering meaningful and situated learning practices.

2.3.8 Transmedia Learning Experiences

"Learners are telling us how they like to learn if we listen to them. They are storytellers and builders. They are hands on. They love playing games, and being immersed in a story. They crave technology. They want to create, and leave their mark on the world" (Raybourn, 2016: 173). The point here being whether students are learning through an MMORPG world; videos on YouTube; on social media platforms - Instagram; Wattpad; Facebook or through blogging, educators need to connect these experiences to the ones unfolding inside the classroom. To be culturally relevant, learning ecosystems need to be able to represent genuine human experiences (Raybourn, 2015).

The aspects mentioned above point towards the design and development of transmedia learning (TL) experiences and environments. Among varied proposals, perhaps the most comprehensive approach to define a TL experience is what Raybourn considers to be "a scalable system of messages representing a narrative or core experience that unfolds from the use of multiple media, emotionally engaging learners by involving them personally in the story" (2013a: 132). It is a system that relies on a shared culture disseminated by users on the spaces it provides and fosters the type of engagement and culture that is present on affinity spaces (Gee, 2018). Engaging in this system - a transmedia storyworld - implies taking an active role, to be a co-creator of that world and expanding it through a unique contribution. From this perspective, world building becomes a collaborative experience of exchange of knowledge, a symbolic play between peers. By taking part in these worlds, users/ students have the opportunity to "seek out content through active hunting and gathering processes while crisscrossing various media platforms (Jenkins, 2010b) and evaluate ideas with others. Fleming argues that TL worlds allow to combine the affordances of digital technologies with learners' real-life experiences and apply learner-focused pedagogies (Fleming, 2013: 371). On the same note, Warren, Wakefield, and Mills highlight the educational value of TL experiences by pointing out that transmedia can be perceived as "a continuous learning process" (2013, p. 69). Multimodal

experiences allow learners to seek, weigh, and communicate answers and knowledge is found socially constructed based on existing knowledge (p. 69).

This chapter concludes with a selection of examples of TL experiences that attempt to create participatory learning environments that explore students' lifestyles and contexts and the ways they consume and make use of media.

One of the groundbreaking projects in the field is the case of *Robot Heart Stories* developed by Lance Weiler and Janine Saunders (Jansen, 2012: 1). Laika, a stranded robot in Montreal, is on a journey to Los Angeles to find her rocket and return to her planet (p. 4). The experience is guided by experiential learning principles, purposeful storytelling, and collaborative practices - it is "a multimodal example of 21st-century narrative with a purpose to teach through storytelling and play" (p. 4).

The story was co-constructed and expanded by two groups of 5th-grade students (one in Montreal and the other in Los Angeles) but also by a wider audience. Resorting to geography, history, math, science, creative writing, and problem-solving skills, students were able to help Laika return home by interacting and tracking her progress. Events and narrative problems were designed taking into consideration the students' different curricula (p. 8). Laika was also able to obtain worldwide support to return home. The robot was powered through creative work - participants "could take part in Laika's journey by creating and uploading 'heartpacks' that then increased Laika's signal strength" (p. 8).

Robot Heart Stories puts into evidence that storytelling can provide means to create a learning space in and outside the classroom and the exploitations of meaningful learning experiences. Using a curriculum-driven story, sessions with students were designed with the goal of blending "interest, information and interaction as well as technology" (p. 11) and structured around the following core aspects:

- Concrete experience - students were immersed in Laika's journey via haptic elements that made the story tangible to participants. "They would experience Laika through paintings, making heart packs. Receiving a daily message with a question form Laika made the story tangible" (p. 12);

- Reflective observation - the robot's journey log, edited by the two groups of students, became a space of discussion and interaction of topics suggested in it (p. 12);
- Abstract conceptualization - information provided during the sessions was explored and synthesized by students into a message broadcasted by "mission control" (p. 12);
- Experimentation - to inform Laika about planet Earth, students' messages took the shape of varied digital artifacts such as photos, animated videos or drawings (p.12);

As a final output and proof, in this case, that the sky is not the limit (in particular to what relates to creativity and passion), creative outputs of participants were launched into space - "The grand finale was Laika's journey back into space when she embarked a NASA space rocket (and a high altitude weather balloon equipped with a camera), carrying all the kids' creative works and passion with her, signifying to the kids how far their imagination can take them" (p. 8).

Another project of reference is *Cosmic Voyage Enterprises* (n.d.), an "educational simulation that teaches ethics and financial responsibility" developed by Conducttr In the midst of an environmental and economic crisis scenario - a rocket of a space cargo company crashes in a small town in Florida, students (12-17 years old) play the role of different stakeholders to provide solutions to the emergent problems.

During the course of three weeks, students across Florida, in teams of five members, engaged in this experience by receiving and acting upon strategic information according to the role they played. Despite its educational goal, *Cosmic Voyager Enterprises* is anchored in a realistic setting, this being one of the engagement factors, as Rex Hall one of the creators of this experience, points out:

> […] the key for us in making our interactive story successful was to get the students involved as soon as possible, sending them emails from several different characters and asking them to make decisions or pass on information. I think the other part of that is creating a relatively realistic storyworld that stays true to the story and characters and didn't try to 'teach' but let the kids learn through experience.

(Hall in Pratten, 2012)

Other relevant factors that contributed to engagement in this experience was the use of gamification elements, such as badges and rewards, and the fact that students had access to the information through communication channels and modes they were attuned to. Students were able to interact with the content of this storyworld via email messages; Facebook and Twitter posts and profiles (Pratten, 2012). These were delivered according to a planned story timeline thus providing useful feedback to participants and urging students to act upon the information received.

To take part in this experience, students need to make use of problem-solving skills as well as develop teamwork in order to succeed and build an action plan to be presented to a potential group of investors as well as the board ("Cosmic Voyage Enterprises", n.d.). In *Cosmic Voyager Enterprises* learning takes place in a situated manner by the handling of events in a real life-like scenario and collaborative processes of production of meaningful outputs that can be applied beyond the realms of the fictional world.

Inanimate Alice (The Bradfield Company Limited, 2018) is an ongoing digital novel first launched in 2005. Alice's adventures take place in a game like world. It is an interactive audiovisual experience that resorts to games and puzzles to unfold the story. Comprised of six episodes and a VR series - *Perpetual Nomads*, *Inanimate Alice* is primarily targeted to 10-14 years olds and has throughout the years been explored both by a younger and an older audience as well. Moreover, the novel has also been of the interest of educators. Part of the appeal stems from following the protagonist while she grows up to become a game designer.

> From episode to episode, each element in the series, each side trip and season, mirrors Alice's age and digital competency. Just like real life, it demonstrates the incremental improvements that education provides. In the first episode, we see Alice in China at eight years of age drawing a stickman and taking photos to send to her dad. At 19, she is a competent digital artist producing the VR adventure, Perpetual Nomads, while at college. In between, we experience with her the progress she has made, step-by-step.
>
> (Harper, 2018)

Inanimate Alice has already a large educational community. This storytelling universe encourages teachers and students to step beyond the story and explore it in relation to their contexts; it promotes the creation of a dynamic learning ecosystem in which educators can use different learning approaches and explore a wide variety of topics in order to suit the learners' needs. Educators around the world have been exploring this storyworld since it lends itself to learning in various forms:

- Students can relate to the female character and her struggles to thrive in the connected world. While following her adventures, students can explore matters such as global citizenship or multiculturalism. In this matter, Cheryl Cowdy's research is particularly interesting - her study examines how children express and share their experiences of global mobility by exploring this fictional universe (Cowdy, 2016: 155);
- It is an immersive experience that can be explored across curriculum areas such as ESL; Literature or Arts - "*Inanimate Alice* is an aggregate of micro-learning experiences that marry literature, learning, agglomeration and augmentation immerses students in their learning like never before by offering a truly holistic experience" (Fleming, 2013: 374). *Inanimate Alice* is a recommended text in the Australian curriculum guidelines and has been selected to integrate the National Reading Plan in Portugal (Harper, 2018).
- Students can take part in Alice's world by co-creating content. They have access to the photo story pages, individual frames, scripts, music tracks, and comic book art - resources that they can mash-up and use to enhance their photos, drawings, and texts or other digital artifacts;
- Each episode is self-contained meaning that students do not feel decontextualized even if they have not been following the story and that the episodes can be explored as single narratives in the classroom;
- Different episodes present different levels of complexity - "colorful magazine pages attract younger students, while the later episodes explore more complex themes […] It's a tale of progressive complexity" (The Bradfield Company Limited, 2018);

- It encourages the use of a broad spectrum of media literacy skills - the gameplay involved in the unfolding of the story converts into opportunities to develop problem-solving skills, for instance.

The project has evolved taking advantage of technological developments and with its audience. *Perpetual Nomads*, the VR novel series is targeted to teenagers and young adults. Inanimate Alice is progressively turning into a game based space - "the most recent episode plays with the notion of 'spatial narratives' and 'game state dependent responses' that rely on what is going on in the game and the choices users make while interacting with the text" (Field, 2015 cited by Cowdy, 2016: 156).

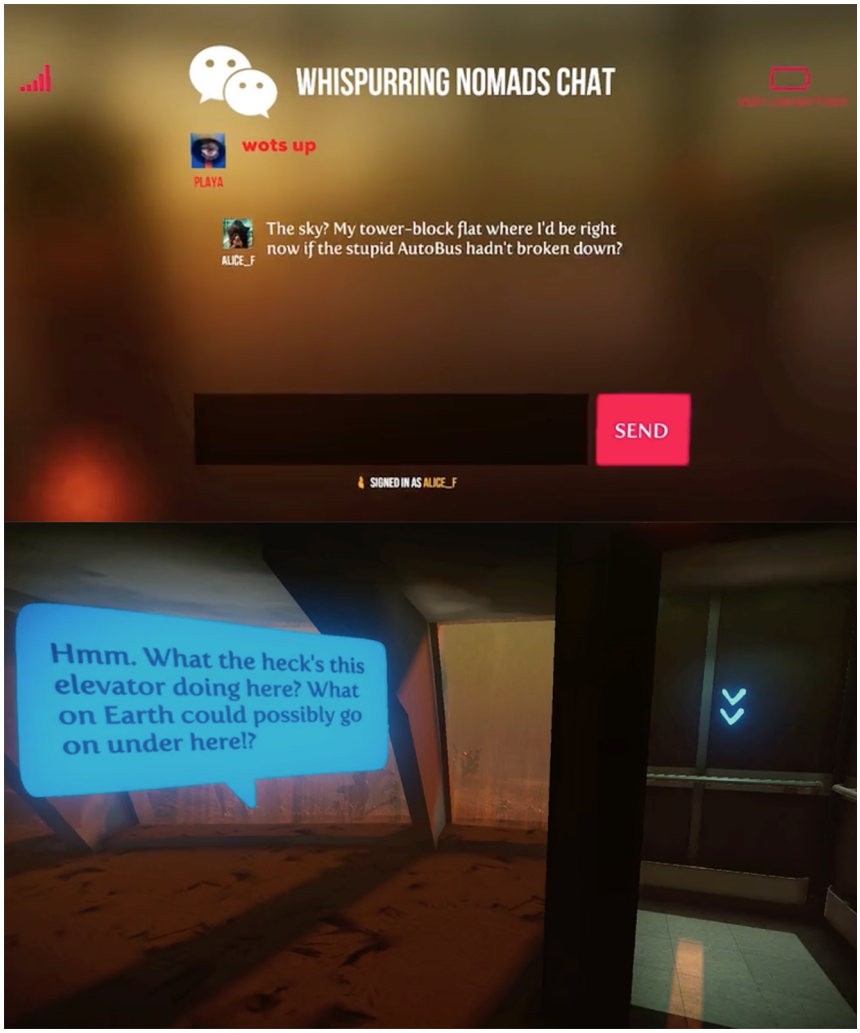


Figure 2.16 Screenshots of "*Inanimate Alice: Perpetual Nomads*" (Breeze, 2018). Retrieved from https://vimeo.com/252592172

The Ancestral Letter (Rodríguez-Illera, Molas-Castells, 2014) is a research project which seeks to explore the pedagogical use of transmedia practices in formal learning environments.

It's a fictional story set in a transhumanist scenario. The main character, an android with a short amount of time before being terminated, seeks help to stop the process while disseminating the secret agenda of his creators - protect the planet from humans by replacing them with androids. Students support the android Tony Jupiter on his rebellious mission by solving clues to decipher a code written in the language of his creators, the Ancestrals. The clues are related to vital information about their plans.

The Ancestral Letter is a thriller based on quests (p. 350). The clues take the shape of digital and analog artifacts such as pages from a journal, web quests and scavenger hunts set in social media platforms and the students' learning context (pp. 342-343).

Narrative nodes and the diversified elements that constitute the experience of the storyworld were explicitly designed to engage students in taking an active role in the unfolding of the story by taking into consideration the following parameters (p. 345):

- Verisimilitude - achieved by the production of authentic resources that could place students within the context of the story thus seeking to blur boundaries between fiction and reality;
- Connection - a planned distribution of contents across the platforms allowing students to retrieve and interact with different information provided in each platform;
- Interest - by engaging students in a continuous process of search for information and immersion in the storyworld.

Activities and events within the storyworld are targeted to explore cultural and curricular competencies covered in the subjects of language and literature; social science, geography and history (p. 350).

The project was implemented with 70 4th year secondary students during 12 sessions integrated within the social science course in a secondary school in

Barcelona (p. 344). Additionally, students developed activities related to the project outside school hours. The fieldwork was documented via observation of students interactions on online platforms; in-depth interviews both with students and teacher; a collection of artifacts produced by students and diaries of the sessions as well as an analytical research diary (p. 344).

The outputs related to the data collected regarding the implementation of this research project as well as the development of the design stage of this experience provided relevant insights in an area that is still scarcely explored - the application of transmedia practices in formal learning environments and in particular the use of transmedia experiences with secondary students.

Rodríguez-Illera and Molas-Castells (2014: 350) point out that developing the experience taking into account its target audience and goals implied in terms of design the adoption of a less flexible structure. Even though students were given options in the unfolding of the story, these were limited mainly due to the fact that "the particular nature of the school environment increase the difficulty in devising a transmedia story that takes place entirely in real time, especially if it involves the use of actors, media and curricular content" (p. 351). The authors also stress the importance of devising the experience taking into account the teacher's agency in the process (p. 351). In this specific experience, the teacher was a mediator shaping the story so that students' expectations were met.

In what regards the application of *The Ancestral Letter* in a formal learning environment, the researchers put into evidence students' preference for communication with the main characters via Facebook or video letters while showing less interest for activities identified as being based on curricular topics or reading-based activities (p. 352).

In terms of media use, the students were able to make "critical use of the multimodal codes necessary for understanding and taking part in this kind of story" (p. 352). Nevertheless, they struggled to establish connections and make sense of different pieces of information scattered through different platforms to formulate hypotheses (p. 352). In what regards this matter, the researchers also draw attention to the fact that students developed collaborative practices to overcome challenges (p. 352).

Rodríguez-Illera and Molas-Castells also note that students disposition for suspension of disbelief determined their level of engagement with the story.

> Most appeared willing to believe that it was a real situation or, in cases where evidence of a fictional world undermined these convictions, remained willing to participate in the game as a simulation of reality. Meanwhile, the students who did not participate in the proposed activities confirmed in the subsequent interview that they had not felt sufficiently motivated to do so, having seen that other fellow students had assumed an active role.
>
> (Rodríguez-Illera & Molas-Castells, 2014: 353)

Another significant aspect was students' appropriation of the story either by taking an active role by supporting the main character on his mission or discussing the accuracy of certain pieces of information (p. 354).

Outputs of this research indicate that TS may increase students' engagement in school-related activities (p. 354). In the case of *The Ancestral Letter,* students take part in a story that is closely related to their personal and social interests and is unfolded via practices and activities developed during their free time. Specifically targeting the design of the experience to educational use may facilitate the exploration of curricular contents and development of media literacy practices (p. 354). Nevertheless, the researchers note

> it does not provide a solution to problems or shortfalls in digital competencies and others of a more basic nature, such as writing skills, which must be addressed by the institution and cannot be altered by short-term experiences such as *The Ancestral Letter*.
>
> (Rodríguez-Illera & Molas-Castells, 2014: 354)

The above experience was specifically targeted and designed to be explored in formal learning environments. The storyworld and events taking place in it relate to an original story created for this purpose; nevertheless, one can establish connections to other fictional works and find references to settings and thematics as the ones for instance explored in Asimov's fix-up novel *I, Robot* (1950) or other extensional work developed upon it.

Transmedia learning experiences also stem from existent storyworlds or fictional works. Processes of remix and expansion of a given storyworld guided

towards the exploration in educational settings can be as valid pedagogical proposals as transmedia storyworlds specifically targeted and designed for educational use from inception. This is visible for instance in the transmedia project *#Orson80* (2017). A project rooted in the radio adaption of the novel *The War of the Worlds* by H.G. Wells of the iconic broadcaster Orson Welles, in 1938.

#Orson80 seeks to bridge the gap between informal and formal learning practices. Originally, the output of a group of teachers in Buenos Aires, *#Orson80* is at present a diversified and broad community of educators, researchers and students which collectively and from different perspectives explore the event of this peculiar radio broadcast (Albarello & Mihal, 2018: 232) by extending it and relating it to events of the present mediascape. The project seeks to explore the following goals (p. 234):

1. Run and develop a collective project across different media platforms;
2. Produce a network of narratives and artistic work such as tales; posters; infographics; memes among other types of digital artifacts;
3. Discuss and mediate meaning through the expansion of the core narrative world created by H.G. Wells;
4. Reflect upon the technological impact on daily practices and through the discussion of the topic promote the development of critical work.

The iconic radio adaption lends itself to different readings across time and is, in this project, put into perspective with the challenges students might come across taking place in the present media ecosystem (p. 237), for instance, disinformation processes. It is a call that instigates the creation of meaningful learning practices, which take into consideration students' media use and the media ecosystem they take part in (p. 243). Pedagogical proposals within the project are varied both in the level of complexity and participation (p. 243). The official website of the project presents activities for elementary school students, secondary students and also proposals for foreign language students.

While for the first the focus is on play and activities aim to develop collaborative skills either through the creation of board games or online games using Scratch, based on the radio show (p. 238); pedagogical proposals for secondary students provide a broader spectrum of options to explore the event.

Students are invited to share, collaborate and discuss their findings via online bulletin boards and also to produce extensions to the original radio show such as blog posts expressing their viewpoints on a potential alien attack, remixing the novel *The War of the Worlds* into social media posts; writing about discrimination from an alien character point of view; creation of graphic representations of aliens via comic panels, memes, 3D avatars or even digital photography manipulation to report the existence of an alien in their school community (pp. 238- 239).

Despite the fact the set of activities proposed both for elementary and secondary being suited to the implementation of a transdisciplinary approach, the official website of the project also presents a guide with activities (Fritzler, n.d.) specifically targeted to foreign language students. Originally designed for students exploring the Spanish language, activities proposed in this guide can be used, remixed or expanded in other foreign language learning settings. The storyworld works as an invitation to develop students' communication skills as well as the space to explore intercultural issues and linguistic diversity. Activities range from textual and video analysis to interpretation and critical reflection of social and cultural aspects. The exploration of different online platforms allows for the creation and dissemination of collaborative creative work as well as the space for expression in the targeted language. In a nutshell, students have the opportunity in a contextualized and situated manner to develop their communicative, sociocultural and discursive competences bringing their pre-informed opinions to digital artifacts that expand the storyworld.

Despite the scarcity of projects targeting language learning practices specific to the study of English as a second/ foreign language, educators, in an effort to connect students to the experiences they have of the language, are turning to the promotion of situated language learning opportunities. This is the case of the transmedia language learning project *The Group of Experts* - a storyworld that can be adapted to any age and level but first designed and targeted to students between the ages of 15 to 18 at an Upper Intermediate level, B1+ / B2, according to the CEFR.

Similar to *Cosmic Voyage Enterprises*, *The Group of Experts*, developed by the Wetedugames educational studio, uses a crisis scenario to explore topics of

interest to the students. In this project, they explore topics such as environmental issues, promotion of healthy lifestyles and active participation in the community while developing communication skills in the targeted language.

Students are called to help the British government in solving different critical situations. Participation in this storyworld takes the shape of missions, for instance, "The Missing Astronaut" (an event that sets students within the experience and engages them in developing their role in future tasks); "A Nuclear Problem" or "An Overweight Generation" (exploring vocabulary and grammar structures specific to the B1/ B2 levels). Alejandro P. Waudby, educator, award-winning producer of cross-platform experiences and co-founder of Wetedugames, in an email interview points out that

> […] the only way students can fulfill the missions is by teamwork, coordinating their skills and aptitudes, although once the missions are finished each of students has to write a small article explaining how the mission was accomplished, which is uploaded to their profile on the Experts website (a useful tool for the teachers to track the outcome of each activity independently).
>
> (Waudby, 2016)

The Group of Experts makes use of different gamification elements such as quests; CTAs (Calls to Action); acquisition of resources; feedback interactions, use of badges and rewards. For students, the ultimate goal is to become an official member of "The Group Experts". To achieve it, they have to earn badges related to the completion of the missions. The greatest reward in this case, however, is the possibility for self-expression and development of critical thinking skills. The missions set the stage for the discussion of the targeted topics and allow students to voice their opinions on the matters at hand.

> If we have a closer look to the nuclear mission, the students do not accomplish the task by choosing renewable energy over fossil fuels, as we would not allow them to be creative or think outside the box. We decided that the option of them sending the British Government a list of different measures to be implemented in order to solve the crises would generate debate amongst the students involved in the activity, allowing them to express themselves.
>
> (Waudby, 2016)

The project assumes from inception a student-centered approach. The selection of platforms as well as its conceptual design was based upon students' media usage. While unfolding events of this storyworld, students interact with characters via social media platforms such as Instagram.

The developers of this experience also took into account that not all students would possess the same level of "digital ability" or show the same level of engagement in the proposed tasks, thus the design of the experience took into consideration the 75-20-5% rule of engagement in an ARG (Alternate Reality Game) (Waudby, 2016):

- 75% of students will actively participate in the activity with the aim of achieving the goals of the ARG (Functionals) or will look for attention and pride from others in order to have more followers (Attention Seekers);
- 20% of students will not do the activity directly but feel they are undertaking the task when others are involved (Followers);
- 5% of students would not be active at all as they are afraid of what other people would think about them (Shy Non-User) or are inexperienced in the use of digital platforms (Traditional Non-Users).

Waudby stresses the importance of customizing the experience to the students.

> If you know your students well enough, you can adapt the whole project to their ability and skills. For example, we had some students that are into filmmaking, so they would cope well with the creation of videos for de campaigns; others just loved science and maths, therefore we knew they would be able to solve the mystery of the missing astronaut; we also had some students more keen on politics, and the whole concept of helping the British Government was just thrilling; and those how had better linguistic skills would be in charge of reviewing all the documents the students generated.
>
> (Waudby, 2016)

At the time of the interview, *The Group of Experts* was not fully developed and had only been tested with students of a private academy. Students' feedback on a trial version of the project was positive. They thoroughly enjoyed being able to take part in the experience without the teacher being actively involved. During the

sessions, the teacher would only step in to guide if necessary. Waudby notes that what was challenging was to introduce students to the mechanics of the activities since students were used to traditional methods and didn't know how to react to what was being proposed. In what concerns educators, Waudby also identifies as a challenge the fact that gamified cross-media activities take time to be developed and not all teachers will potentially be willing to engage in the planning and the set up of an activity that takes up too much of their time.

The Group of Experts stems from the need to forge new learning paradigms in the context of learning a second language. It acknowledges the essential requirement to understand: how and on which settings the language is used by its speakers while trying to explore how students might develop and enhance their communication skills. It is a pedagogical proposal that makes use of ARG affordances to provide a learning experience closer to the student's real use of the language - a clear attempt to step aside from traditional approaches to language learning based on the abstract representation of the language. In reference to present learning practices, Waudby refers that "students don't study a second language, they just study a representation of it." Instead, he proposes that

> […] putting students into 'real' situations will push their boundaries to a higher level, making the learning process much more compelling. It has nothing to do with the latest digital trends, the way information is transmitted nowadays, or the technological revolution, as they are just tools that can be implemented or not. Education is understood as a window that is opened in front of students so they can understand the world they live in. Let's change the physical (the classroom) and abstract (manufactured lesson plans) boundaries we have been used to in order to make the learning process as fulfilling as possible."
>
> (Waudby, 2016)

TL practices are also used to explore topics per se. Nohemí Lugo Rodríguez's (2016) research work on the use of transmedia narratives in formal learning environments puts into evidence how educators and students alike can work different dimensions of concepts such as interculturality or linguistic diversity. The exploration of these topics blended with Spanish students personal experiences of an exchange program with German students (pp. 246- 249) proved to be fertile ground to develop media and transmedia literacy skills, collaborative

practices and enhancement of communication skills in German as a foreign language.

Outputs of the researcher's fieldwork sessions with the students included media presentations; video selfies and photo challenges on Instagram. The workshops targeted the exploration of media production techniques to express students' perspectives on the topic. Particularly interesting is the fact that while for the teachers (taking part in this research study) covering the academic goals related to these topics and using the targeted language were a priority; for students it was the exploration of their experiences of the exchange program that proved to be more engaging, leading to processes of discussion and reflection, self-discovery as well as becoming more proficient as produsers and ultimately more confident to take part in participatory spaces. Both students and teachers (taking part in this research study) benefited from the development of the activities proposed by the researcher. Rodríguez notes the experience encouraged teachers to integrate TL practices in their classes and was a stimulus for teachers to learn more about on how to apply them (pp. 273-274).

There are points of affinity in the projects, experiences, and practices mentioned in this section: students/ users are at the center; the strategic use of processes of active participation and co-creation as well as expansion and careful design of activities based on the students' media use; social and cultural context and academic needs. Goals may vary and experiences can be different in terms of access points or format. The definition of a design framework may be useful for all those interested in the development of TL experiences. Nevertheless, the diversity of learning scenarios and the singularity of students - regardless of representing a collective or just on their own - ultimately lead to the creation of unique experiences and it is this uniqueness that should be accounted for.

The following chapter presents the design of a TL storyworld targeted to ESL learning. The design of TL storyworlds, in particular ESL TL storyworlds, is still poorly documented. Thus, the description of the process presented in the next chapter seeks to contribute to the definition of guidelines or references that may help educators create their own TL environments and experiences.

3. DESIGN OF THE TRANSMEDIA LEARNING STORYWORLD *CONNECTING CAT*

This chapter describes the design of a transmedia learning storyworld targeted to ESL learning and teaching practices. It explores the research methodology and rationale used to develop this storyworld (section 3.1) and describes the development of different worldbuilding aspects of the storyworld (section 3.2 to 3.7). Possible learning trajectories within the storyworld are indicated in the last sections (3.8 to 3.9).



Figure 3. Overview of the aspects covered in the design of a TL world chapter.

3.1 Research Framework and Conceptual Considerations

> *To design is much more than simply to assemble, to order, or even to edit; it is to add value and meaning, to illuminate, to simplify, to clarify, to modify, to dignify, to dramatize, to persuade, and perhaps even to amuse. To design is to transform prose into poetry. Design broadens perception, magnifies experience, and enhances vision. Design is the product of feeling and awareness, of ideas that originate in the mind of the designer and culminate, one hopes, in the mind of the spectator.*
>
> Paul Rand in *Design, Form and Chaos* (1993: 3)

Educators need to enhance their storytelling skills if they seek to take part in the discussions about education in the 21st Century. By bringing together discourses of different fields and communities - storytellers, media scholars and practitioners, and educators as well, the previous chapter attempted to put into perspective how storytelling is deeply ingrained in the interactions of the networked world; in how we express in the mediascape and how educational territories are challenged by not acknowledging or exploring the stories being told and shaped outside their grounds. Both students and educators live in a story world (Pringle, 2016), how they make sense of it or how they position themselves within it are the two prime issues that need to be considered.

Stories have been the mean through which civilizations have left their imprint in the world, further developed their societies and tackled the challenges of their times. From this perspective, storytelling may be considered both a resource and a tool that can propel change in cultural and social contexts. As already discussed in the last chapter, stories reflecting the technological development and the ways it has been shaping the way we communicate, acquired a transmedial dimension. Stories are still based on the exploration of universal themes, emotions, and relevance to the ones who are listening to them. Nevertheless, the transmedia story invites the user to be a part of it. It is enhanced by its participants' collaborations and exchanges and hence becomes a participatory space.

Weaver compares the transmedia approach to storytelling to the creation of a handshake (Weaver, 2013: 12). The audience has the chance to return the

handshake by consuming one piece and then deciding if they want to continue the conversation by seeing what else is in the storyworld. It is a process of "crafting stories that unfold across multiple media platforms, in which each piece interacts with others to deepen the whole - but is capable of standing on its own - giving the audience the choice as to how deep into the experience they go" (Weaver, 2013: 8).

Similar to a transmedia story, learning is a process that relies on the participants' interventions and interactions. Lave and Wenger (1991: 21) suggest that it occurs within a process of co-participation in a community of practice and requires a responsibility for the outcome. The need to create this participatory learning space is echoed on the conceptualization of third spaces (Potter & McDougall, 2017) or affinity spaces (Gee, 2018). Assuming this perspective and acknowledging that students are conveying meaning and understanding the world through transmedia stories, it is thus of the interest to educators to understand how these dialogic spaces, constituting the transmedia story, can be built or exploited.

A storyworld can act as a dependable framework within which learning experiences and communities can be nourished and fostered. Furthermore, students/ participants can be presented with opportunities to delve deeply into the content there being developed. Thus, transmedia storyworlds can provide the space “to connect students with diverse content and each other” (Raybourn, DiGiovanni & Jones, 2015: 2). They have the potential to draw students’ interest since they embed stories in media platforms they use, and are operationalised through the means of self-expression of the online world that the students are attuned to.

Conducting research to understand and describe a phenomenon is evidently a pivotal stage but moving beyond observation and actually engaging with, manipulating and exploring it is also a necessity. The design process can, therefore, be used to broaden perceptions about a given phenomenon and magnify experiences as the pioneer of graphic design Paul Rand puts to the fore (1993: 3). Ciancia argues

> it is necessary to activate the dual role of researcher and designer, with a continuous displacement of the observation point between the outer (objective) and the internal space (subjective) […] The researcher needs to activate an empathic relationship with the object of study, and in some cases, lose some objectivity in favor of direct involvement.
>
> (Ciancia, 2015: 142)

Taking into consideration the points mentioned above, this research project set off to explore transmedia storytelling and learning resorting to a TL world targeted to ESL and used it as a basis for research. Through its design, development, and implementation in formal learning settings, the goal was to explore how such ecosystem might be fostered and built as well as to map and document emergent interactions and learning practices in this transmedia learning ecosystem. There is still a lack of common practices or frameworks to which educators can turn to design TL experiences. The description of the design process of the TL world used as a research object in this project seeks, in particular, to contribute to the dissemination of practices related to the design of transmedia language learning experiences.

Learning a language is a challenging task. It is difficult to identify which variables play a significant role in the acquisition of a second language. Research in the field indicates that learning outcomes in most cases are lower than both teachers and students expect them to be. Furthermore, the outcomes of language learning interventions are inconsistent - “there is great variability in the outcomes of any given language learning intervention that cannot be easily explained” (Reeves & McKenney, 2013: 20).

The significant variance of language learning outcomes adds complexity to the design of language learning experiences - what aspects and criteria should be accounted for? The design of these experiences, in particular a transmedia language learning experience, can be classified as wicked problems not only in terms of design but also in term of conducting research. Coyne (2005: 6) described wicked problems as recurrent and subjected to redefinition and resolution in different ways over time.

> Wicked problems are not objectively given but their formulation already depends on the viewpoint of those presenting them. There is no ultimate test of the validity of a solution to a wicked problem. The testing of solutions takes place in some practical context, and the solutions are not easily undone.
>
> (Coyne, 2005: 6)

To cope with wicked problems, Kelly (2010: 76) recommends the adoption of a design-based research (DBR) approach, distinctively when it is the case that content knowledge to be learned is new or recently discovered and also when pedagogical content knowledge is scarce. Through iterative cycles of analysis; design and development; implementation; evaluation and reflection, DBR allows for a more comprehensive exploration. Instead of a narrower Manichean dualism of whether or not it works, the research focus is on how it can work and why (Reeves & McKenney, 2013: 12). From this perspective, DBR can then facilitate the design of transmedia learning storyworlds through the alternation of iterative cycles of refinement and reflection cycles, which in turn may optimize the storyworld.

While much of the research in the fields of TEL and specifically TELL, CALL and MALL address the use of emergent technology, there is a paucity of studies that address the wickedness of language learning, i.e., the challenges teachers and students face. Undeniably, there is value in the description and exploration of language learning practices related to the use of applications and TEL environments. However, pedagogy and educational needs should be prioritized over technologies (p. 12). Reeves and McKenney highlight that despite the fact that wicked problems in language learning abound in present-day, CALL research has mainly targeted the technological potential for tomorrow instead of addressing the complexity of educational problems in the present (p. 12).

> In the inevitable excitement that CALL researchers have in exploring what is possible tomorrow, insufficient research and development work appears to be focused on what is practical and needed today. As a result there is a significant gap between what could be effective CALL in theory and what can be effective CALL in practice.
>
> (Reeves & McKenney, 2013: 12)

Conversely, DBR studies are focused on tackling complex systems and counter research studies that are often decontextualized and unsuccessful when it comes to having an impact on instructional practices and shaping them. DBR is interventionist and set in natural instructional contexts (Barab & Squire, 2004: 3). The core focus of DBR is learning as a process; hence DBR research studies are usually longitudinal. What sets DBR apart from other longitudinal research forms such as ethnography and situated approaches is the fact that the researcher observes but also intervenes, and that the impact of these interventions is also part of the study (Larsen-Freeman, 2013: 25).

There are diverse factors at play when attempting to conduct research in a formal learning environment - a whole with many different parts interacting with each other. Not only are educational environments complex systems, but a TL storyworld is inherently also a complex system - it is multimodal and scaffolded by users' interactions across media platforms. DBR "deals with [this] complexity by iteratively changing the learning environment over time— collecting evidence of the effect of these variations and feeding it recursively into future design" (Barab, 2006, p. 155).

Since this research is set in dynamic environments - formal learning settings and its object of study is also shaped by interactivity; the use of DBR methodological principles and tools, in the context of this research, can firstly facilitate a holistic reflection, one that takes into consideration the context and the systems' complexity. Secondly, it can prevent a reductive analysis of context and object of study by accounting for the dynamic processes and variables of these systems (Larsen-Freeman, 2013: 23-24).

Barab and Squire (2004: 4) frame DBR methods according to the following parameters:

- Location of research - Occurs in the buzzing, blooming confusion of real-life settings where most learning actually occurs;
- Complexity of variables - Involves multiple dependent variables, including climate variables (e.g., collaboration among learners, available resources), outcome variables (e.g., learning of content, transfer), and system variables (e.g., dissemination, sustainability);
- Focus of research - Focuses on characterizing the situation in all its complexity, much of which is not now a priori;

- Unfolding of procedures - Involves flexible design revision in which there is a tentative initial set that is revised depending on their success in practice;
- Amount of social interaction - Frequently involves complex social interactions with participants sharing ideas, distracting each other, and so on;
- Characterizing the findings - Involves looking at multiple aspects of the design and developing a profile that characterizes the design in practice;
- Role of participants - Involves different participants in the design so as to bring their differing expertise into producing and analyzing the design.

Taking into account the set of attributes presented above, in the particular setting of this research, DBR can allow for the examination and understanding of the TL storyworld use in formal learning contexts relating processes of enactment to outcomes of interest (Design-Based Research Collective, 2003: 5). More than focusing on providing an insight of the iterative process of enhancing the tool - the TL storyworld, making use of a DBR methodology in this research can facilitate the provision of insights on students' interactions in the TL storyworld and how these can be related to their language learning trajectories.

Despite the scarcity of studies applying this peculiar genre of research in language learning (Reeves & McKenney, 2013: 14), the development of DBR studies could improve practice and theory in the fields of TELL, CALL, and MALL - "DBR not only helps advance the development of instructional materials to higher ground, but may also become a powerful force in the generation of theory grounded at the deepest levels of practice" (Pardo-Ballester & Rodríguez, 2010: 550).

"Language learning requires more than a controlled, rule-governed, well-sequenced curriculum; it requires design of a learning environment where learners can participate, interact, select, and evaluate the effect of language actions" (Zheng & Newgarden, 2012: 27). It is to the design of a participatory space as the one described by Zheng and Newgarden that the remaining sections of this chapter delve into.

The following sections present worldbuilding aspects and processes as well as the design of the learning layer of the TL storyworld used as the object of study

of this research. Its application in formal learning environments is discussed in the next chapter.

3.2 The Project's Goals

Connecting Cat (CC) seeks to create a transmedia environment, hence a participatory space, for the development of ESL learning and teaching practices. It is targeted to Portuguese 10th-grade students, 16-17 years-old adolescents. The storyworld seeks to be the setting of exploration of contents and curricular goals of ESL, level B1, according to the CEFR (the Common European Framework of Reference for Languages). It explicitly targets core topics identified for the English subject, in the Portuguese national curriculum of secondary education - media culture, multiculturalism, linguistic diversity and use of technology. CC's design was oriented to provide opportunities for the development of communication and media literacy skills through the engagement with content spread across the platforms of the storyworld.

Taking into consideration the need to equip students with the skills to communicate and express at present-day, the provision of opportunities to develop transmedia literacy skills (Scolari, 2018a) becomes a priority in the design of a learning storyworld. Transmedia is a way of life, not an option, a necessity (Pringle, 2016). As Fleming points out "consuming and producing content across multifarious media platforms is a basic life skill for the twenty-first century" (2013: 373). For this effect, the storyworld provides spaces for self-expression, interaction, and participation within a shared culture disseminated in it. The goal was to allow students to engage in meaningful and authentic language learning experiences by considering their preferences in terms of media consumption, i.e. the way they engage in transmedia practices in ther daily lives.

By exploring the different platforms of the storyworld, students are able to move from informed reception of input to responsive participation in opinion-generating activities and creative contribution of multimodal outputs. Kurek and Hauck (2014: 120) stress "language learners who can comfortably alternate in their roles as semiotic responders and semiotic initiators will reflect the success of

training that takes account of multimodality as a core element of digital literacy skills."

Starkey (2012: 24) highlights that "learners in the digital age can connect and collaborate with people beyond their physical environment. They can connect a range of information or data and draw on a range of perspectives to collaboratively generate and critique new ideas". While this might be true for the majority of students, as discussed in the previous chapter, not all of them have the same level of proficiency in what regards media or digital skills. Specifically Portuguese students, as Pereira et al. (2018) point out, struggle to develop more complex media production practices and, in general, do not make use of participatory practices in the networked world.

> Many of today's teens are indeed deeply engaged with social media and are active participants in networked publics, but this does not mean that they inherently have the knowledge or skills to make the most of their online experiences. The rhetoric of 'digital natives,' far from being useful, is often a distraction to understanding the challenges that youth face in a networked world.
>
> (boyd, 2014: 176)

Addressing these issues, the exploration of this storyworld seeks to encourage a critical understanding of media and fosters civic engagement practices both in the online and physical worlds.

The overarching aim of this TL storyworld is to stimulate the emergence of a participatory space by engaging students in a story that they can expand and unfold while developing activities and processes that on the one hand can develop their communication skills and on the other support the enhancement of their (trans)media skills.

3.3 Worldbuilding - Setting the Narrative Scenario

Developing the storyworld is crucial during the design stage - "Stories involve time, space, and causality, every story implies a world in which it takes place. Worlds can exist without stories, but stories cannot exist without a world"

(Wolf, 2012: 29). Writing a transmedia narrative presents particular design challenges. It involves perceiving the specific affordances of each medium to be used and how to integrate each one of them into a cohesive and coherent narrative. Not only is it necessary to carefully design the narrative, characters, interactions with the targeted audience but also take into account emergent forms of expression - how will the narrative be shaped, expanded or even defied by the users.

In a preliminary stage, as recommended by the transmedia producer Bernardo, three key elements were considered: "compelling characters; an exciting and convincing storyworld and a strong storyline with clearly defined plot points" (2014: 801-802). The story is always at the heart of any transmedia storyworld. It is crucial to create what Klastrup and Tosca (2004) refer to be the mental image of the “worldness”, the distinguishing features of the storyworld. These, in turn, will influence and shape both the participants’ interactions and their perceptions of the storyworld.

Creating the blueprints of the storyworld, the bible, implies developing every aspect of the storyworld. Bernardo argues that "a fully fleshed storyworld 'bible' should include: detailed character profiles; character backstories and extended story arcs, historical and real-world events which help define and authenticate your setting; the rules of your storyworld and visual elements that distinguish or define your world" (location 865). Bernardo reinforces the importance of building a storyworld by stressing "establishing firm rules for your storyworld and sticking to them is vital to creating and maintaining the credibility of your story" (location 875).

This storyworld’s backdrop is an adventure story in which the protagonist seeks portal pieces across different locations to ultimately connect humans to a tribe of alien warriors, the Fluxus. Cat, a teenage girl, living in a city by the sea in Portugal, is a seeker of the Fluxus tribe with the mission to assemble a portal that allows the Fluxus to interact with humans. The portal pieces are scattered all over the world. To collect them, Cat relies on her cat, a Fluxus warrior on the mission of helping Cat and protecting her on planet Earth. Together they attempt to connect both worlds. Cat's quests to find the missing portal pieces unfold through direct interventions of the participants in the storyworld.

The reason why this story is set in a primary world and secondary world is to provide opportunities to explore an imaginary dimension, in this case, the tribe's world, as well as a real one, through the unveiling of the main character's events. "Campbell suggests that the most classic and enduring stories are the ones fueled by a standard framework filled with challenge and adventure — both mystical and real" (Gronstedt & Ramos, 2014: 1). By integrating both dimensions, it was possible to diversify entry points to the storyworld and enhance the exploration of a broader range of event types.

So that students could relate to the topics in a seamless way, particular attention was given to the creation of a convincing storyworld but also to the design of the characters. The more compelling the storyworld is, the easier it is for students to create empathy. To avoid the cognitive overload inherent to the exposure to multimodal inputs, the contents are presented through a storyline with clearly defined points. In this matter, Kurek and Hauck (2014: 122) draw attention to the importance of careful scaffolding and modelling to reduce the cognitive load

> […] dealing with vast amounts of multimodal information may exceed leaner's available cognitive capacity, leading to cognitive overload and, consequently, superficial interaction with the input in question […] it is even more complex in case of exposure to multimodal content in languages other than one's L1.
>
> (Kurek & Hauck, 2014: 127)

The story is supported by a main narrative arc, in turn constituted by micro-narratives. CC draws upon the hero's journey model, one that students can relate to. Campbell's monomyth structure is universal –

> What works universally with this structure is its reliance and reliability for telling stories based on self-reflection, stretching one's capability, finding friends, inspiration, attainment of goals, and perhaps what up until this point had been undiscovered talents.
>
> (Gronstedt & Ramos, 2014: 1)

Similarly to Cat's journey, students face challenges, meet mentors and are called to develop their skills as they set off on their academic route. The underlying goal was to create an emotional connection and inherently stimulate the

engagement with the content embedded in the narrative. Dettori (2011: 55) highlights that narratives facilitate and provide context for ideas conveyed through emotional engagement – “narrative-based contexts usually result engaging for learners also from the emotional/ affective point of view, favoring the connection of this aspect with content knowledge and stimulating the development of intrinsic motivation.”

Campbell's structure is flexible and reusable and thus suitable for the development of transmedia practices. As already put into evidence in the previous chapter, using a transmedia approach to telling a story implies distributing different elements of the story across multiple platforms and adapting them to different formats. The hero's journey is comprised of 12 different steps. The following presents how the structure was applied to the heroine’s events in the story:

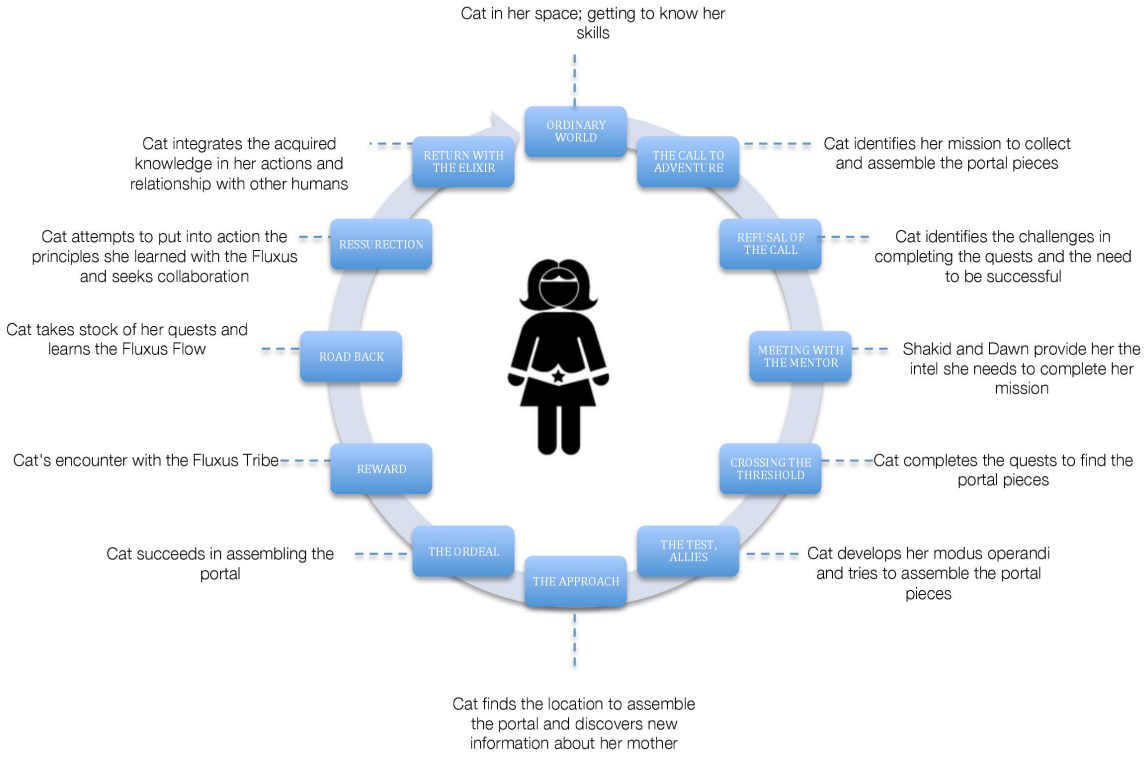


Figure 3.1 The heroine’s journey.

Alongside the events in the primary world, students can access the secondary world targeted to explore the culture of the alien tribe. To provide cohesiveness and unified experience of the storyworld, the events set in both

worlds are interconnected, and some characters assume a double identity in the two dimensions.

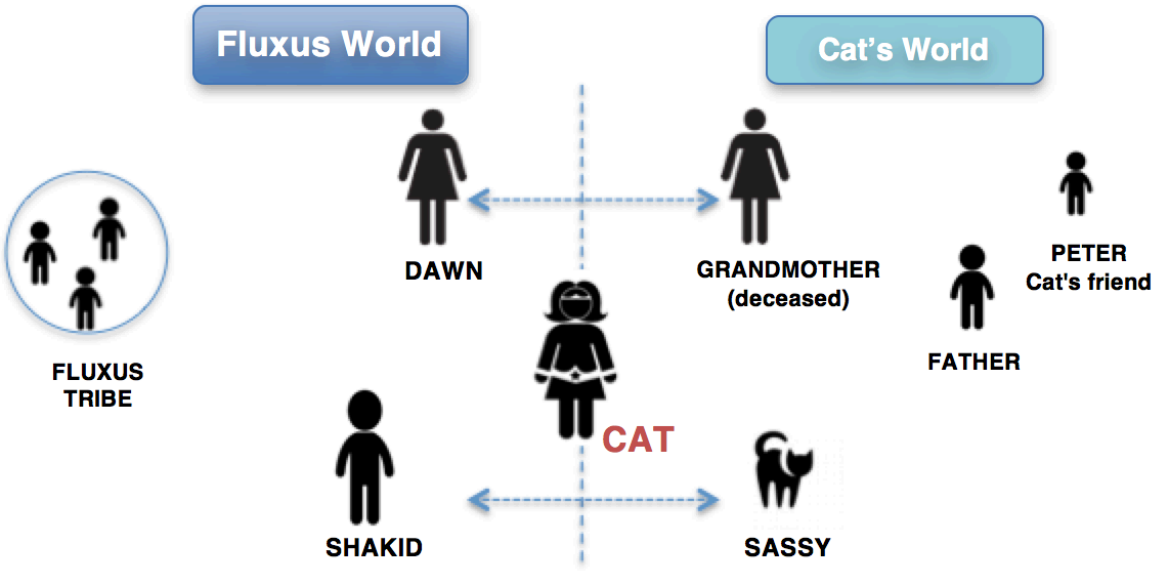


Figure 3.2 Map of characters' relationships.

Despite the fact that the story's structure is based on the hero's journey, the experience that CC attempts to provide is, in essence, a collective journey (Gomez, 2017a-e; Zuckerman, 2016). Unfolding the story becomes the prime goal of the collective. It is "the event that throws the individuals into the shared experience" (Zuckerman, 2016: 33) - the crossing moment, proposed by Zuckerman in the CJ model.

In CC, it is the case that it is the heroine that relies on the intervention of the collective to surpass challenges instead of being the heroine with superpowers that can deal with the tribulations of the collective. Participants must act cohesively (e.g., strategize, share information, collaborate to solve problems) to support the heroine and thus progress through the events of the story. Cat is also not the typical heroine customarily depicted by Hollywood. She is neither the goddess nor the feminine version of a warrior. Her power stems from being resourceful, taking full advantage of the platforms of the networked world as well as making use of the knowledge that friends share with her. The latter constitute her support network.

She is part of a bigger whole - one that is constituted by fictional characters but also by the ones that live in the physical world, the ones who engage in her quests.

The events of the storyworld are presented through micro-narratives. These were crafted to address a particular curricular topic or aspect to facilitate the management of learning goals. Regardless if the students explore the storyworld in a linear or non-linear manner, the micro-narratives are comprehensible on their own, even when explored outside the main narrative framework and encapsulate the necessary context to explore the topics.

The storyworld is intentionally incomplete and seeks to engage students in shaping, expanding it and filling in the narrative gaps. By exploring the storyworld, students learn more about it and become immersed in it. Ryan proposes a multilayered process through which participants become immersed in the world.

> The reader constructs in imagination a set of language-independent objects, using as a guide the textual declarations, but building this always incomplete image into a more vivid representation through the import of information provided by internalized cognitive models, inferential mechanisms, real-life experience, including knowledge derived from other texts.
>
> (Ryan, 2015: 63)

To text, Wolf (2012: 5) adds imagery and sound as well to expand this notion.

3.4 Scaffolding Learning in the Storyworld

TS is “a strategic process where the scale and scope are a whole lot more than the sum of all its parts” (Kalogeras, 2014: 177). At its core, a transmedia storyworld relies on processes of leveraging media platforms to deliver a story and create an interactive experience. For Raybourn (2013b: 475), transmedia storytelling design entails the development of characters (interactions and personas), story (narrative and scenarios), worldbuilding (place), and audience (participation and emergent culture). In addition to these elements, in the case of a TL experience, it is also necessary to ground a learning framework.

Given the purpose of this storyworld, its framework supports the construction of knowledge via manipulation of the digital resources scattered through the platforms and integrates interaction triggers that can ultimately lead to an authentic learning experience. The learning framework takes into account the following set of questions to assess the appropriateness of a narrative work for an educational setting, in this case, in reference to an e-module (Kalogeras, 2014: 178):

1. Can the story be integrated into an existing curriculum?
2. Is the story engaging, and can it help make learning more effective?
3. Does the story contain subject matter that is relevant to the module?
4. Do the hyperlinks found in the story provide valuable information in keeping with learning objectives and outcomes?
5. Can additional learning extensions be created by subject-matter experts/ producers?
6. Can the students create stories extensions via digital stories to provide educational value?

Drawing from the multiliteracy training approach proposed by Kurek and Hauck (2014: 119), students' interactions were scaffolded around the following parameters: reception, participation, and contribution. This method attempts to address students' literacy needs on various levels.

> Similarly to what is happening in a language classroom, the learner is guided from observation of the desired acts, through their interpretation to the final performance, with the teacher gradually withdrawing support.
>
> (Kurek & Hauck, 2014: 126)

Considering the learning sequence: reception, participation, and contribution to this project, implied selecting platforms that would allow for the progression from reception to contribution. Platforms that would on the one hand provide learning inputs and on the other trigger the creation of learning outputs and engage students in taking an active role.

If students are the target audience of the storyworld and ultimately the goal is to engage them in TL practices, recognizing the territory upon which they develop these processes was vitally important. By completing this preliminary *reconnaissance* mission, the design of learning activities in the storyworld could

then be informed, shaped and contextualized with cultural and social references; styles, visual and audio cues that students could recognize and be responsive to.

Since this storyworld is targeted to language learning, acquiring insights on how and where students were using the language was notably necessary. Only in such a manner could the storyworld become a framework that fosters the interpretation of language acquisition processes in the physical world.

Indisputably, students are diverse, yet in the majority of classes in national schools, instructional practices are targeted to the masses. "Heterogenous classes" are proclaimed and oftentimes reverberated on class councils. The concept has been for a long time part of the jargon used in institutional documents. What happens in the traditional classroom shows that it only lives on paper.

The groups of students teachers are presented every year are unique. They have particular modes of interacting among peers; they bring their own *repertoire* of experiences, knowledge, and skills to the classroom, nowhere to be found in the standardized; industrialized modes of instruction. In defiance of the misconception of students being a *tabula rasa*, this repertory should alternately be regarded as an abundant bank of learning resources teachers can and should resort to.

Contrarily to top-down teaching practices, language learning practices that are bottom-up informed are contextualized, situated. Students make sense of what they learn through context that is meaningful and familiar to them. Language learning manuals narrow interpretation processes. They provide a single version of the "story" that often students cannot relate to. Alternatively, language acquisition processes should be developed in the students' cultural and social contexts so that they are able to make sense of the language discourses they are attempting to appropriate.

Furthermore, the four core communication skills - reading, writing, listening and speaking are not equitably explored in the traditional ESL classes in the country. They are not given the same weight in students' evaluation processes. Writing and reading are prioritized over listening and speaking due to the fact that ultimately students are graded through written exams. Hence, classroom activities are guided to master structures, exercises, and content of tests.

The pivotal questions here are:

- To what purpose are students learning English?
- Is it to provide evidence of their language learning skills in abstract knowledge-based exams/ tests or to use the language in their social interactions in both the offline and online world in the present and future professional contexts?
- Which criteria should be guiding the language learning process in contemporary times?

Writing on paper is still the primary medium used to give students a voice in the ESL classroom, but teachers need to ponder if this process reflects the self-expression modes the students use and need to communicate in the networked world. Language profoundly affects students' experience of the world; particularly online, it guides how and whom students/ users interact with on social media and how they behave in these online communities.

> Language is just as important to building human connections online as it is offline: it forms the basis of how users identify with each other, the lines on which exclusion and inclusion are often drawn, and the boundaries within which communities grow around common interests.
>
> (Young, 2018)

While we (teachers) are seriously committed to providing students opportunities to develop linguistic proficiency with a focus on the structures and features of the language, we are are not as actively invested in exploring the experience of the language - "the styles of using words, grammar and discourse to enact a socially significant identity" (Gee, 2015: 12). Are we giving our students the right opportunities to express themselves, if we do not make use of the media they are supposed to use to express their worldviews and communicate in the contemporary world? Are pen and paper enough of resources at present times?

Through the use of different forms of mediation - text, sound, and imagery, which convey world information, and media platforms, selected taking into consideration students' experiences of the online world, CC attempts to be a transmedia ecosystem in which students can explore the language in a situated

and contextualized form - one that allows for the mediated experience of the primary world, the material, physical world. At root, CC attempts to reach students by exploring the audiovisual language in a diversified form and through learning challenges that can be explored either collaboratively or autonomously. There is no single route to learning a language, therefore the design of this storyworld attempted to diversify points of exploration of content. An assumed departure from the obsolete “one size fits all” educational approaches currently used to explore language learning.

3.5 Gateways to the storyworld

The selection of the platforms for the storyworld was informed by two parameters: the platforms’ potential for the development of learning activities in the context of ESL and also online spaces and media use preferences of the target audience.

As a preliminary exploratory exercise, an online survey was disseminated across social media platforms. Despite being a rather limited participants pool - 61 participants, the goal was to obtain an overview of users’ use of social media. The main findings are depicted through the data visualisation, developed in 2013, *the Rise of Generation C*.

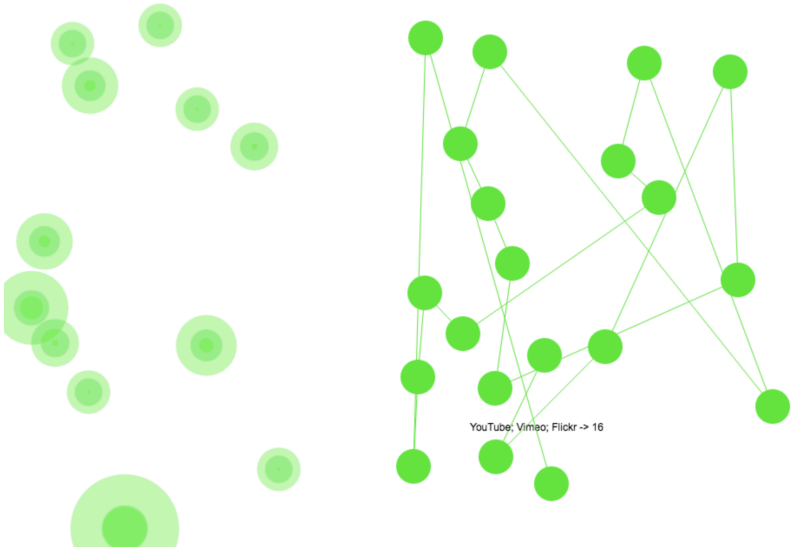


Figure 3.3 Screenshot of the data visualization *the Rise of Generation C* available at http://bit.ly/GenC_rise

Specifically in what concerns platforms preferences, all participants were active on Facebook. Besides this social media platform, video platforms such as YouTube or Vimeo came second (89,3%) in their preferences and blogging platforms such as Tumblr ranked third (39,3%). Video game platforms were also part of the participants' online experiences (23,2%). In terms of the use of social media, staying in touch with family and friends was the primary activity (93,4%). Online spaces were often used by participants both to share photos video and music (55,7%) and to further deepen their interest in music, films and books (50,8%). Also noteworthy is the fact that merely 6.6% reported to use media platforms to advocate for a cause. Perhaps given the emergence of social media platforms such as Instagram; Snapchat, WhatsApp and many others, since 2013, the outputs of this survey could be completely different in 2018. The attempt at the time was to find references that could inform the design of the storyworld.

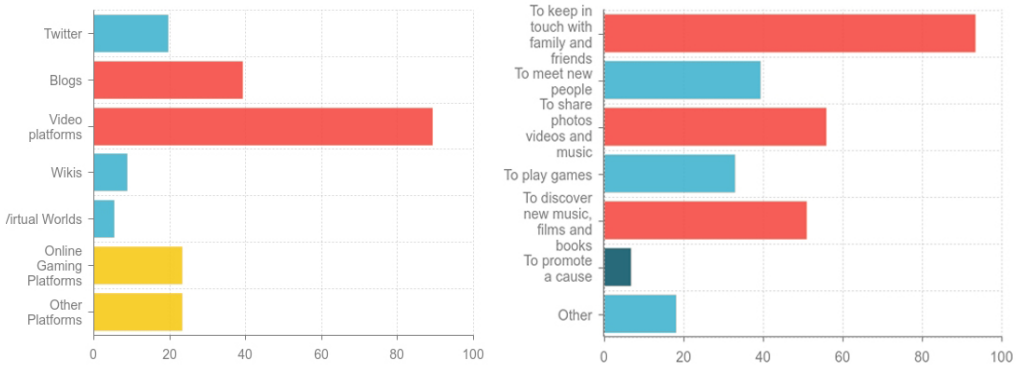


Figure 3.4 Outputs emerging from the survey used to inform the selection of platforms for the storyworld.

The different gateways to the storyworld are set forth via a common interface - a website, the hub of the storyworld. The navigation within the framework allows for a cumulative or complementary exploration of the spaces of the storyworld, linear or non-linear.

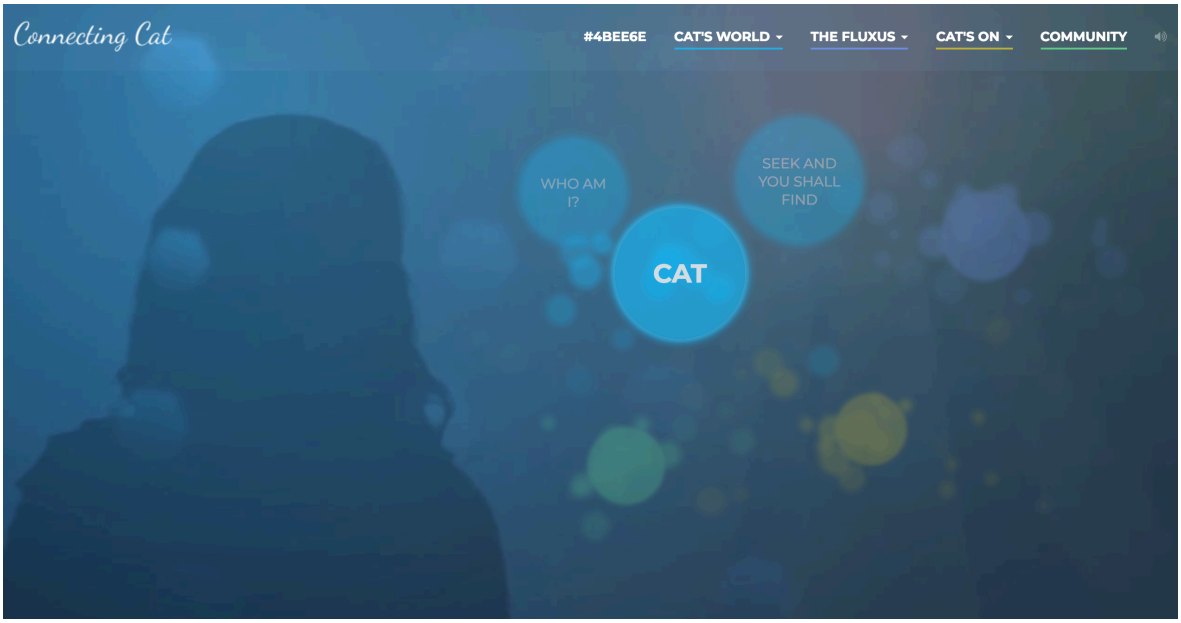


Figure 3.5 The hub of the storyworld Connecting Cat available at http://bit.ly/ccat_site.

The design of the interface sought to immerse users in the storyworld through a mysterious setting created through imagery and sound. While look and feel were important criteria in the design and layout of the interface, the main goal was to provide an intuitive interface with simple navigation options to allow students to move with ease between the spaces of the storyworld. Menus are easily identifiable and labeled through colour - bubbles and top menu use the same colour code to facilitate identification while providing different navigation options. The visual representation of selected tabs resorts to highlighting to aid users' of the storyworld to quickly identify locations where the different navigation tabs will take them. The main goal was to ensure that visitors of the website had easy access to the locations within it and entice them to explore its spaces.

Plots and events of the micro-narratives that build this storyworld were conceptualized around the topics identified in the national curriculum and seek to provide the context for the development of activities related to them. The fact that CC makes use of different platforms and that topics are explored through multiple perspectives in the spaces of the storyworld, stimulate the generation of diverse learning trajectories. Each platform presents different affordances; in a strategic manner, CC attempts to harness them to tell the story while triggering the exploration of content. The development of communication skills is promoted by

taking advantage of the features each platform presents. The following section describes the platforms that were targeted to the exploration of learning inputs – the reception stage.

3.5.1 Gateways to the Storyworld targeted to Explore Learning Inputs

The series of webisodes Connecting Cat is aimed at developing the main story. Given the exploratory nature of this research project, only a pilot episode was produced. The initial goal was to obtain feedback from the audience/ students to enhance possible sequent episodes of the series. Within the series, *Who am I?* is the first episode.

Webisodes are short in nature and an advantageous medium to synthesize content. In the context of CC, it was used to present the essence of the story - characters, setting, and challenges. In *Who am I?*, Cat is confronted with the revelation of her secret alien identity and mission - to seek pieces to assemble a portal and connect the human civilization to an alien one, the Fluxus. Viewers have an inside view of who her allies are - her pet, Sassy, and Peter, her friend. The webisode also seeks to engage the audience in the exploration of other pieces that constitute the storyworld. Viewers are left with a clue, which triggers events of other two narratives in CC.

Who am I? can be explored to raise awareness of different types of language discourses and discursive practices in the L2. Students can critically evaluate discourses and develop fluency and conversation skills using the webisode as the setting.



Figure 3.6 Screenshots of the webisode Who am I? available at the CC storyworld and https://vimeo.com/122134357.

While the primary world is explored through a series of webisodes, the secondary, the imaginary dimension of the storyworld is explored through a motion comic book series - *The Fluxus Flow*. The series provides glimpses of the culture and life of the alien tribe.

Selecting the motion book as a platform for CC was a strategic choice since it combines the language of comic books and interaction. Motion comic books are a new medium of graphic storytelling. They use a combination of static art, simple animation and sound to create a movie-like feel within the comic. McCloud (1994: 6) by defining the comic language refers to what happens between the panels, as the space in which the reader completes the actions that aren't shown in order to form a logical story. In motion comic books, the space between the panels is taken away and replaced with animation; it does not change meaning but alters the quality of the experience - "Its DNA is comic books. Lots of people have responded

that it reminds them of video game elements or having cinematic sort of qualities to it. […] It's an immersive reading experience" (Schmidt, 2014).

To materialize the Fluxus world, cultural references of interest of the target audience were used, for instance, features of MMORPGs - wild, unexplored territories, and avatars.

The ideation process of the Fluxus world was originally influenced by the interventions and spirit of the Fluxus multidisciplinary community of artists during the sixties and seventies. As a counterculture movement defying elitism and the commercial art market of the time, the Fluxus artists embraced the idea of the complete integration of art and life. Fluxus artists' interventions and works were based in everyday materials and experiences. Rather than focusing on providing a finished product, their focus was on the creative process. The artwork becomes a site of interaction between the artist and the audience, a space of experimentation. Much like the artists of this movement, the Fluxus tribe procures to evolve based on the establishment of a space for dialogue and understanding with other civilizations of the universe. The Fluxus seek to activate cultures to generate their own identity; mobilize energies outside their territory, promote experimentation processes with other beings to forge their path in the universe.

The design of the Fluxus world posed various creative challenges. It implied envisioning the culture; elements of this world - locations; language, tribe members' activities, relationships and then selecting a multitude of aesthetical features that would materialize it - characters' physical traits; house's architectural style and the tribe's facilities, etc.. Moreover, it was necessary to create and engineer connections with the primary world - narrative nodes that could link the tribe's activities to other events in the storyworld to cater for a cohesive experience.

Even though it is a complex and time-consuming task, a detailed ideation process is vital to provide an authentic experience and depiction of the storyworld. It is also important to consider the world building process as a work in progress. In the case of CC, the original conceptual version of the storyworld was consecutively shaped and altered during its development. There were dimensions of the storyworld and elements that had to be enhanced, expanded or simply

discontinued to optimize the experience and meet the goals that were set in the first place. The storyworld envisioned in the first version of the project's reference guide (Appendix I), the bible, is quite distinct from the current version. Nevertheless, this document was the primary resource to develop collaborative work during the design stage.

Developing the first sequence of *The Fluxus Flow* required the intervention of a graphic illustrator - Delfim Ruas. The expert skills and knowledge of someone that understood the language of comics and could translate the vision of an imaginary world into an appealing and immersive visual experience. During the creative process of this sequence, the project's reference guide served as a starting point for the necessary dialogue to its development. Building the sequence required not only to establish the visual language for this imaginary world but also adding to it animation and acoustic layers. The following picture depicts the development of a page for the sequence on the Madefire Motion Book Tool[3], an open access creative tool.

[3] The Madefire Motion Book Tool is available at https://www.madefire.com/motion-book-tool-open-access/.

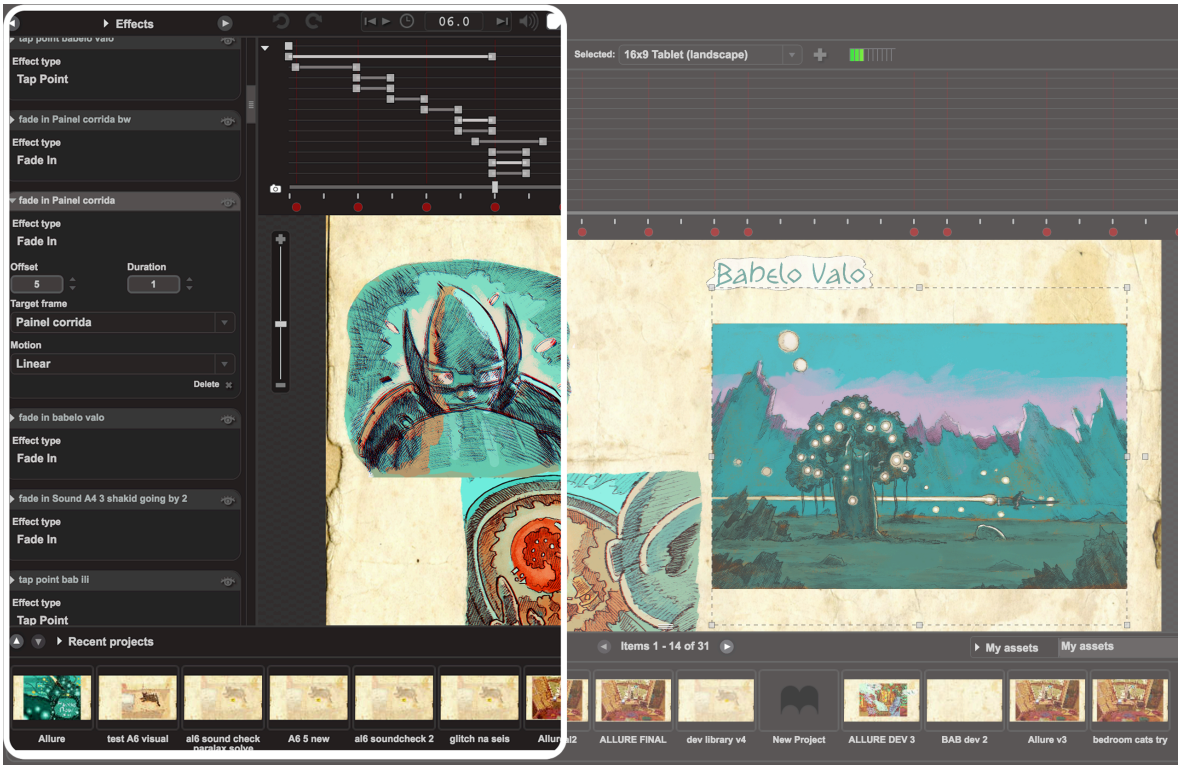


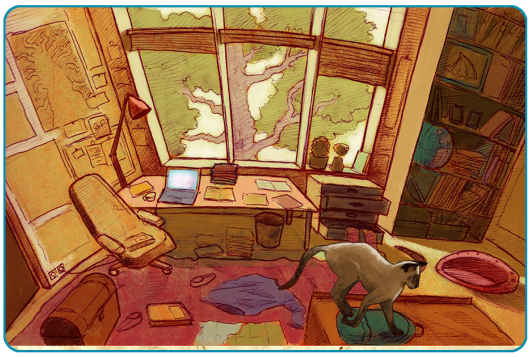
Figure 3.7 Development of a page of the first sequence of *Fluxus Flow* - Screenshot of the interface of the motion book tool.

The first sequence of the *Fluxus Flow* makes use of the interplay of words, pictures, sound, and animation to convey an immersive experience. Similarly to directing the viewer's gaze into a painting, *Allure* adapts the graphic conventions of comic books - imaginative and supportive typography, strip panels, speech bubbles to guide the act of reading. The participation of the reader is direct in the meaning-making process. The progression in the narrative is dependent on interactions, exchanges and movements of the readers - "I frame, I unframe, I reframe: so the graphic texts passes from panel to panel, page to page across medial boundaries" (Denson, Stein & Meyer 2014: 271).

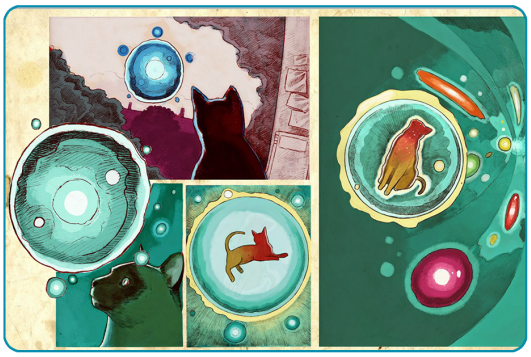
Allure presents the context for the clue set in the webisode *Who am I?* while exploring activities and adventures of the Fluxus. These are specifically targeted to the exploration of the topics linguistic diversity and media culture. Similar to *Who am I?*, this sequence is a pilot test used to evaluate students' receptiveness to the world of the Fluxus and its exploration through a motion

book. Nevertheless, the series *Fluxus Flow* can be used to expand different events of this world and, in accordance with the main goal of this project, to explore different curricular topics.

In *Allure*, students are presented with the opportunity to track the warrior Shakid from the moment he morphs from a cat, in the primary world, into a Fluxus warrior; follow a rescue mission and trace his return to Cat's world. The rescue mission involves saving one of the tribe members, Clotho, a hacker gardener who is entangled in the branches of an alien tree affected by human communication. Visual and audio elements enhance the narrative and provide learning input - in this case, a cacophony of human dialects that affects the tree. The following provides insight into the sequence's structure:



1 Cat's Bedroom - Point of reference of the primary world



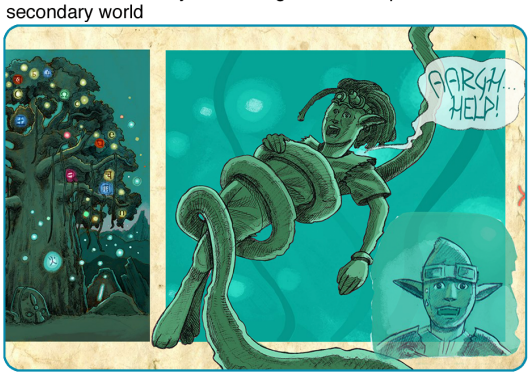
2 Sassy morphs into Shakid - Immersion in the secondary world



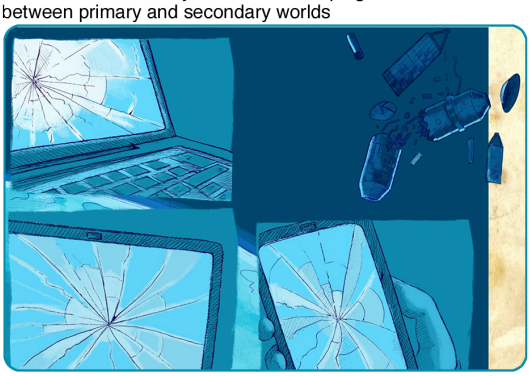
3 The Fluxus territory - Getting users acquainted with secondary world



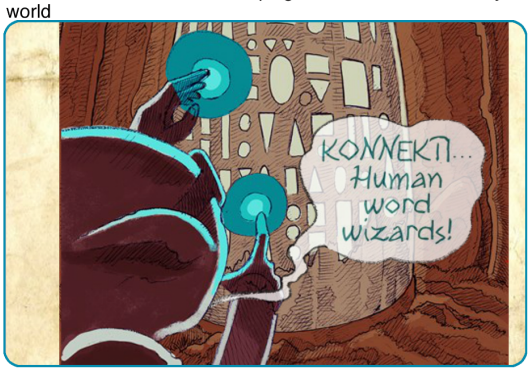
4 Shakid is informed by Dawn - Developing the connection between primary and secondary worlds



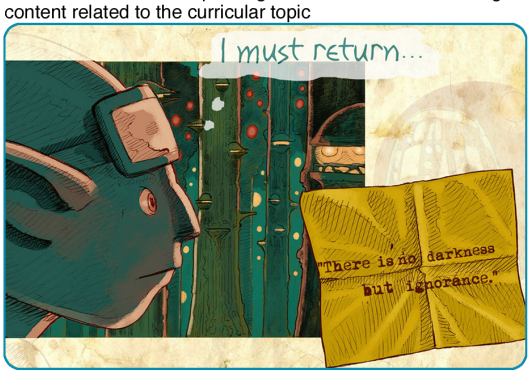
5 Shakid saves Clotho - Developing events of the secondary world



6 Clotho's flashback explaining the incident - Providing content related to the curricular topic



7 Shakid uses Fluxus technology to find a solution for Dawn's request - Establishing the setting for the *Fluxus Logs* (blogging platform through which students can contribute *to* expand the secondary world)



8 Shakid returns to Earth - Reference to develop events in the primary world

Figure 3.8 Overview of the *Allure* sequence – Narrative nodes. available at the CC storyworld and https://tinyurl.com/allure-cc .

Allure provides opportunities to explore receptive communication skills and reinforce meaning through different modes of representation - “The text is interpreted in terms of pictures, sound, animation and these in terms of the text in an infinite sequence” (Sipe, 2012: 20). Through tap movements, the reader unfolds the narrative at his/her pace. The progression in the narrative is dependant on interactions, exchanges, and movements of the readers.

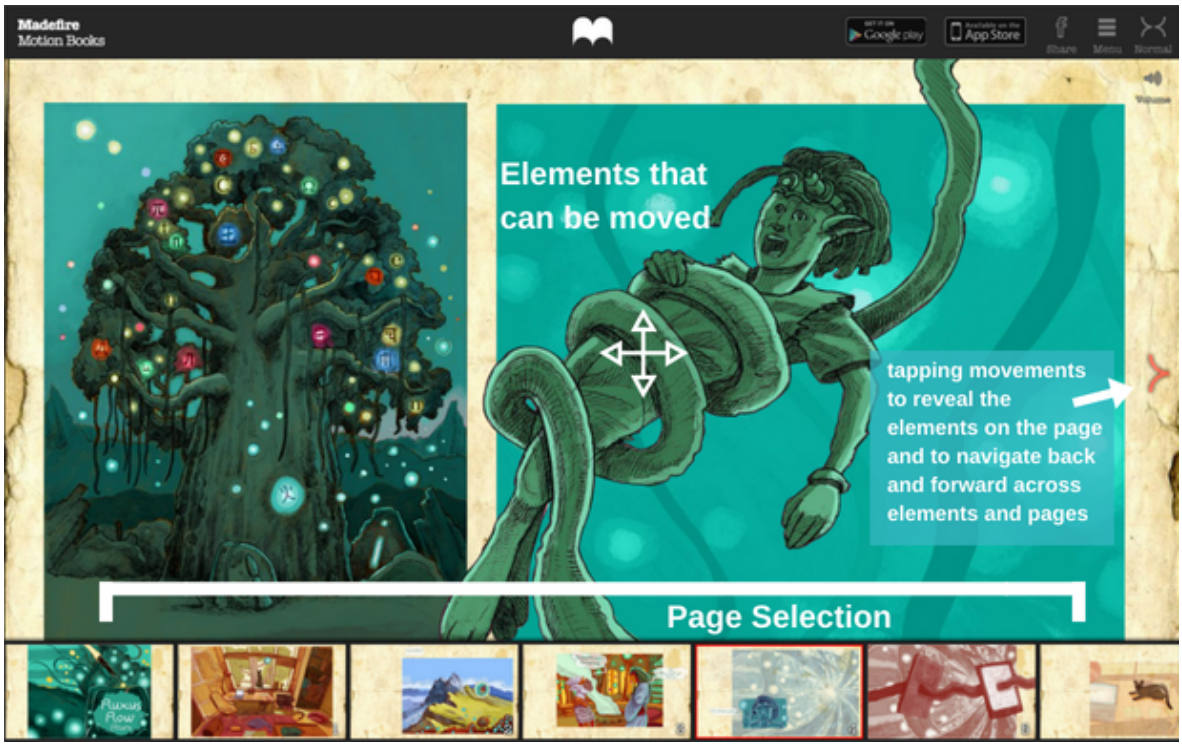


Figure 3.9 Navigation features of the motion book interface.

In particular, the events related to Clotho’s rescue mission explore, within the context of the Fluxus world, the topic of linguistic diversity. Bab-ili, the alien tree at the root of the ordeal, is a metaphor for the tower of Babel. Not in the biblical sense of a punishment to humanity but as a map of the vast territory of languages in the world. Its abstract depiction also seeks to lead students to consider different symbols used to communicate in the contemporary world. Among the diverse points of exploration that Bab-ili might be used to ignite discussion, teachers can explore issues such as the extinction of languages and the cultural and social impact it has on the communities who speak them, as well as, the imminent danger of losing

cultural references and social identity inherent to the rapid process of extinction of dialects and languages nowadays.



Figure 3.10 Visual representation of linguistic diversity in *Allure*. Artwork by Delfim Ruas.

Clotho's flashback serves as a pretext to bring up issues emerging in the "real world" media ecology and therefore bringing the story to students' context. Characters from distinct nationalities are depicted in daily life acts of communication by either reading the news or talking about events of the world. By presenting different speakers using the same type of technology, the attempt was to depict the diversity of contexts and situations that are yet mediated through the use of the same type of technological devices. Characters are depicted with neutral facial expressions to indicate apathy and indifference regardless of the seriousness of the content they are exploring. A strategy used to represent how viewers and social media users react to incidents in the world. In the wide array of information feeds users have

access to, dramatic events share the same degree of importance as the report of the latest sports event or memes of cats. Hence, it becomes difficult to look beyond the noise in communication in a media charged environment. The messages or characters' lines can also be used to tap into social and economic matters or cybersecurity issues. Shakid's remark regarding Clotho's explanation of the incident – "Our worlds, our flows are interconnected." - points to the concept of a global village and the interdependence of those who live in it. It can then be the setting to discuss aspects of a participatory culture or civic engagement. Bab-ili's illness or malfunctioning is in this context a consequence or an effect of the "human" contemporary media ecosystem.

Allure ends with Shakid's attempt to make progress in the development of the Fluxus mission on Earth. For this effect, he uses Konekti - one of the tribe's technological devices that provides information much like a "conscious" search engine or an oracle. Shakid's request to Konekti is a search for human word wizards i.e. writers. In his work, the iconic Portuguese poet Fernando Pessoa refers that Portuguese language is his homeland. By the same token, a writer or a "human word wizard" can be considered the guardian of a language. Konekti outputs can be used in a direct form to dig into the work of the authors presented or used as a pretext to explore national writers as well as other authors students like. For instance, "which results would Konekti give you with the search for 'Portuguese human word wizards?' or "which 'human word wizards' do you know or like?" Despite the fact that these might considered mere suggestions, the goal here was to put up for discussion the use of a rich visual environment or elements and how these can potentiate the development of learning activities in the context of ESL.

Konekti and its location - Kodolando, as previously mentioned, were used to construct another space of the storyworld - *The Fluxus Logs*. A blog in which students can post their insights on "human-related activities" to feed "human knowledge seeds" to Konekti. A contextualized form to develop writing as well as media literacy skills while expanding this imaginary world. This platform of the storyworld is further described in the next section.

The reference to Shakespeare is both used to develop the story in the primary world and to introduce students to the work of the greatest ambassador of the English language, as well as, set them in the context of one of Cat's quests presented in the form of an interactive video.



Figure 3.11 Language diversity and contemporary communication depictions in Allure. Artwork by Delfim Ruas.

Seek and you shall find is an interactive video available at the Eko (former Interlude) platform. Interactive videos are engaging and seamless. They offer a multilayered video experience - “Viewers make choices that affect the video in real time for a completely fluid lean forward viewing experience” (Treehouse, 2014).

The experience is constituted by a set of narratives threads/ videos that users can select to create their personal experience of the story. *Seek and you shall find* makes use of a choose-your-own-adventure structure to provide viewers with the possibility of exploring the story and its context from different perspectives.

This interactive video further develops the story presented in *Who am I?* and *Allure*. After solving the clue, Shakid/ Sassy brought to Earth from the Fluxus world; Cat finds herself on a 24-hour quest in London to find one of the pieces of the portal. With Peter’s help, she explores some of the most iconic locations in the city and comes into contact with its residents. Besides authentic immersion in “world Englishes” through the main character’s interactions with local people, visual and audio elements depict multicultural aspects of the city such as world food markets or exhibitions at museums that recall cultures explored during the British empire.

The following presents an overview of the different video/ narrative threads that build this experience.

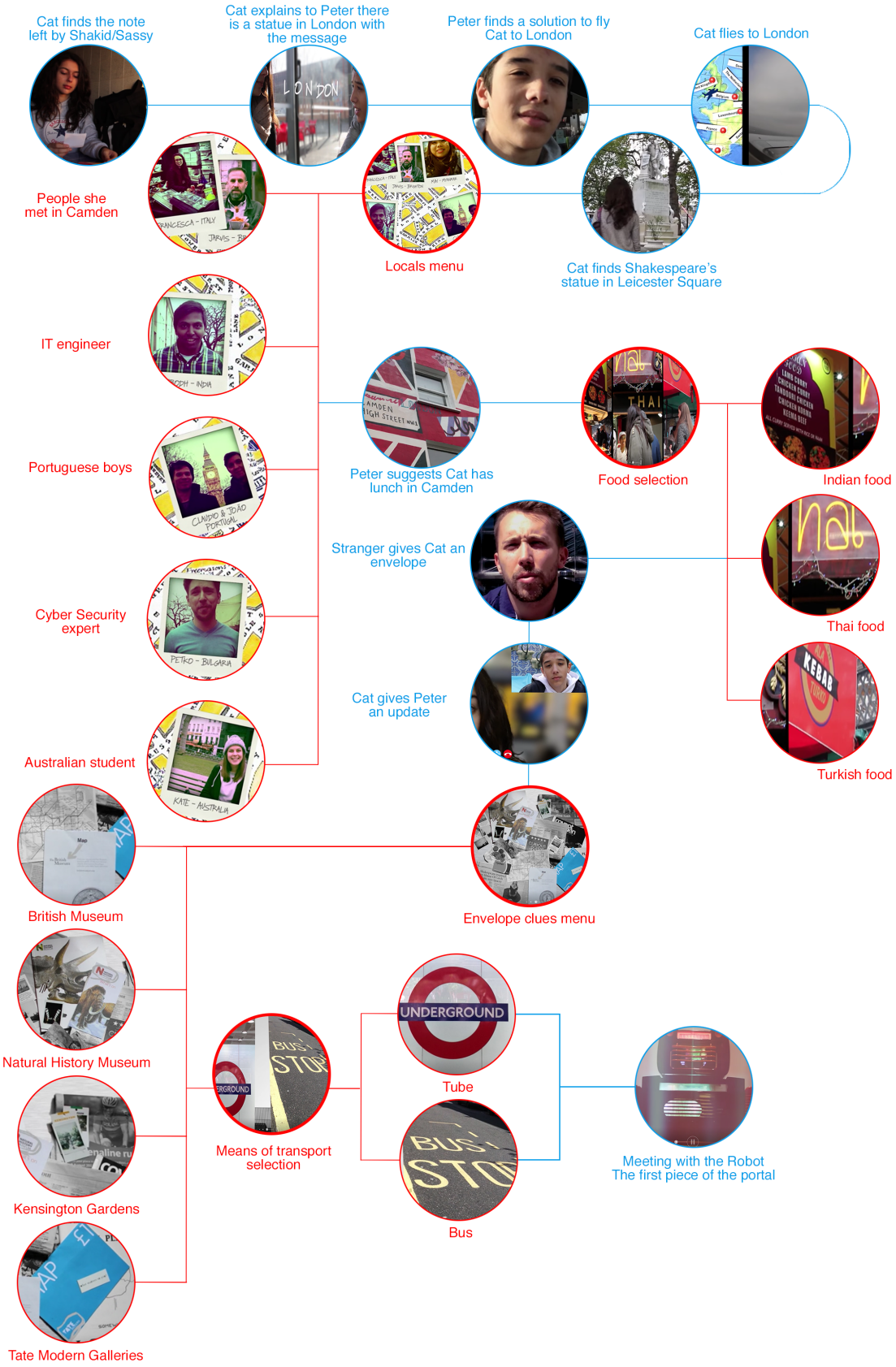


Figure 3.12 Interactive Video Structure.

In parallel with the development of Cat's quest, additional information was added either to reinforce the message, contextualize the viewer or expand learning opportunities.

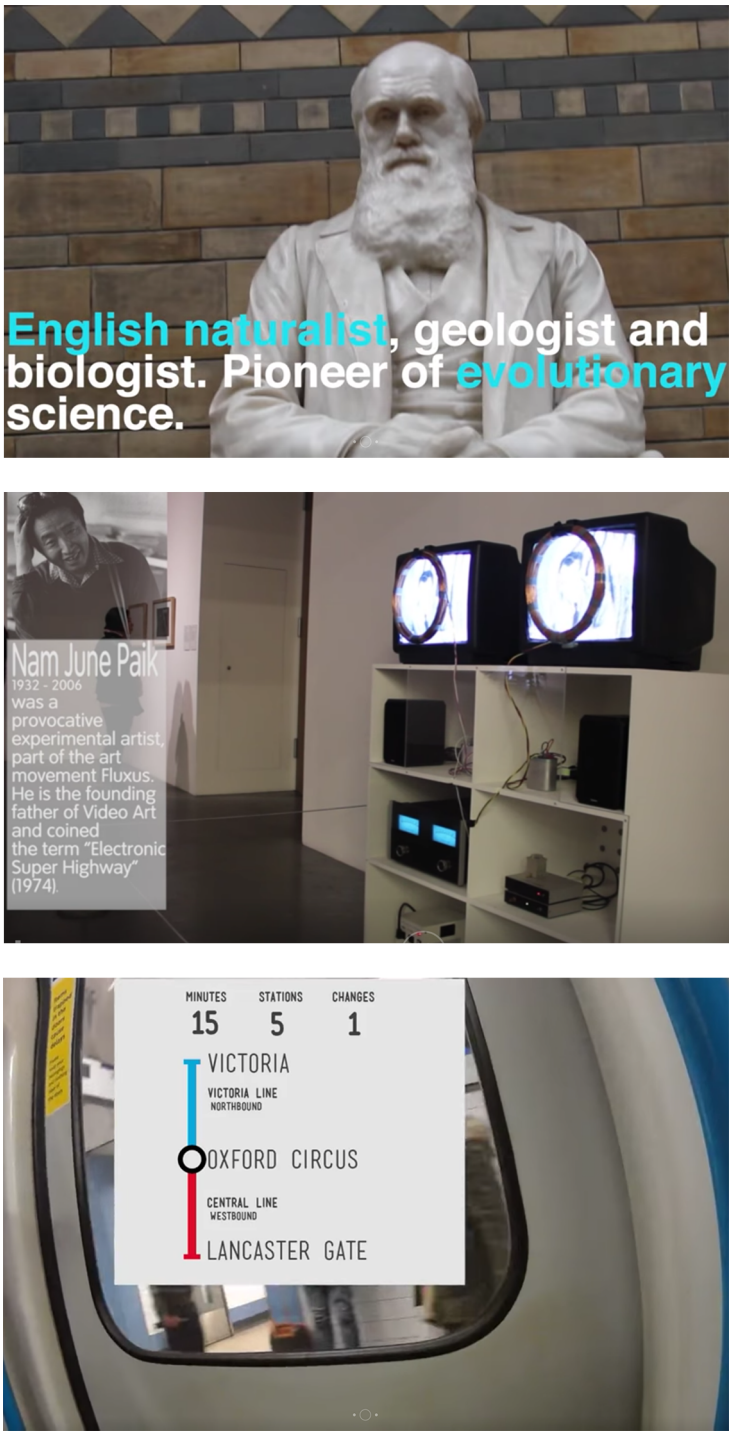


Figure 3.13 Contextualising, expanding and reinforcing information in *Seek and you shall find.*

In total, *Seek and you shall find* is constituted by 27 video nodes and 120 paths; the more one expands the options the more work it entails setting the experience. Ideally, there would be different endings to this story. These, in turn, would lead to the generation of more settings to develop the storyworld. Given time constraints and to set up a basic sequence as a proof of concept, only one option was used to end the story. As it is clear in this interactive video, the path/ the unfolding of the story is more important (and even more so in what concerns learning trajectories) than the beginning or the end of the story.

The first webisode and the interactive video were produced with rather limited resources. Characters were played by students – Mariana Matos and Vasco Sousa; friends and brave volunteers (some unknown – people on the streets of London) that accepted the challenge to make a contribution to this project.

The various limitations of shooting in public places; shooting in different devices and formats (DSLR camera; android mobile device, polaroid cube and ipad) and overlaying green screen footage on unplanned shots acquired on public locations had an impact on the quality of the final outputs presented on the interactive video. Despite the amateurish style, these two productions indicate that with some basic video editing skills, resorting to the multifold solutions offered by video editing tools and resorting to the features of online platforms (such as Eko used to assemble and structure the interactive video), it is possible to go beyond the static text to present information.

If it were possible to expand the webisode series as well as to develop more sequences for the motion book, it would be necessary to build a big enough multidisciplinary team to first reduce the time of production and second to provide outputs with more quality. Obviously developing a dream team for this project would require sufficient funding which never happened during this research project. Research and development conducted in transmedia learning, and on the terms that this research project was developed, is still rare, if not inexistent, across the nation. Therefore, regardless of all the flaws that one might identify, it is still work which researchers and teachers in the

future can improve upon or select methods; concepts and resources used for their own transmedia learning projects.

The next section discusses how students' participation and contribution was scaffolded in this storyworld.

3.5.2 Gateways to the Storyworld Targeted to Promote Learning Outputs

The following platforms - Cat's Facebook and Instagram pages as well as the *Fluxus Logs* (a blogging platform), in a diversified form, further deepen the students' experience of the storyworld. The topics explored via the input platforms discussed in the previous section are recalled, this time attempting to engage students in providing an active response towards the issues first explored in the websidode; motion book sequence and interactive video. These report to the participation and contribution stages of the multiliteracy training approach proposed by Kurek and Hauck (2014: 119).

Through the main character's Facebook profile, students have access to Cat's quests, interests, and impressions about the world. As depicted in the selection of posts and photos of the character (following the description of this platform), students can reconstruct Cat's day and trajectories in London and further explore additional places of the city. The photos of the album can be used as a pre or post activity resource kit to the experience of the interactive video. In both cases, it is a set of resources that seeks to ignite discussion about the city and the particular locations represented in the photos. Students can discuss and report on Cat's journey across the city or talk/ write about their own experiences of the city or what they would like to visit and experience in London (in case they didn't have the opportunity to visit it). This serves only as an example; there are many other exploratory learning trajectories that can be put into action with this photo album.

Post number two brings the students' closer to Cat's world; her interests and activities. Cosplay (a play on both the words costume and play, the hobby of creating and wearing self-made costumes to represent a character) was intentionally integrated to bring into the storyworld students' interests in comic

books but also in the world of video games. Comic Con, one of the main events of this subculture, has progressively grabbed students' attention in recent years. The post also details the work of a self-taught artist; content which presumably is relevant to students. As indicated as one of the transmedia literacy research outputs, teenagers are learning by imitating users on the online world or through online tutorials.

> Adolescents acquire many of their skills by just imitating online situations and learning processes about the themes proposed for this storytworld. Even when they produce their own contents, they still look for inspiration (or something more) from other users. In any case, from the perspective of transmedia literacy, the level of creativity of the final product is not as important as the collaborative and interactive production process behind it.
>
> (Scolari, Masanet, Guerrero-Pico & Establés, 2018: 809)

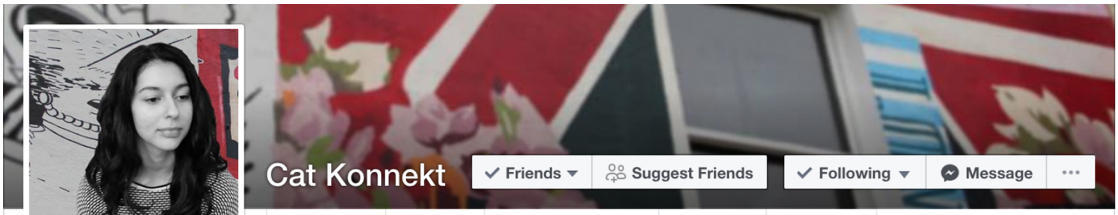
Bearing this in mind, students can share their hobbies and interests with their peers and describe how they develop their skills and acquire knowledge related to the spheres of their interest.

Post number three is a call for students to share their experiences - "If you could pick anyone to travel with, who would you pick and why?" Cat's reply to this challenge provides an example that can be used as a model for struggling students – "I would travel with the mother of Dragons. The wild and mighty Daenerys Targerian always finds a way to be where she wants to be." The universe of GoT (referred by Cat) could also prompt fans of the series to discuss which character would they like to travel with. In a nutshell, the strategy here is identifying students' interests, tapping into them and targeting them to development of skills in the context of ESL.

Post number four refers a series and storyworld, which puts storytelling at the center stage. Using as a backdrop *Westworld*, this post challenges students to develop dialogues with fictional characters and dig deeper into narrative structures. In this manner, the array of storytelling activities, digital or not in form, is only restricted by students' and teachers' imaginations.

Post number five uses an award-winning animation - *Pale Blue Dot* (Zhi, 2015) to set students within the context of a possible connection between the Fluxus, an alien tribe, and humans. Making use of a rich audiovisual language style, the animation "situates human history against the tapestry of the cosmos" (Zhi, 2015). It seeks to raise awareness on the need of finding a common path for the species on Earth. Within the story, it is vital to feed users' curiosity about the character with information in a diversified form, to support users' immersion in the storyworld. Through this post, students have access to Cat's motivation for her quest - assemble a portal to connect the Fluxus with the human species.

As important as establishing this connection with the users of the storyworld, is bringing the students into the storyworld. The posts described before are examples of how students' voices can be heard in the storyworld and the posts can be explored for the attainment of learning goals. It does not necessarily require an extra effort on the part of teachers to create and develop this style of exploration – resources are abundant and emerge frequently on users' feeds (this is obviously dependant on users' preferences); it comes down to finding resources on the online world, most of them sophisticated; aesthetically pleasing and developed by professionals and then building a learning proposal on, around and with these resources.



Cat Konekt added 12 new photos to the album: ON THE MOVE.
Published by Cat Konnekt [?] · October 21, 2017 ·

What a day!

1.



Cat Konekt shared a post.
Published by Blau Cloud [?] · November 10, 2017 ·

2.

Jaw dropping Cosplayer - check the GoT's Knight King - Winter is not coming, it is already here. Wow.

Bored Panda
November 6, 2017 ·

This self-taught Polish cosplayer can turn herself into literally anyone, and here's 50+ of her best transformations:



BOREDPANDA.COM

This Self-Taught Polish Cosplayer Can Turn Herself Into Literally Anyone, And Here's 50+ Of Her Best...

Cat Konekt shared a post.
Published by Cat Konnekt [?] · November 12, 2017 ·

3.

I would travel with the mother of Dragons. The wild and mighty Daenerys Targerian always finds a way to be where she wants to be.



Be My Travel Muse
November 9, 2017 ·

Like Page

If you could pick anyone to travel the world with, who would you pick and why? Go wild with your imagination!

I will start first: I would pick Ilana Glazer from broad city because she seems like a ton of fun. What about you?

Cat Konekt
Published by Cat Konnekt [?] · November 5, 2017 ·

4.

On a binge watching season . Seriously hooked on Westworld.
What if you could interact with the characters of a story in real time? What if the characters wouldn't want to play their part anymore?



YOUTUBE.COM

Welcome to Westworld | About The Series - Westworld (HBO)

Live without limits. Westworld, the new HBO series, premieres 10/2 at 9PM. Discover Westworld today...

Cat Konnekt
May 31, 2016 ·

5.

Wondering where we are headed next...



VIMEO.COM

Pale Blue Dot

Set to the words of Carl Sagan, Pale Blue Dot is an animation that situates...

Peter Amiko and 1 other

1 Comment

1. Photo album regarding Cat's trip to London
2. Post with reference to Cosplaying
3. Post with reference to GoT and travelling
4. Post with reference to Westworld and storytelling
5. Post with reference to humanity and the cosmos

Figure 3.14 Selection of Cat's Facebook posts retrieved from https://www.facebook.com/CatKonnekt.

Posts on Cat's Facebook were also targeted to engage students in creative writing not associated with any particular curricular topic. For instance, the flash fiction challenge (presented below), as well as the video related to the origins of Halloween, sought to explore the season's historical and cultural aspects.

Flash fiction might seem to provide only for the development of writing skills at an elementary level; nevertheless, it is a strategic exercise to develop storytelling techniques and practice abstraction. In a story in which every word counts, students need to edit and re-edit their text, analyze and discriminate details without losing the essence of a scene or plot i.e., identify and include parts essential to the understanding of a targeted topic/ story/ scene and remove text chunks/words in the text that aren't as vital. To support students' understanding of what is required in this challenge, Cat and Peter comment on the post to supply examples - "Human soul sold out - Please supply"; "Associate with people who google you." Similarly to the "Six words scary story" challenge, the "Share a photo/ write a caption" challenge, an original post of the Post a Secret community, targets the development of the writing techniques mentioned above but here in a non-fictional context.

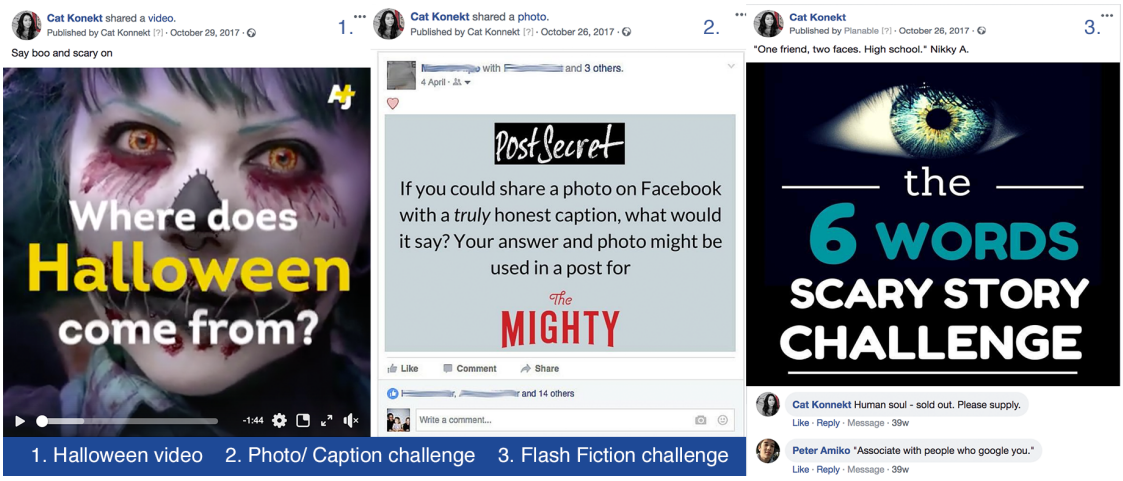


Figure 3.15 Selection of posts targeted to develop writing skills https://www.facebook.com/CatKonnekt.

As discussed in the previous chapter, the development of media literacy skills is vital in what concerns learning a second language. Therefore, Cat's posts on Facebook attempt to bring into focus events and processes of the media ecosystem, which some students might be unaware of. Using an informal style of language and resorting to games and challenges, posts targeting this goal attempt to engage students in:

- the discussion of their interactions on social media platforms (post one and three of the selection provided after this paragraph);
- cybersecurity issues as well as online privacy matters - "the right to be forgotten" (post two);
- deconstructing the creation and dissemination of disinformation processes (post four and six);
- exploring technological processes that dominate the mediascape such as the case of AI and machine learning (post five).

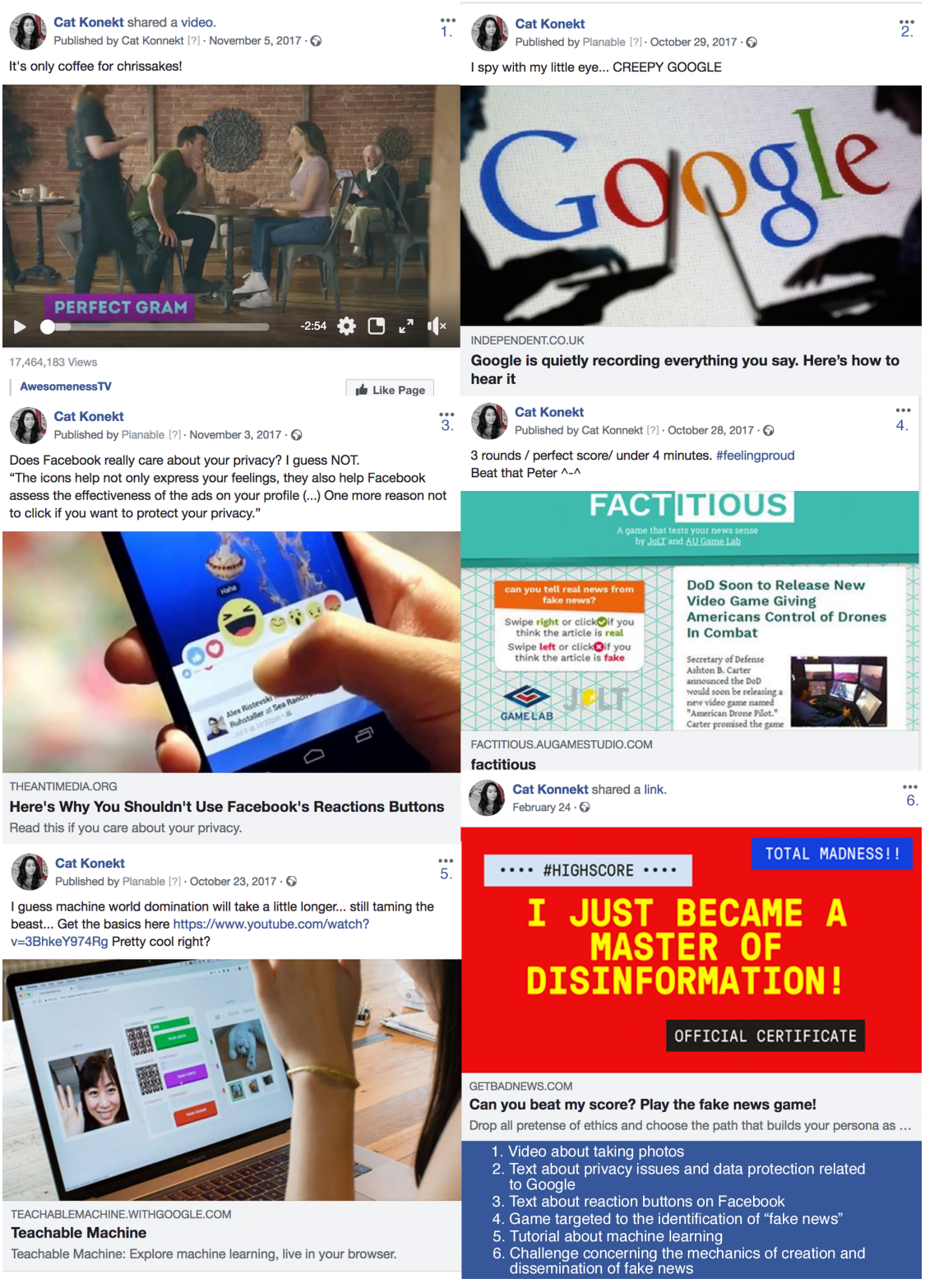


Figure 3.16 Selection of posts targeted to the development of media literacy skills. Retrieved from https://www.facebook.com/CatKonnekt.

Cat's Facebook page is intentionally a space in which students can interact with the main character. Even though that might be the primary goal,

the content, the challenges, the games presented through Cat's posts require that students manipulate/ explore the topics presented across the input platforms. Moreover, Cat's posts serve as resources to address discourse issues such as argumentation and negotiation skills, pragmatic competence or netiquette in L2. The development of these skills is in this way situated within the pratical context of use of the language.

Given the nature of this study, the use of a storyworld constituted by social media platforms (among other platforms) in formal learning environments, students did not have access to Cat's Facebook page through their accounts in this platform. Despite hindering the experience, in the initial stage students had access to the posts out of the context of the platform. In the second iteration of the design of this storyworld, Cat's Facebook page became a public profile so students could access content without having to log in to the platform. Many of the posts were kept in the first version while others were posted solely on the public version of it.

The use of a public profile did not cover all the issues of access. The experience of this platform was constrained since students could not comment, reply or interact directly with the character. Alternately, students' reactions to the posts were collected through the use of a (password protected) padlet, hence a space only visible to the ones that took part in it. To protect their identity, students were attributed an identification number as users of this storyworld. If Cat's Facebook page were to be used in other contexts without these constraints, the experience could then become more immersive and complete - so was its original design goal.

Cat's Instagram page was added to the storyworld as a result of the first implementation of the storyworld (described in the next chapter). The beta testers of CC's storyworld suggested that they would like to have the possibility to follow Cat's quests through an Instagram account. Taking into account their feedback, posts on this platform allow students to identify places and pivotal moments of the story. The "Just a perfect day" post at the beach (presented below) serves as an example of how this goal was attained. It relates to the setting of the first event in this narrative - signs of unusual

activity in the real world that later will lead the main character to discover her mission. As in the case of the photo album in Facebook, students might discuss reasons, hypothesis, and connections to the story via these photos.

Similar to the strategy used on Facebook, Cat's Instagram profile is a collection that integrates photos targeted to engage students in the discussion of the curricular topics in focus in this storyworld. Since on this platform, the visual language is prioritized over written content, photos of street artwork were a valuable option to fulfill this goal. A good example is the "(dis)connected mural," by Zabou, in a surrounding area of Camden Market. It becomes the pretext to discuss the role of technology in students' lives and the caption in it prompts the students to further tap into the topic.

Additionally taking advantage to reinforce meaning through the use of visual elements, photos were used to explain expressions useful to expand students' language *repertoire*. For example, the "bull's-eye" photo uses the work of Peter Blake, *The First Real Target*, exhibited for a limited time at the Tate Modern Art Gallery (a location explored by Cat during her quest in London) to give context and meaning to the expression. Additionally, while exploring the photo students can also learn about the artist and the art period it relates to, Pop Art.

In this case, it is necessary to point out that the work here represented was strictly used for educational purposes and that this storyworld was not and will not be used for commercial purposes. It was never the intention to improperly use the artist's work but instead learn from and through it. Based on the example provided, students can further develop this process to build a common glossary regarding expressions that they come into contact through this storyworld.



Figure 3.17 Selection of photos of Cat's Instagram page. Retrieved from https://www.instagram.com/cat.konnekt/ .

As it was the case with the Facebook platform, the use of this platform in this research context was restricted. Students were not allowed to comment on photos since they would disclose their identity. The photos were mainly used as a resource to track Cat's progression through the story. In an unrestricted scenario of participation in this storyworld, students could, for instance, find and post examples of the use of the expression. In this way, students would not only be enhancing their language acquisition process but also of other students.

Cat's Facebook and Instagram pages attempt to immerse users in the primary world in which the main narrative arc of the story unfolds. Conversely, the *Fluxus Logs*, a blog on Tumblr, attempts to develop the secondary world and establish connections with the events of the primary world.

The *Fluxus Logs* archive, within the storyworld, aims at being a repository of knowledge collected by humans about planet earth and its inhabitants. As co-creators of the storyworld, students can give their contribution to the repository.

Posts on the blog include challenges that might encourage students to create, collaboratively or on their own, digital artifacts such as podcasts, videos or any other form of digital creation. This space is targeted to provide learning opportunities to engage learners in the topics explored in the input platforms, discussed in the previous section, activate prior knowledge as well as develop media literacy skills. By not imposing restrictions on the selection of medium to be used and encouraging creative self-expression, students can

use previously acquired knowledge and skills, remix and recycle modes, genres, and symbols to forge new interpretations and representations of the storyworld and their context.

On the *Fluxus Logs* platform, students get the opportunity to play the role of ambassadors of the planet with the mission to provide the Fluxus tribe with "human knowledge seeds" that are fed to/ processed through Konnekti, the tribe's technological device that codes and filters information. They are "Human Shamans".

Blogging, and the inherent media-based activities that it might prompt students to explore, presents particular advantages to the development of language acquisition processes. As Craig highlights

> The language processes and skills involved in media production, creating information, and using technology tools as a vehicle for sharing provides multiple opportunities to build both basic interpersonal communication skills as well as cognitive academic language proficiency skills.
>
> (Craig, 2011: 84)

Posts on the *Fluxus Logs* assume the shape of calls to action, "seeds requests," made by the Human Knowledge Seeds Hub at Kodolando, an institution within the Fluxus world, an alien version of a research center dedicated to the study of the human civilization. Each seed request/ post resorts to social, political and research activities of the tribe and provides the context to explore particular dimensions of the topics in focus. As is possible to observe in the structure of the following posts.

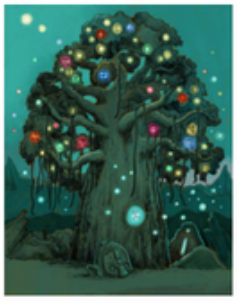
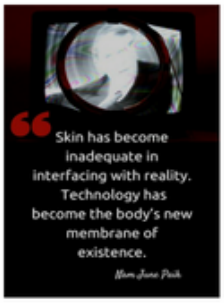
	1- Bio/ Lingo Diversity in Bab-ili Trees Seeds Request: Linguistic Diversity	2- Virtual reality seeds request	3- Seeds Request: Virtual reality
SUPPORT	 *Events and elements presented in the motion book sequence*	 Quote by Nam June Paik concerning the impact of technology on humans	 *Virtual reality explained* - video by youtuber
CONTEXT WITHIN THE FLUXUS WORLD:	Our Bio-hackers team is on the verge of cracking the genetic code of Bab-ili trees. In previous studies, they have reported that Bab-ili trees are in close connection with human linguistic ecosystems. Fruit shapes and sizes reflect if a specific language is more dominant than other on planet earth. In a recent interview, bio-hacker Clotho alerted that the majority of Bab-ili fruits were getting smaller and presenting a yellowish glow. Since these trees are connected to different human languages and dialects, the bio-hacker is requesting human knowledge seeds about what is affecting linguistic diversity on Earth	*Konnekti fetched this wisdom seed while absorbing another one about Virtual Reality. Kodo-landers are still figuring out the connection between the two. Here's part of the Konnekti Log on Virtual Human Reality: 'Having a Virtual Environment can be an evolution in the way humans grasp and consume information. There are infinite applications of VR. From military to education; medical to sports or entertainment. However, that's a distant reality. The latest human tech seeds about VR seem to give a different perspective.' We are building a Think Tank Network to dig deeper into VR experiences and need your seeds.*	*Here's one of the latest human knowledge seeds sent to our hub. We are very excited about Virtual Reality Experiences and are exploring the possibilities of bringing this technology to our world with your help. We are also open to trying new technologies that might improve the lives of Kodolanders.*
CALL TO ACTION/ SEED REQUEST:	***What languages are widely spoken on Earth and why? What endangered dialects or languages do you know of? Why do languages die?***	***1- Do you think humans will become addicted to virtual reality experiences and as a consequence, start to blur the boundary between real and virtual life? 2- In your opinion, what are the pros and cons of using VR? What would you use it for in your life?"***	***If you know of any other technology as impactful as VR, send us your human knowledge seed via the Konnekti Seeding Log.***

Table 3.1 Comparative analysis of the structure of posts selected from the *Fluxus Logs*. Retrieved from https://fluxuslogs.tumblr.com/ .

The *Fluxus Logs* attempt to provide different points of entry to the matters explored through the input platforms, thus diversifying and providing

students more options to work on content. Diversification is applied through the use of different levels of complexity and different media type resources.

Post number one makes use of the references and elements of the Fluxus world depicted through the motion book sequence *Allure* to target linguistic diversity; number two is based on a quote from Nam June Paik to introduce the topic of VR, while number three, even though addressing the same topic, is based on a YouTuber video - “VR explained” (Brownlee, 2015).

Posts number two and three also differ in terms of complexity. Number two targets specific questions related to the medium in focus while number three’s call to action is more general allowing for a more flexible exploration of the topic. The second requires the use of reflection and argumentative skills while the third focus on the development of descriptive skills. Both these approaches cater to different students’ interests, students’ different levels of proficiency and the development of different skills.

Teachers can optionally guide the exploration of the posts according to topic, resource or level of complexity. Nevertheless, the original concept was to allow students to explore the blog in an unrestricted manner and select activities proposed on the different posts according to their preferences.

Students can submit their work via the Konnekti Seeding Log indicated on the blog’s interface and referenced, highlighted and linked on the posts. Posts are through this method subjected to approval by the blog’s administrator. Using this system, allows teachers or educators to review students’ work and eventually provide feedback and guidance so that students can edit and enhance their posts before a final version is published on the blog.

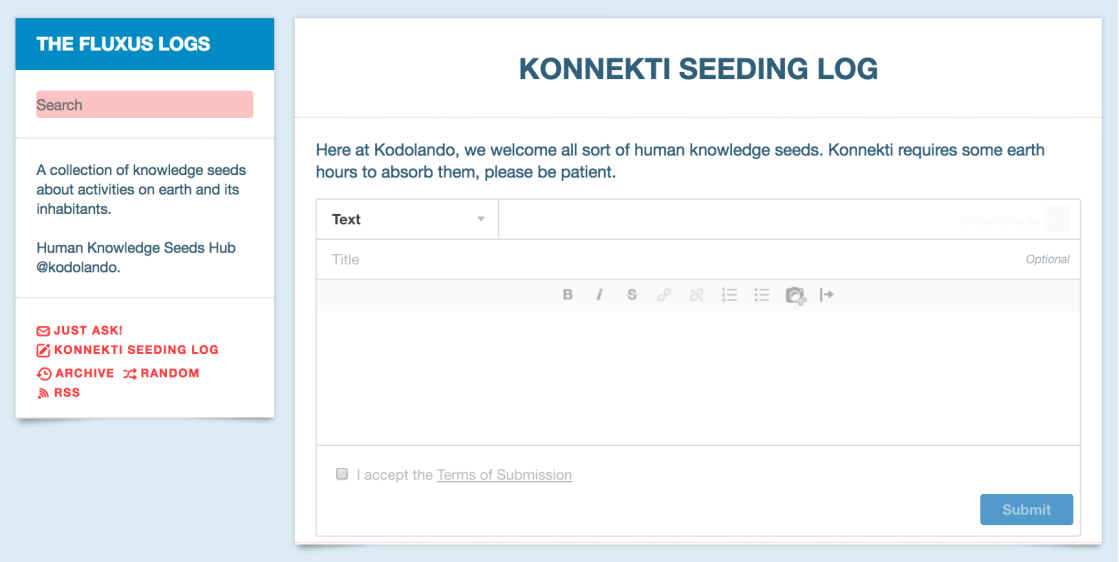


Figure 3.18 Publishing process of the *Fluxus Logs*.

Tumblr also allows the blog to be password protected, hence removing posts from the public eye. The option to restrict access and being able to determine who can view and take part in this space can be an advantage for teachers who desire the work developed in this platform to be visible only to their learning community.

Within CC, the *Fluxus Logs*, a blogging platform, attempts to develop the secondary world. More than targeting the learning goals at the core of this storyworld, the use of this platform, within the context of this research project, puts into evidence that it is possible to make use of free online platforms, such as blogs, to develop an imaginary world by providing context and using references that situate the student within it. Thus, developing worldbuilding processes, even on imaginary worlds, is within reach of educators and students. It does not necessarily require the use of expert paid tools or resources. Making the best of the features of free platforms in the online world and a considerable amount of imagination and creativity are sufficient to bring an imaginary world to life.

3.6 Playing a Part in the Story - Expanding the Storyworld through a Quest

The previous two sections were targeted to the discussion on how students can engage in the storyworld through platforms that on the one hand present different dimensions of the topics students need to cover and on the other hand platforms through which they can engage, exploit and manipulate language and content.

Learning is in the DNA of this storyworld, but the story, as expected, also plays a pivotal role. They are co-dependent dimensions and are intertwined much like in the DNA double helix.

Since this is an exploratory research project, the design of this storyworld attempted to integrate different strategies to engage students both in the story and in learning activities that would favor the acquisition of the target language. Through experimentation and exploration of a varied set of strategies, the goal was to create both an immersive storytelling and learning experience.

AWOL (Absent Without Leave) is a quest in which students help Cat to solve the mystery of a missing person, a guardian of a missing portal piece. The quest intends to be a situated learning experience by taking advantage of the use of QR codes and the application formerly known as Aurasma, afterwards as HP Reveal (discontinued in 2019). This mobile AR application allowed the storyteller to attach story elements (digital images, videos, instructions, clues) to a real-world marker such as a picture, wall or object.

The primary goal of this quest is to make the story tangible to students by using a learner-centered and active participation approach - “[…] what might be otherwise be salient but abstract information when read on a computer screen can become something potentially more impactful when consumed or engaged with on location” (Wagner & Erickson, 2013: 352).

Mobility and the development of mobile technology, as well as, the emergence of multiple AR apps brought on a new dimension to learning practices - the integration of the digital in the physical world. As Wagner and Erickson point out "mobility allows for the broadening of hybrid possibilities, namely bringing a digital layer to physical space where none was possible before" (2013: 352). The impact of this shift is most visible in the case of

storytelling. Locative storytelling applications allow a user to place story elements (digital images, videos, instructions, clues, etc.) at specific geographic locations using the applications' cartographic interface. In other words, stories can now become a situated experience.

More often than not, students bring their mobile devices to the classroom. Instead of assuming that these devices constitute a distraction and hence obstruct the development of learning practices, educators should be targeting how to handle the presence of these devices in formal learning environments and how to make use of them in these contexts. Educators need to reflect upon the emerging trends in educational research areas such as mobile learning and, particularly relevant to teaching and learning processes related to ESL, MALL. They should also keep tabs on what has already been accomplished in these fields so that they can best suit the needs of the students they welcome in their classroom.

The quest is set through a post on Cat's Facebook page. Through this post, Cat comments on a missing person poster she found and in this manner situates the participants in the context of this quest - "A week ago, this lady was walking her dog in the park. Out of the blue, she said she had something of the utmost importance to tell me but she had to rush off. We agreed to meet the day after. She never showed up. And now this… things keep getting weirder by the minute."



Figure 3.19 Post on Cat's Facebook page triggering the *AWOL* quest.

To progress through the experience, participants are provided with a set of clues that must be explored via QR codes and an AR trigger. These are presented against informative backgrounds.



Figure 3.20 QR codes and AR trigger which provide information for the development of the quest *AWOL*.

The clues relate to information regarding the disappearance of Megan Williams, the lady Cat first mentions in her posts. Participants are then asked to fill in a missing person report - a QR code that directs participants to a google form in which they must provide the information they have gathered.

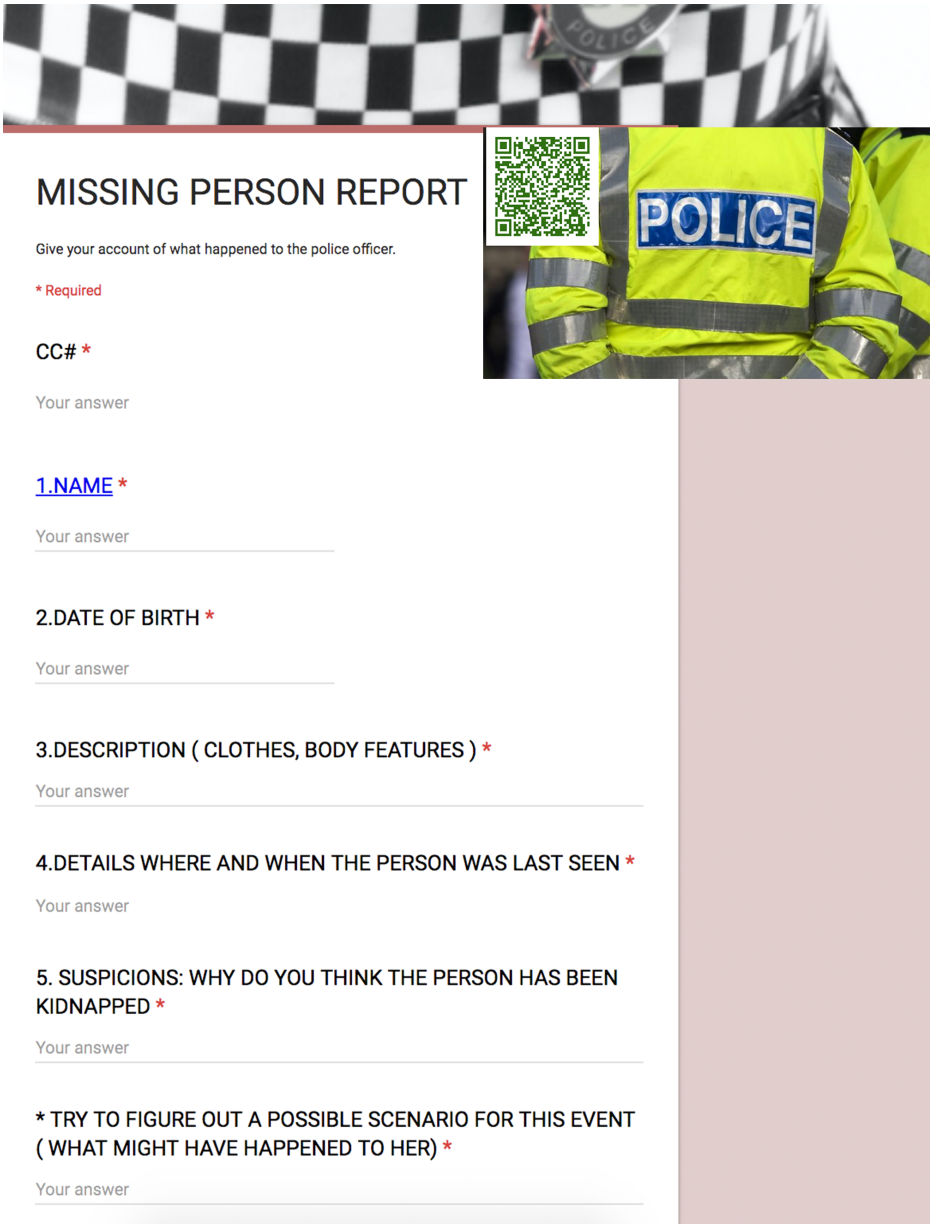


Figure 3.21 Missing person report form and QR code trigger - elements of the *AWOL* quest.

This record is an interpretive task, in this case not exclusive to reading, and constitutes a tracking point for teachers to assess students. Google forms present the possibility to export students' answers thus providing a useful overview of students' performances on this activity.

By going through this process, participants are left at the point where Megan Williams was last seen in Bolivia. From this location and based on the information they have gathered, participants need to formulate hypotheses regarding what happened to Megan.

The development of this activity is a path to expand the storyworld. Participants/ students have the opportunity to create new narrative threads, bring their worldviews into CC's storyworld and shape it in accordance with their desires. Possible guidelines for struggling students can be questions that help them to start the creative process:

- Why is Megan in Bolivia?
- Does she get to meet Cat? If so, where and how does this happen?
- What is the best way to present your ideas?

The outputs of this activity do not necessarily need to be presented through text. In fact, the creation and development of digital artifacts in this context should be encouraged. Not only students have the opportunity of developing their creative skills, but also they can share their work with the rest of the participants or even share their creations in online spaces.

Despite the primary design goal being to immerse students in the spaces of the storyworld, ultimately CC belongs to students. Ideally, they determine events within the narrative. The world acts as the intervention space or the narrative structure they can act upon. Students are the agents, the co-authors of the story. Thus, it is relevant to provide opportunities such as *AWOL*, an open-ended quest, to allow for the creation of more events, narrative threads that can be added to the original version of the story.

3.7 Supporting and Fostering the Learning Community of the Storyworld

At the core of this storyworld lies the interest of enhancing learning practices through interactions on digital spaces. Catering to the needs of educators and students, the target audience of CC, was a fundamental aspect that guided the design process of this storyworld. Taking this into account, CC's storyworld integrates a space through which the educational community can interact. The Edmodo platform/ Ed Tribe integrates social networking and communication features. These promote engagement in collaborative and creative practices both in and outside formal learning environments.

> Edmodo is a social network specifically designed for primary and secondary schools, offering a way for teachers to more easily assess students and trade tips. At a time when many teachers feel hamstrung by standardized tests and associated performance standards, Edmodo helps them exchange techniques in a peer-to-peer, ad hoc fashion. It also provides a relatively unfettered playground where they create and share educational videos and software [...] In other words, it makes school look more like the rest of our lives.
>
> (Tate, 2014)

Within the framework of CC, it is a space for the community to share resources and experiences related to it. How to immerse students in this storyworld has not got a straightforward answer. Each experience of the storyworld is unique since students and the spaces in which they interact and develop learning practices are unique as well. It is thus necessary and useful to understand how CC is being explored in different learning contexts and how different participants are experiencing the storyworld. Given its features - forums as well other communication tools - Edmodo fosters the necessary dialogue educators can and should develop to exchange information about their experiences of the storyworld and understand what's working for students in specific learning contexts. Through the establishment of this online dialogue between educators, it is then possible to identify processes, inherent to the exploration of this storyworld, which can be adapted and transposed to other learning scenarios. Ultimately, it comes down to the creation and promotion of a dynamic learning ecosystem about and within CC.

Besides the primary goal to connect educators, promoting the share of experiences and best practices which can be implemented in different formal learning environments, this platform also supports teachers in the management of learning activities in their classrooms. It can become a social network connecting the teacher to its students. This space has the potential to enhance interactions between teacher- student(s) and students can also address the whole class. Moreover, Edmodo can facilitate the management of classroom activities online. For instance, teachers can issue assignments and students can submit these online. The Edmodo library further helps the

teacher to share resources with the students. Teachers can also create interactive quizzes to keep track of students' progress. In a nutshell, as Tate (2014) points out, it is "a simple, intuitive way for teachers and students to connect within the classroom in much the same way they were increasingly connecting with friends beyond it — on social networks like Facebook."

From inception, CC is bottom-up informed and its optimization is based on users' feedback. Therefore establishing diversified channels of communication for users to provide feedback was a factor considered during the design stage of the storyworld.

In addition to the platform targeted to connect the participants of CC's world - the ED Tribe/ Community Platform (Edmodo), users can voice their opinions via:

- a feedback form which can be accessed through CC's website;
- comments or messages on CC's Twitter page - @ccat_world;
- email messages sent to the project's email account - ccatproj@gmail.com.

Providing different options and making use of different platforms to create feedback channels was a design option based on the fact that CC's users are not only students but also educators. While feedback can be provided anonymously via the form on CC's website and so accounting for possible constraints students might feel in providing feedback about the storyworld, Twitter is commonly used by ESL teachers to share experiences and voice their opinions. CC's Twitter page is also a platform that allows disseminating the storyworld and providing updates on the research process related to this storyworld. Creating an email account was also a strategic choice to establish and facilitate communication with educators interested in using the storyworld with their students. Students and teachers occupy different spaces of the online world, therefore meeting them in the spaces they interact and diversifying modes of providing feedback was the primary strategy.

The following figure presents an overview of CC's feedback channels and presents some of the features used on the Edmodo platform.



Figure 3.22 *Connecting Cat's* feedback channels.

3.8 Designing Possible Learning Trajectories within the Storyworld

Despite the fact that some national ESL teachers showed interest in using CC with their students, they did not feel comfortable or sufficiently

familiar with transmedia learning practices to explore the storyworld with their students. Posteriorly to the dissemination of the beta version of CC and considering informal feedback provided by ESL teachers, three exploration guides concerning input and output platforms of the storyworld were added to the already existing resources in CC. The goal was to support these educators as well as future users of CC. The guides, however, aren't constituted by fixed lesson plans or ready-made recipes, they are instead suggestions and starting points teachers can resort to explore CC in their educational contexts.



Figure 3.23 *Connecting Cat's* exploration guides. Artwork on the cover of the *Allure* Exploration Guide by Delfim Ruas.

Activities and pedagogical proposals provided on the guides are varied and attempt to cover a wide range of approaches that might be applied to explore CC's world. The guides are segmented and sequenced according to the events presented on the storyworld across the different platforms.

In terms of format, the three guides are interactive pdf files. The goal was to provide user-friendly, platform agnostic resources that would allow educators to surpass possible technological constraints and challenges they might face in their educational spaces.

As mentioned before, the guides are not manuals. Supplying these in this type of format, hence using a top-down approach of exploration of the storyworld, would counter the central pedagogical principle subjacent to the design of CC - a bottom-up approach to the development of learning processes. Alternately, the guides present a set of curated resources retrieved from the online world to further tap into events and aspects in focus in CC. Nevertheless, the guides are not a mere organized repository of resources; they are instead constituted by suggestions of activities that are contextualized through CC's story events and further tap into the topics in focus. Resources are aggregated around these two factors thus supporting the pedagogical proposals and in this way they become the medium to develop possible learning trajectories.

Given their length, the guides are presented in this document as appendixes:

- *Who am I?* Exploration Guide - appendix II;
- *Allure* Exploration Guide - appendix III;
- *Seek and you shall find* Exploration Guide - appendix IV.

Also noteworthy is the design approach used to create these guides. Particular attention was given to visual elements and how information was presented - bite-size chunks to lighten the cognitive load. Graphic design is increasingly within reach of non-designers mainly through the emergence of online graphic design tools that allow users to create their own designs through the use of customizable layouts. For instance, the guides were based

on layouts of magazines available on a free online graphic design tool. The next figure presents an example of the design style used to build one of the pages of an exploration guide.



Figure 3.24 Page layout example of one of the exploration guides (Seek and you shall find exploration guide: 11 – appendix IV).

3.8.1 *The Who am I?* Exploration Guide

The *Who am I?* exploration guide (appendix II) is sectioned into three areas: “hack me if you can”; “shadow me” and “connect”. Used in its entirety,

the guide becomes a secondary quest in the storyworld - students need to track Cat's online activity to build an intelligence report about her.

In order to complete the three activities of the first section - students have to hack Cat's mobile phone; change its wallpaper; add songs to her playlist and add a picture to her device's photo gallery. All of these artifacts additions and selections should be informed by what they know about Cat based on her social media activity and webisode. In this manner, these activities function as creative interpretive tasks that tap into how much students know about the main character.

"Shadow me", the second section, is also based on Cat's social media activity but here targeting her digital footprint - how much data and facts concerning Cat's activities can students gather based on the information she publishes online. Attempting to provide a more realistic scenario - an android system dump, customized with Cat's data, is provided for analysis. In this way, students have an inside view on how Cat's and their personal data is stored on her/ their mobile devices. Files stored under the DCIM folders provide extra information on Cat's activities in the real world - photos, maps of locations she has visited and research items she has collected. Call logs are also provided. The underlying intention is that students feel they are finding "easter eggs" - hidden messages, files and information not explicitly displayed. Additionally, discussion starting points are presented to lead students to reflect and analyze the impact of their digital footprints.

The third mission, "connect", students need to accomplish, targets the development of communication skills on social media platforms. They also have the opportunity to reflect on the kind of interactions that Cat develops online - who is she talking to and what is her motivation.

All the guides suggest processes through which students can share their work with the teacher and peers. In the case of the first exploration guide, it takes the shape of a report - a webpage created in page0rama. Its link can be easily shared on a padlet, an online board that can be password protected, so that the class and teacher can access, compare and comment on the work developed through the activities proposed in the guide.



Figure 3.25 Selection of elements that compose the *Who am I?* Exploration Guide – Appendix II.

3.8.2 The Allure Exploration Guide

Similar to the previously discussed exploration guide, the one targeted to explore the motion book sequence *Allure* (appendix III) is based on events and elements presented in it. Activities and pedagogical proposals vary in level of complexity accounting for mixed level classes. They foster the development of collaborative practices and attempt to provide opportunities for students to develop their ESL communication skills on different fronts.

The sequence's first setting - Cat's bedroom is the backdrop for brainstorming about Cat's personality traits through a word cloud so that students can have the opportunity to develop descriptive skills.

Since the Fluxus are an alien tribe, the topics of space exploration and the search for extraterrestrial intelligence were put into focus. Resources provided, such as infographics, can be used both for content analysis and for classroom discussions. The section "Is there anybody out there?" also provides a set of activities through which students can improve their writing and speaking skills. Activities are varied in terms of situation (p. 3 of the guide - appendix III) but have a common denominator - the Fluxus world:

- in "Angel investor wanted" - students can write an email to request funding to conduct research about the Fluxus;
- in "Cosmic Call" students are asked to record a message to the Fluxus about planet earth;
- in "In love with an alien," via a text messaging simulator, students have the opportunity to create a possible dialogue between two lovers - a Fluxus tribe member and a human.

It is important to recall at this point that the goal is not to cover all activities proposed in the guides but to provide a diversified set of options students can select according to their preferences.

Creative writing is fostered in the section "Out of this world" - twelve writing prompts are suggested so that students can write about the Fluxus, e.g., "write a story from the perspective of a Fluxus who landed on Earth, but has no idea why he/she/ it is there or what to do next".

Extending the exploration of the topic linguistic diversity, through the use of the alien tree Bab-ili, first depicted in the motion book sequence and also mentioned on one of the posts of the Fluxus Logs, the section "A tree of many languages" (p. 5) suggests students develop a short i-doc on a given foreign language using as context the possible languages that Bab-ili has captured.

The “Overload” section (p. 6) covers disinformation mechanisms with a set of challenges, games and starting points of discussion. After covering informative resources such as the game *We become what we behold* (available at https://ncase.itch.io/wbwwb) by Nicky Case in which students get to explore news cycles, they are requested to move from informed reception to writing an article on the topic to be shared with the rest of the class. The following shows how this possible exploration of the topic was prompted:

We become what we behold raises many questions concerning the ethics of news networks and mainstream media.

Discuss the following questions with your peers:

- How do they choose what stories to show?
- Are they really committed to informing the public, or are they chasing higher ratings?
- Should they claim responsibility for how much influence they have over their audience?

Collect evidence to support your case. Find examples of situations in which is imperative to be mindful of the media we consume or events in which the media created a positive impact.

Share your findings with the class by writing an article. You can start by thinking about an eye-catching headline.

(*Allure* Exploration Guide, appendix III: 7)

To write their article, students are given a link to an online newspaper generator tool that further scaffolds the process with a ready to fill segmented structure of an article.

Konnekti (p. 8), the Fluxus search device, first introduced to students in *Allure* and explored in a post of the *Fluxus Logs*, is used in this guide to further tap into the work of George Orwell (the author was among the outputs provided by Konnekti for human word wizards). The writer’s masterpiece 1984 is, in this context, used to establish parallels between the novel’s settings and the world at present times. For example, what would be the equivalent in our times to the “Ministry of Truth/ Minitrue,” a propaganda machine depicted in 1984? By delving into this dystopian novel, students can explore a myriad of issues related to media use - privacy issues; freedom of expression;

government-controlled media or dangers to the development of a participatory culture. Resources provided in this section attempt to scaffold students' knowledge acquisition processes and support them in performing synthesis of information via the creation of infographics that can be shared and discussed with peers.

The Fluxus world lends itself to endless interpretations only restricted by lack of imagination. To further tap into students' storytelling skills, the section "Visions of Floanda" (p. 9) supports the students towards the creation and development of digital stories set in the Fluxus world. To this purpose, a kit with visual elements used in *Allure* is provided. Students can remix these during the creation of their storytelling artifacts.

The following puts into focus some of the activities and points discussed up to this point in what regards this guide.

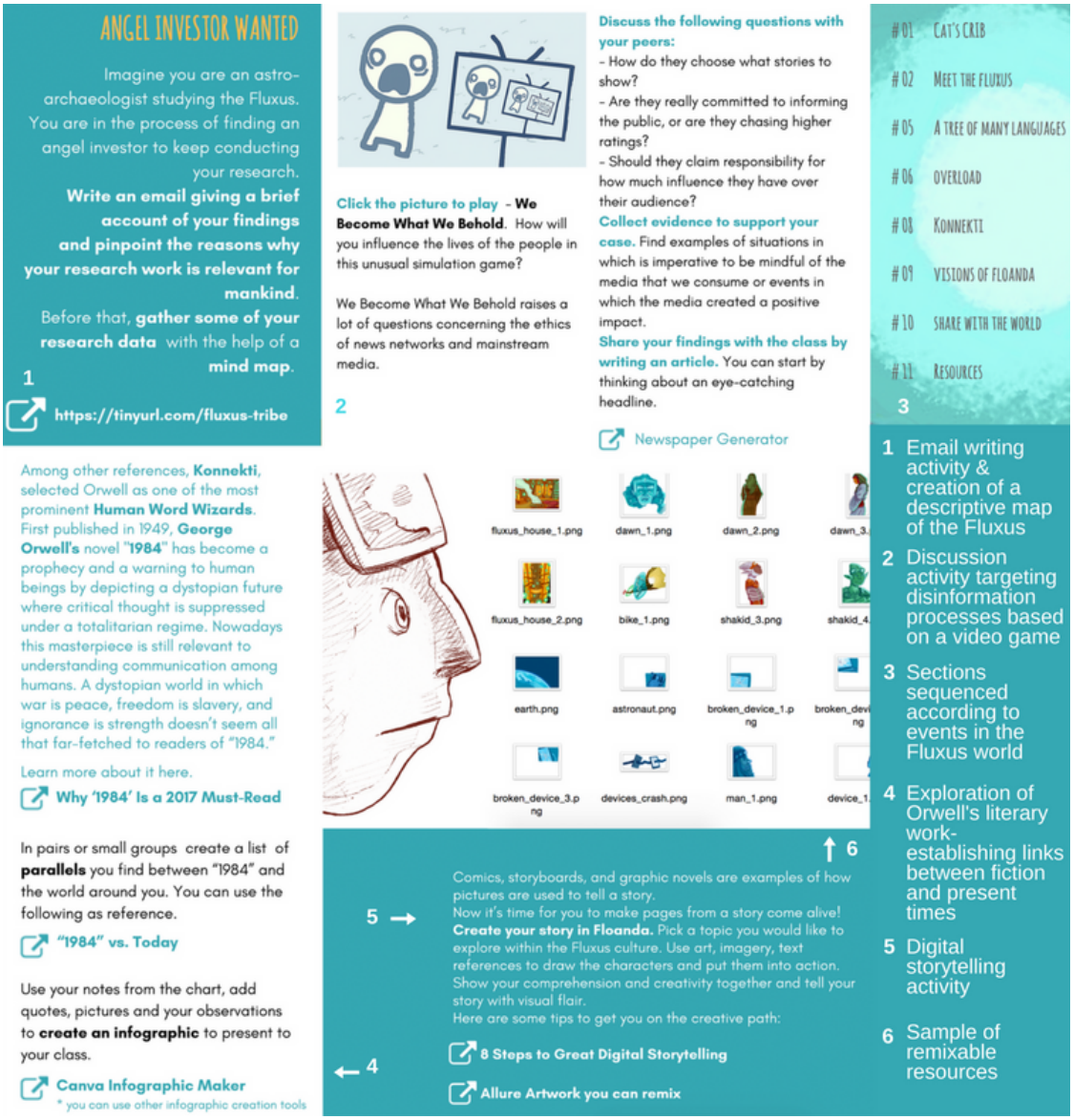


Figure 3.26 Selection of elements that compose the *Allure* Exploration Guide - Appendix III. *We become what we behold* video game (2) by Nicky Case retrieved from **https://ncase.itch.io/wbwwb** . Fluxus artwork (3, 5 - 6) by Delfim Ruas.

3.8.3 The *Seek and you shall find* Exploration Guide

The *Seek and you shall find* exploration guide (appendix IV) is the most detailed of the three, given the abundance of learning opportunities that can be explored in the scenario it reports to - London.

As is in the *Who am I* and *Allure* guides, it is sequenced and targeted to explore events and elements first depicted in the input platforms, in this case, the interactive video that explores Cat's search for one of the portal pieces.

Accounting for the fact that students may not have covered all the events of the story, given the structure of the interactive video - a multithread narrative, the first section “Hack the story” (page 4 of the guide - appendix IV) attempts to engage students in reviewing the plot of the story presented in the video. This section is composed of two activities. The first is the storyboard widget in which students have to match scenes to their description much like returning to the storyboard of *Seek and you shall find*. Widgets allow for self-correction and multiple attempts thus simplifying and optimizing the assessment process. The second is writing a review of the video, an opportunity to synthesize the main events of the story while practicing how to write a critical appraisal of a video.

The second section “Bard of Avon 101” (p. 5) reports to the scene when Cat finds the statue of Shakespeare, at Leicester Square. Bearing in mind that some students might find it is a challenging and daunting task to explore the work of Shakespeare, this section attempts to provide an informal and witty outlook to tap into the work of Shakespeare. It is important to refer that a witty approach to immersing ESL students in the work of the Bard of Avon should not be perceived as being light or inappropriate. The goal is to raise awareness on how Shakespeare’s work had and has a profound impact in the English language use and culture of modern times and also how it has influenced students’ use of the language.

Students are first introduced to his work via a quiz and two short videos, one giving an account of the playwright’s life events and the other putting into focus the presence and importance of his work in contemporary times.

Using information gathered during this exploratory stage, students are asked to speculate on a possible version of his life at present times. A set of phrases further support students in developing this task, for example - “He would most likely be living/ working…”. Discussion about previously acquired information on the playwright is promoted via the writing of a recommendation on behalf of the 21st Century Shakespeare who is seeking for a new job position. For this purpose, an online recommendation generator tool is provided so that students can reflect on Shakespeare profile. The fact that it is

an automatic generator of text can also lead students to reflect upon the reliance of information they come across online - If they can automatically generate information about someone, how can they verify if the information posted on a profile, such as in Linkedin as is this proposal, is accurate?

In “Shakespeare thy meaning is unclear” (p. 7) students have the opportunity to tap into the many original phrases and words first introduced by Shakespeare. After being presented to some of the words and phrases the playwright is credited for, students can create memes to explain the meaning of some of the phrases they previously explored.

Demystifying the idea that Elizabethan-era English is opaque and difficult to understand and also introducing students to one of the best features of the playwright’s work – the mastery of insults and flattery, a “Shakespearean translator” is provided. Moreover, students are invited to craft their own Elizabethan-era insult and engage in a battle of insults and flattery with their peers. Additional activities are provided to allow students to identify and make use of phrases and words introduced in the English language by Shakespeare, for example, the quizzes “It’s Greek to me” and “ What would Shakespeare say?” (p. 8) or hypothetical posts of the 21st Century playwright on social networks - “A post by the Bard” (p. 9).

Alternative exploratory trajectories are provided. One concerning Shakespeare’s plays and the other a night out at the emblematic Globe Theatre. The first can be built through:

a) the exploration of an overview of the plays through an infographic that allows users to choose which play is most suitable for their preferences - “Shakespeare’s plays infographic” (p. 9);
b) writing a Twitter feed that reports on a scene of one of Shakespeare plays. For this purpose an example is provided - “Romeo and Juliet Teaser” (p. 9) as well as a tool, a Twitter generator tool (p. 9)
c) writing a newspaper report; recording a podcast for a local radio or creating a TV or online news story on a particular scene of one of Shakespeare’s plays. Specific guidelines, as well as a model, are given in “Breaking News Guidelines” (p. 10).

Options b) and c) afford the development of media literacy skills either by harnessing the languages discourses of a given social media space (Twitter in this case) or planning and creating a news story and thus exploring media production processes.

The second trajectory can be adapted to any sort of recreational program. After exploring the Globe Theatre either through 360-degree images - “Shakespeare’s Globe 360” (p. 9) or completing an informational text about it - “About the Globe Theatre” (p. 9), students can also practice their conversational skills by persuading a partner to join them to see a performance at the Globe Theatre.

“Word on the street” is a section that relates to the people from all walks of life that Cat meets in London while seeking for clues to find the portal piece in the city. This section allows for further exploration of the experiences of the city reported by locals in the interactive video - “London explorers video” and “Londoners Widget” (p. 11). Nevertheless, this section broadly explores the beat of the city through:

- its locations such as the Shard (p.12);
- its diverse population (pp. 14, 17 “London loves you”);
- gentrification issues (pp.15-16);

In the context of the discussion of the above mentioned aspects, this section also proposes activities to engage students in civic participatory practices in their settings, such as the “Break the silence” activity (p. 17) or “I care” (p. 18) both concerned in tackling community problems via the creation of campaigns or planning of community events.

The “Chow Down” section (pp. 21-23) explores Cat’s break from her quest at Camden Market. Against this backdrop, activities in this section were guided to immerse students in exploring food, from an international point of view, while exploring cultural aspects related to food in the context of British culture, for instance, breakfast (p. 22) or traditional food such as fish and chips (p. 23). Linking and exploring the topic of food in students context, one of the

activities suggested in this section is the write up of an article for an online food magazine about a traditional dish of the students' country. For this purpose, a pre-filled template is provided ("Article for online food magazine" - p. 23 to support students in the development of this writing task).

"On the move" targets the means of transport used by Cat to move around the city – the subway and the bus.

Used by four million residents of the city, the London Tube is the perfect backdrop to explore the city's ethnic and linguistic diversity. Via the Oliver O'Brien's interactive map, students have the opportunity to explore where the most common languages in the city are spoken. Analysing and retrieving information from this type of documents constitutes a necessity for ESL students at present times."Tube Tongues Interactive Map" (p. 24) and the activities suggested targeting this resource attempt to raise awareness towards the variety of languages spoken by London residents by identifying the location on the tube's map where a given language is spoken. Students must find information on the map such as "Where on the tube are you most likely to hear Portuguese, for instance?" They also attempt to develop students' inquiry skills - "Create your own clues so that others can guess which Tube line or stop you are thinking about."

Other activities regarding the Tube seek to expand students' knowledge about the city's underground lines taking into account that students may not have access or ever experienced traveling through this mean of transportation. This is the case of the gap-filling quiz "Mind the Gap" (p. 25). The use of interactive quizzes, such as this one, presents several advantages:

- students get engaged in a text reading task as if it were a challenge - they have a limited amount of time to complete the task;
- students are encouraged to improve their performance by attempting to improve their score as many times as they feel they need;
- students have access either to partial (only the right answers are indicated) or full automatic correction (all the correct answers are provided);

- if students are users of the platform (GoConqr), teachers can track their attempts and progress on this particular assignment.

Additionally “If tube lines were people” (p. 25), a humorous viral sketch comparing tube lines to people, further engages students in the development of descriptive skills. After exploring the video, students are encouraged to write a post for a gossip blog in which they should report on a party and describe participants taking part in it. To scaffold this activity a useful map of expressions to describe people is provided in “Tube riders” (p. 25).

At level B1, ESL students should be able to cope with most situations likely to arise when making travel arrangements or actually traveling. Hence, activities suggested on page 26, under the curious quote by Susan Sontag - “I haven’t been everywhere, but it’s own my list“, attempt to develop students’ planning skills, i.e., how to communicate the main points students want to get across, exploiting resources such as means of transport networks and city maps. Similar to Cat, students are asked to plan a day in the city on a tight budget. Additionally and to simulate a real travel plan scenario, students are asked to build their plan as being the least expensive and time-consuming as well as convince other potential travelers that their plan is the best option.

Exploring the city behind the windows of a double-decker bus, as Cat did on her quest, is once more an opportunity to explore the increasing diversity of Londoners. For this purpose, “Last stop” (p. 27), a video-quiz presenting a photography project by George Georgiou is used. Not only can students develop their listening skills but they can also get a sneak peek on interactions on the streets of London as if they were observing them *in loco*.

Using Georgiou’s photo gallery related to this project, students’ are invited to write and then share a short story on one of the photographer’s shots. As starting points, the following questions are provided - “What was happening at that moment?”; “What were they talking about or thinking of?” Via this activity, students can describe experiences and express their reasons in a flexible written format.

Also noteworthy is the fact that activities provided in this guide in particular (as is the case of this page dedicated to public transports) are presented within a rich linguistic context attempting to expand students' language repertoire. For instance, in relation to buses, the following expression was used to introduce the topic - "You wait ages for one - and then two come along at the same time!" (p. 27). To encourage students to use the expression first introduced, it is necessary to think of ways they might use it in their own context, as the following puts into evidence:

- "In London, it is common to find yourself waiting ages for a bus only to find two or three all arriving at the same time" - students are given an example of the use of expression first introduced and a context in which it is used - "Buses can stay due in three minutes for ten minutes or more", reception stage;
- Reporting to students' contexts - "What's the public transport network like where you live?"; "How punctual are trains and buses?", encouraging students to participate;
- Call to action - Think of anything you waited a long time for and then suddenly found more than one of", inviting students to contribute.

The above set is not presented as an exercise. It is instead a talk between the guide's narrator and the students.

The "Lost Worlds" section reports to the locations where Cat failed to find the missing portal piece. The section's title points to:

- "the vanished"- the British Museum collection of artifacts on ancient civilizations;
- "the extinct" - the Natural History Museum's exhibitions of dinosaurs and extinct species such as the Dodo;
- "the dreamy" - Kensington Gardens were Peter Pan's author playground.

Taking advantage of the vast amount of societies and cultures depicted through artifacts at the British Museum, activities exploring this location

attempted first to bring students into contact with the collection of art and antiquities from ancient and living cultures displayed at the museum - “British Museum - Gallery” and “British Museum Online Collection” (p. 28) activities. By gathering information about a given culture, students are invited to create a presentation about it by comparing the ancient and the modern versions of it.

The Rosetta Stone, one of the most famous objects at the museum, is used as a resource to tap into communication modes across time. “From hieroglyphs to emojis” (p. 29, a pedagogical proposal retrieved from the museum’s online site) is an activity that supports students to design and code a hieroglyph. Students are challenged to create their own language and make use of coding concepts such as repetitionand cycles. Much like Egyptians used hieroglyphs to communicate ideas, in this activity, students are encouraged to represent their ideas and create their language based on emoji characters. These constitute a universal and creative form of expression, one that in fact transcends language. Activities such as this one are valid proposals to approach one of the most preferred modes of expression in the online world. Additionally, an activity targeting the importance of museum’s as educational institutions is provided - “Write a magazine article about the value of the British Museum and how it can be used to educate people” (p. 29).

Activities concerning the Natural History Museum explore not only its collection of specimens but also research activities developed at this location. Students are challenged to take on the role of a paleontologist and create a fictional museum tour via the production of a photo story. Students can also dig deeper into matters of biodiversity via the exploitation of the “OneZoom Tree of Life” (p. 30).

Darwin’s legacy, his theory of evolution, a revolutionary and defiant concept when it first came to public attention, is explored to set students into the discussion of controversial issues of the present - climate change:

> […] Only in the 1930s would natural selection become a widely accepted principle. Scientific knowledge develops over time, and contemporary scientific issues are often discussed through a process of understanding evidence and peer review. One of the most controversial issues today is climate change. In recent years, the reliability and

> the interpretation of the evidence for climate change and future predictions has been questioned by a number of scientists. However as time has passed, more and more evidence has emerged that supports climate change theories.
>
> (*Seek and you shall find* Exploration Guide: 31 - appendix IV)

To further tap into Darwin's work, students are also invited to carry out an interview with the “British naturalist who had a dangerous idea” (p. 31) an opportunity to practice interviewing and being interviewed.

The pedagogical proposal, provided in this context, is the design of a poster regarding research findings on climate change. The goal is first to expose students to academic written texts. Despite the fact that these may present a higher level of complexity for students, it is important to challenge students into the exploitation of different types and sources of information usually not explored by them in the online world. Secondly, the production of a poster, in the setting provided, also encouraging students to collate pieces of information from different sources and select and summarise accumulated factual information on the topic for a target audience. Therefore it constitutes not only an opportunity to develop media literacy skills, in this case targeted to the production of an artifact, a form of public interest communication, but it is also an opportunity to explore skills related to processing text in the targeted language.

A similar research activity is suggested on page 32:

> Document a journey of research into what makes this planet a living thing. Imagine that you and/ or your research partners are about to go deep within the planet and explore a world unseen until now. […] Think about how can understanding the function of Earth's core help people learn to become more eco-friendly? Present your journey through pictures, video, animations or other media of your preference.
>
> (*Seek and you shall find* Exploration Guide: 32 – appendix IV)

Cat’s encounter with Peter Pan’s statue at Kensington Gardens, the third location targeted in the “Lost Worlds” section of this guide, provides the context to the development of speaking skills - “If statues could talk, what stories would they tell?” (p. 34) moreover, to immerse students in participatory

practices - “Design a guide or a tour to show just how special the place you live in is” (p. 34).

Against the backdrop of an iconic location nearby, Speakers’ Corner in Hyde Park, students’ are encouraged to discuss and express their opinions on topics of their interest. After completing an interactive drag and drop exercise containing informative facts about this location, it is proposed that students develop “Speakers’ Corner sessions” (p. 35) in their contexts.

The “Art Power Station” and the “Bot Pow Wow” sections explore artworks exhibited at the Tate Modern Art Gallery, the place where Cat’s quest in London ends. “At Tate Modern” (p. 36) is a set of activities that resort to its collection to immerse students into how experiences of the real world shape the way art is generated and interpreted. The proposals are varied to support learners in the establishment of connections between ideas; artworks; experiences; materials; images and texts. The set can be used to compose an imaginary visit to the gallery but also as a set of proposals to investigate the real world in a creative but also question-posing way. Tate’s collection has a number of artworks that can be used to explore the impact of mass media, in particular, the display at the gallery related to media networks. These artworks from different perspectives support students in the exploitation of media production processes. The following exemplifies how activities of “At Tate Modern” were set.

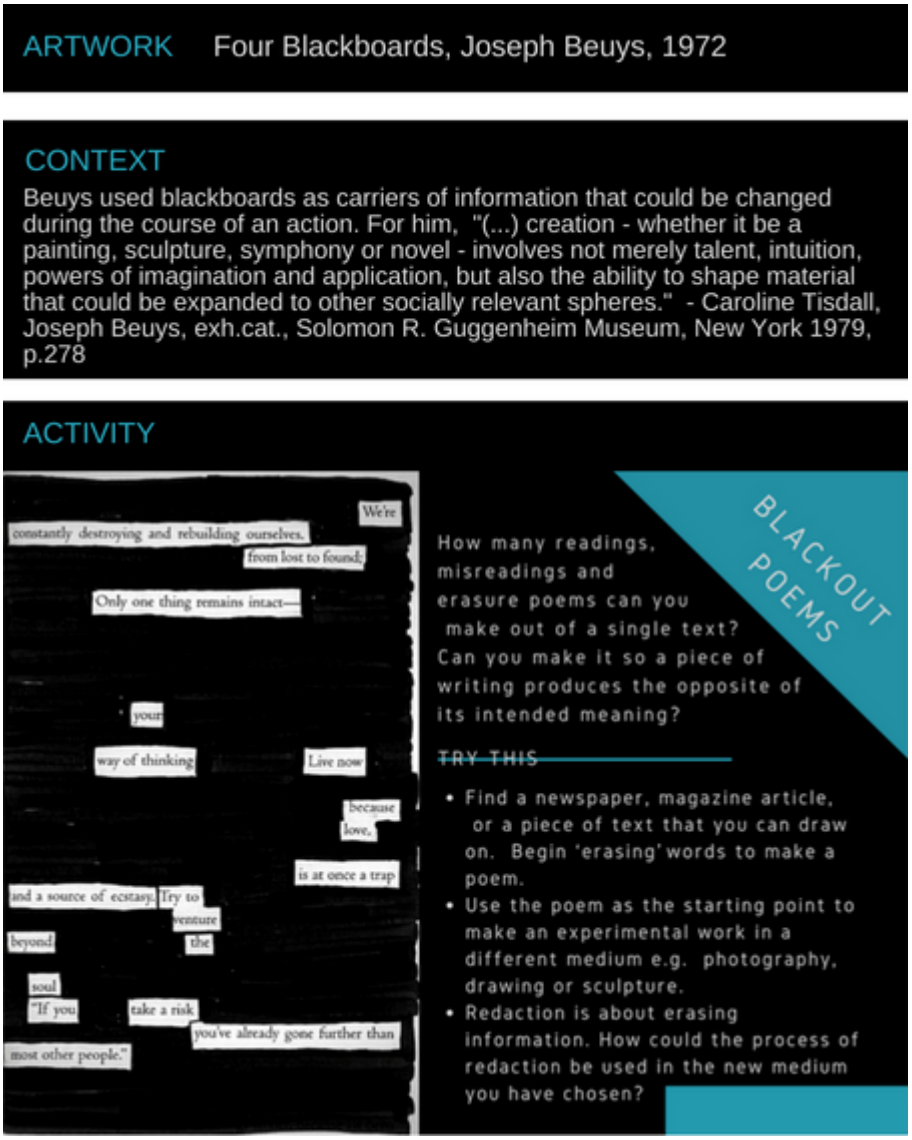


Figure 3.27 Example of an "At Tate Modern" activity (*Seek and you shall find* Exploration Guide: 36 - Appendix IV).

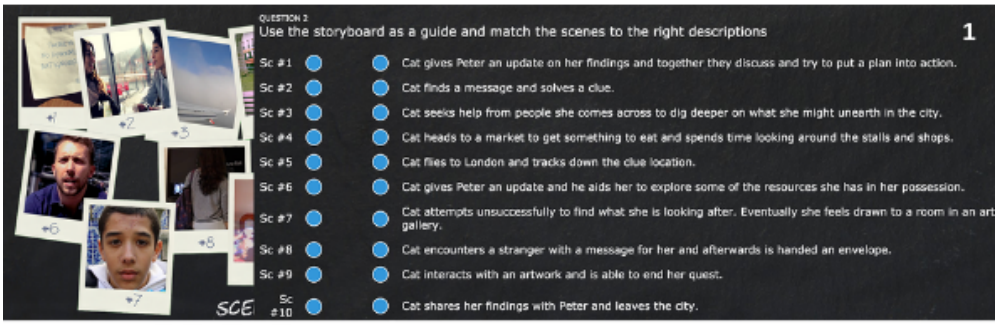
The "Bot Pow Wow" section (pp. 37-38) is targeted to explore the *Bakelite Robot* and its author, Nam June Paik. The sculpture is a pivotal element in the development of Cat's quest. Within the narrative, the *Bakelite Robot* is the Fluxus guardian of one of the pieces of the portal Cat wishes to assemble.

Activities presented in this section attempt to expand students knowledge of the Fluxus, in this context, not an imaginary world but the art movement and its influence on popular culture, e.g., the podcast "About Nam June Paik" and the interactive video quiz "Performance Art" (p. 37).

Since Paik's sculpture can be interpreted as a representation of the period at which technology started to be integrated into the everyday lives of ordinary people, the *Bakelite Robot* is used to exploit the use of technology in the present - "Would you like to have a conversation with a bot?" and the future as well - "Present and share your vision of tomorrow. Tell about everything that you see and do for one day in this future world" or "The future of AI widget" (p. 38).

The last section of the guide, "Be a seeker" (p. 39) attempts to frame students' work within a wider scope than the classroom. *The People's Monarch*, a photo mosaic, by Helen Marshall, displayed at the London Gatwick airport (where Cat landed at the beginning of her quest in London) attempts to bring into focus the importance of different and diverse contributions to the construction of a collective knowledge base and to the evolution of a global culture. In this context, an additional call to students to share their learning outputs is made by providing a link to the "*Seek and you shall find* Padlet" (p.40).

The following is a selection of aspects related to the exploration guide presented and discussed up to this point.



Running on a tight deadline, the playwright is editing his scenes for publishing. It's an all hands on deck situation. **Take a look at one of the teasers** for his latest version of Romeo and Juliet. 2

Romeo and Juliet Teaser

Present the Bard of Avon with a Twitter short story based on one of his masterpieces. **Rewrite a scene of one of his plays**. You can also **draw inspiration from the main plot points** of a play and **retell it in bite-sized chunks** (140 characters Tweets). Make William proud!

If you still aren't sure which play you should focus on, try this infographic.

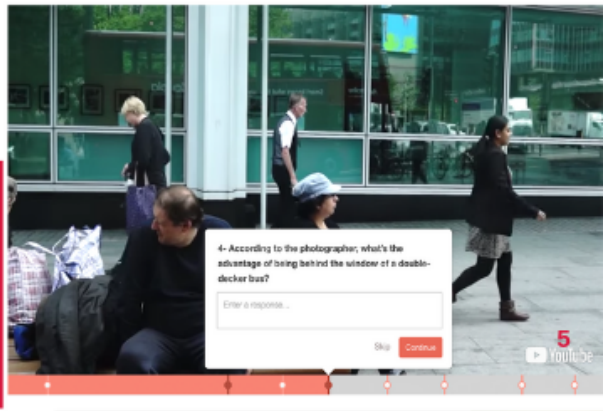
Shakespeare's Plays Infographic

Plan your day and **put your travel plan in motion** using this handy tube map. **Find the nearest tube station to the places you want to visit** and don't forget that you have a tight budget that only covers the maximum of £14.00 for traveling expenses. 3

Tuber Map

Convince your friends that your plan is the best. The least expensive and the less time-consuming will be the one you will stick to.

Last Stop book presentation



the city, you'll see that **Camden Market's cafes live up to the expectations of finding alternatives to the most important meal of the day**.

Have a look what's on offer. 4

Breakfast at Camden Market

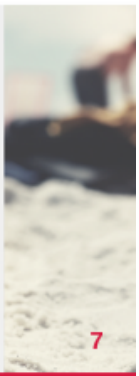
Break the Silence

There is always something that we are not comfortable talking about. How would you express yourself and get people to listen using more than just normal speech?
Are you an artist or a poet? Time to let it shine! Join forces and create a team. Draw on special talents and abilities you have to express yourself and get people to listen to you.

Start a campaign.
You'll need a slogan - a target audience - 3 key messages- artwork & visuals.
Pitch your campaign and present a poster to the class.
Judge or vote on your favorite campaign. 6

- Have you ever thought how easy it is to recognize a brand instantly?
  or How effective branding and advertising is?
- Collect and record any examples of 'branding' you might see - logos on food packaging, advertising posters, billboards, etc.
- How could you share a message with others by concealing it within or on a product?
- Make things that at first appear to be one thing, but on closer inspection, become something else.
  Customize a famous brand logo and if you want, print it and use it on the original product.
  Observe and record the reactions.

LOGO GENERATOR


7

The Bakelite Robot, as a guardian of the portal pieces, apparently showed to have artificial intelligence. How else would he be able to communicate with Cat?
Her encounter with the robot seems to be a scene taken from a sci-fi movie. What do you think?

Do you think it's plausible for a robot to talk to a human nowadays? Would you like to have a conversation with a bot?

Explore the potential and possible dangers of the use of artificial intelligence by reading Professor Stephen Hawking's opinion on the subject.

The future of AI Widget

How is your vision of the future affected by the world today?
Look 20 years into the future from now. What do you see? How would you describe it?

Present and share your vision of tomorrow. Tell about everything that you see and do for one day in this future world. Bring your idea to life as a digital media creation of your choice.

"We are all cogs in the machine." 8

1 Storyboard widget
2 Exploratory exercise on the Bard's work
3 Travel planning activity
4 Exploring food in Camden activity
5 Quiz on travelling by bus in London
6 Campaign project proposal
7 Branding / artworks at Tate activity
8 AI / technology in the future discussion

Figure 3.28 Selection of elements that compose the *Seek and you shall find* Exploration Guide – Appendix IV. “Last Stop book presentation” video (5) by George Georgiou (2014) retrieved from https://youtu.be/7yCPomYk5TA.

3.9 Proposal of a Possible Route of Exploration of the Storyworld

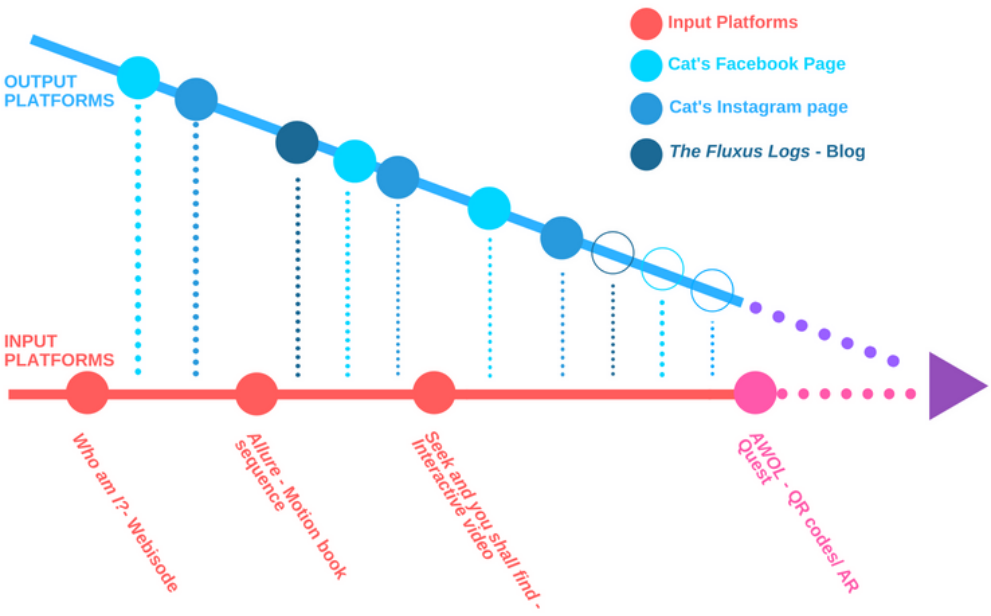
This chapter ends with a possible route to explore CC’s storyworld (figure 3.29). As discussed previously, it is not intended to be a fixed plan as different educators may find alternative paths to expand learning opportunities for their classes, or students themselves may build their personalized trajectories within the storyworld and target different platforms and activities, according to their preferences and learning goals set by them.

The objective here is to suggest a proposal of navigation within the storyworld that allows for an overall experience of all the events and platforms of the storyworld moving across cycles of observation to participation and contribution.

The fact that it remains incomplete suggests that the expansion of this storyworld is to be pursued by CC’s users. The presented route is referent only to the beginning of the journey. How the story will end, for instance:

- Where will Cat head next to find a portal piece?
- Who will join her?
- Who or what will she meet?
- What challenges lie ahead?
- In what format will Cat’s next adventure be told?

It is up to the ones that seek to engage in this storyworld to decide.



3. 29 Possible route of exploration of CC's storyworld.

How this storyworld can be explored is what the next chapter attempts to describe. Through the presentation of different cycles of implementation in different formal learning environments and with different groups of students, the goal is to explore the affordances and constraints of this storyworld in the construction of learning experiences in ESL.

4. EXPLORING *CONNECTING CAT* IN FORMAL LEARNING ENVIRONMENTS

This chapter first presents the methodology used for the implementation of the storyworld (section 4.1) and then describes and explores the different implementation cycles of CC in formal ESL learning environments:

- The first cycle of implementation (section 4. 2) concerns a prototype version of CC;
- The second cycle of implementation (section 4.3) concerns the application of the storyworld in two different formal learning environments;
- Research insights on the application of the storyworld within a Greek formal learning environment (section 4.4);

Findings and outputs emerging from these cycles are discussed in context and posteriorly correlated in the last section of this chapter (4.5).

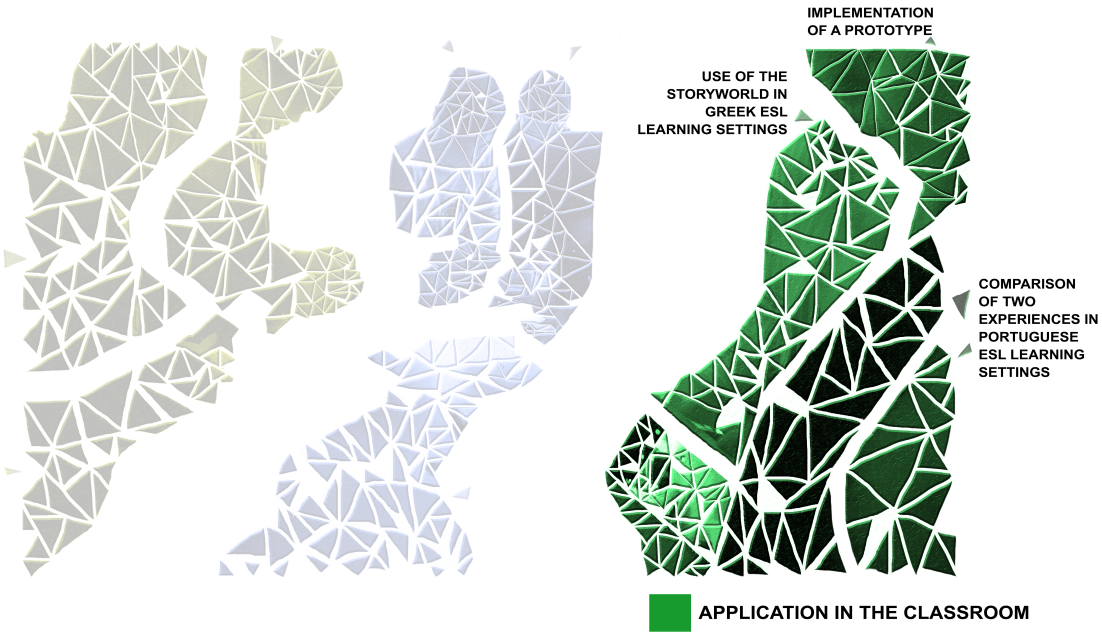


Figure 4. Overview of contents covered in the chapter related to the implementation of the storyworld in formal learning environments.

4.1 Making Sense of Experiences of the Storyworld - Considerations Guiding the Implementation of *Connecting Cat*

> *Facts can be collected but they need to be interpreted. To interpret a fact is to give it meaning. And this is nothing other than storytelling. Only with a story can the facts be communicated, and only then can they become part of the received knowledge that drives the very possibility of scientific progress.*
>
> Nick Enfield (2018)

The target of this research is a TL storyworld thus it seems appropriate that its study resorts to the comprehension that storytelling provides to relate data and findings concerning the object of study of this research.

Much like the storyteller, the researcher has to tell the listeners or readers what was done to achieve the goals pursued and justify the options selected to complete the journey of inquiry. From this perspective a research study is much like the hero's journey - the researcher pursues a goal; explores options of a possible resolution to a challenge and then shares with the community findings and outputs that may be of value or constitute a contribution to it.

The "story," in this case, i.e., the research process, is constituted by episodes/ cycles of informed design and development as well as cycles of implementation and reflection, these last two being the focus of this chapter.

As indicated and discussed previously, the problem, research questions, and purpose as well as the context determined the use of a DBR framework.

Among the ESL community, Action Research is commonly employed to address issues of practice. It would potentially be suitable as a research methodology to address some of the matters this research targets since it is participatory and interventionist. Nevertheless, DBR was selected for this research context among other types of practice-oriented research approaches, such as Action Research, since more than targeting questions of practice, it

additionally aims to contribute to theory development. As Barab and Squire (2004: 6) put forward “a critical component of design-based research is that the design is conceived not just to meet local needs, but to advance a theoretical agenda, to uncover, explore, and confirm theoretical relationships.”

In a DBR process, the researcher in cooperation with practitioners assumes the role of designer of educational interventions and solutions and supports the development of design theory. Using feedback and evidence collected in naturalistic settings of study, the researcher can incorporate revisions into the design being explored, in a flexible and responsive manner (O’Donnell, 2004: 257).

Hung draws attention to the two types of theory building contributions a DBR research might provide:

> It is this dual nature of theory-building research that characterizes the emerging method of DBR. […] educational researchers adopting a DBR approach to theory-building must design their interventions with an explicit commitment to simultaneously pursue the dual goals of (a) enacting learning theories and refining the practice in real-world settings and (b) contributing to existing theories or developing new theoretical insights based on the outcomes of enacting these theories. […] it is through iterative design that the enactment, refinement, and advancement of theories are realized.
>
> (Hung, 2013: 68)

How exactly this can be accomplished requires an examination of methodological choices, as well as, research tools that may be most suitable to the research process that one seeks to conduct. At its core, this research is interested in the development of theoretical underpinnings on the how a TL storyworld works in a formal ESL environment. The design of the storyworld, discussed in the previous chapter, served as a framework for guiding iterations of design and redesign.

Since DBR is constituted by a number of interrelated stages - cycles of invention and revision (Cobb, Confrey, diSessa, Lehrer & Schauble, 2003: 10), data gathered in each cycle is informed by and informs other cycles of the

process. Jointly, the data collected is used to explore theory-enacting aspects as well as theory-advancing aspects, in the particular case of this research:

- theory-enacting aspects relate to the design of TL storyworld informed by learning frameworks of reference in the area;
- theory-advancing aspects relate to the underlying goal that through the application of a storyworld it may be possible to advance and refine a set of guidelines for the design of TL experiences in ESL formal learning contexts.

Guiding the selection of a DBR approach to this study is an overall attempt to build up a picture of the phenomenon in focus. Assuming that a picture is a mode of representation, an interpretation of reality, it was necessary to ponder during the implementation stage upon which instruments would be suitable to document the experience of the storyworld. In this matter, Palalas (2012) argues that a DBR study is most productive when different data collection processes, techniques, and tools are used. In the particular case of this research these included:

- data collection regarding participants;
- feedback activities during sessions of implementation of the TL storyworld (targeted to groups and participants);
- observation notes and records;
- semi-structured interviews;
- collection of learning artifacts from participants.

The assumption here was that combining these would allow for an ongoing evaluation process constituted by responses and reactions of the target population to the functional prototypes of the TL storyworld piloted in naturalistic settings, i.e. real-use context. Not only would students and teachers have the opportunity to evaluate the prototypes but also play a part in their enhancement with their suggestions.

Attributing an active role to the participants (potential end-users of this storyworld) could provide two advantages. On the one hand, it could facilitate

a better representation of students' language needs, and on the other hand, future design cycles could be informed with a heightened understanding of the target audience needs (Palalas & Hoven, 2013: 60).

Despite not being a straightforward process, through engagement and social interaction while exploring the storyworld, participants would have an opportunity to practice their language skills but most importantly to become designers of learning experiences for them and their peers - "DBR provides a venue for language learners to inform and advance the design of their own learning materials. Learners are thus helping to build a learning context that reflects their cognitive and communicative behaviors" (Palalas & Hoven, 2013: 60).

CC was from inception bottom-up informed and seeks to be a mediational artifact - meaning that the systematical refinement of the storyworld can progressively, over time, support teaching and learning processes of the targeted language in a more attuned way to the needs of its users.

Ideally, a DBR research process implementation is constituted of at least three interrelated cycles: pilot, mainstream and capstone (Hall, Long, Flanagan, Flynn & Lenaghan, 2017: 64).

The pilot implementation "demonstrates and establishes the potential of an innovation or technology" (p. 66). Once the pilot has been implemented and evaluated, "the mainstream implementation starts to enumerate how an innovation or technology can be used to enhance learning" (p. 66). The capstone cycle is a summative stage and serves to "illustrate a design model or framework that others can use (adapt and adopt)" (p. 66).

The implementation stage of this storyworld is only constituted by the first two type of cycles indicated above. This is due to the fact that it was difficult to find public schools willing to accept the implementation of this research project. Besides the fact that research and development practices are not commonly developed within national educational arenas, this may be attributed to time management constraints. ESL classes (in the case of 10th and 11th years students, the target audience of this TL storyworld) only occur

twice a week (in 90 minutes slots). An extensive syllabus to cover along with the need to fulfill mandatory assessment records across the school year are demands that imply a strict management of the time available and ultimately may deter teachers from considering the development of research proposals during the minute amount of time they have with their students.

Despite this limitation and mostly due to extraordinary efforts and goodwill of teachers involved in this research project, it was possible to develop two different cycles of research - a pilot and a mainstream, developed across two to three 90 minutes sessions.

Secondary students of two Portuguese schools were involved in this research study: a secondary school in Caldas da Rainha and a secondary school in São Miguel, in the Azores Islands.

The following presents the distribution of the research cycles across time.

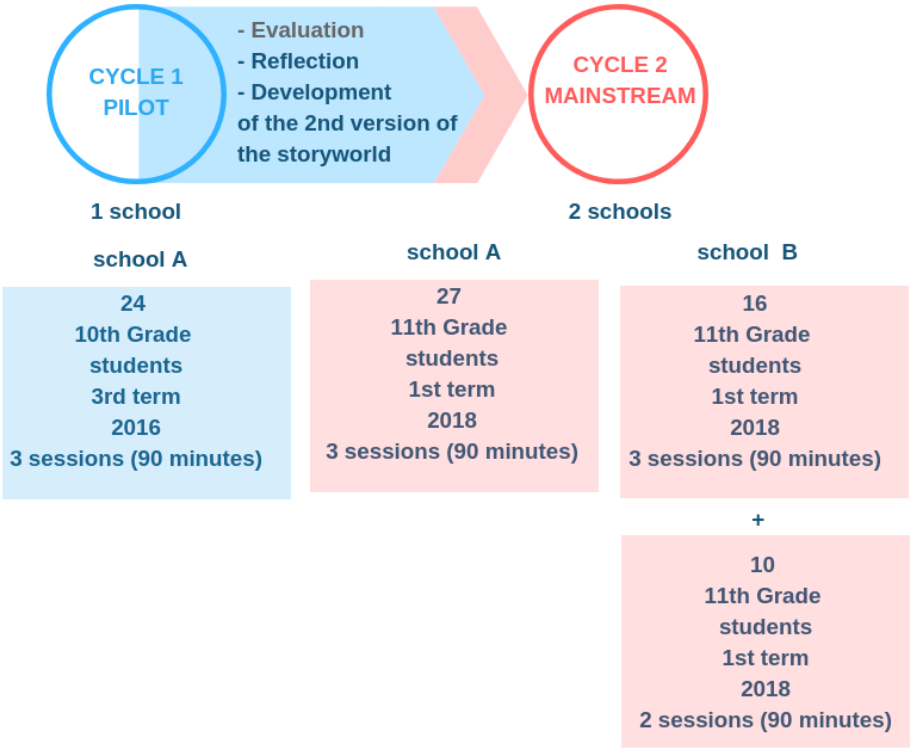


Figure 4.1 Overview of the two cycles of implementation of the TL storyworld.

It was also possible to explore the use of CC outside the national territory. Stemming from the interest of a teacher/ researcher in the use of TL

storyworlds, CC was explored by 6th-grade students in a public school in Athens - an additional research account that helped to document the use of CC in a different ESL context.

Several factors relating to the implementation of an ESL resource, in this case, a TL storyworld, can influence its effectiveness, namely students participation; classroom integration, pedagogically based usage, observation and adaptation (Bush & Sorensen, 2013: 88). Taking these factors into account, in order to document the implementation process of this storyworld, particular attention was given both to gather data related to the context of implementation as well as to the ones taken part in it - “Like all tools, the utility of technology ultimately depends on how, when, and why it is implemented” (p. 88).

The focus was placed on the users/ students and how they responded to the storyworld. This research study resorted to a mixed method approach making use of quantitative and qualitative data collection processes to gather information in what respects these two key aspects. It was not the case that qualitative data was used in this context to confirm quantitative data. They served different purposes and were used to develop an enhanced perspective by looking at the phenomenon in question from multiple angles and ultimately obtain different ways of accomplishing reflection. Moreover, a DBR framework allows for the implementation of both quantitative and qualitative measures to track change over the research cycles (Barab & Squire, 2004). Using this approach was thus useful to analyze and interpret the ways students shaped the storyworld and expanded it over the two cycles of implementation.

The need to collect data during the implementation of CC led to the making of instruments that would provide a window into participants’ media use and production as well as into their perceptions towards the use of a TL storyworld in ESL context. Along with a survey that would tap into the aspects referred above, participants of both cycles of research were asked to provide feedback regarding their experience of the storyworld through a survey targeting the platforms they had access to, the story, as well as activities they

developed related to it. Samples of the surveys are available at the following sites:

- Who are you online? – https://goo.gl/forms/Fqy3krQKfwLBKQRA3
- CC Feedback (Student) – https://goo.gl/forms/X6mHX186RNNNogSk2

Before presenting the development of the two cycles of implementation, a note on the contours of the pragmatic approach chosen for this research study. It is here relevant to recall for whom this research study intends to provide a contribution - ESL teachers and students, in particular, and communities of educators who seek to explore TL environments in general. This study assumes that exploring the TL storyworld in terms of design strategies; how it can be applied, adapted to different learning environments, as well as, how it can be expanded and improved over time is of the interest of these educators.

4.2 First Cycle of Implementation – Application of a Prototype Version of the Storyworld

Despite the fact that a considerable amount of time was dedicated to the design of the storyworld and the development of the experience, several questions remained unanswered, namely: could the story engage the students thus fostering learning practices within a formal learning environment; whether or not students felt compelled to explore the experience provided and whether or not the learning content encapsulated in the different fragments of the story was interesting enough and understandable to the students. Ultimately, could the storyworld provide a sufficiently satisfying learning experience to the students.

At the time of the first implementation, CC was not a fully developed storyworld. It was instead a work in progress. A working prototype that allowed an exploration of how the initial concept of having a TL storyworld targeted to ESL could be used in formal settings. In comparison with the last implemented version, the first did not include the Instagram platform, the main interface to

the storyworld only had navigational cues at the top right corner of the site, the navigational menu of the interactive video did not allow for revision of fragments without completing the viewing; Cat's Facebook profile was still not public and contained a hand full of posts for exploratory purposes. The storyworld was constituted by the core input platforms and integrated the basic outputs platform with no additional resources of exploration. To further develop the storyworld obtaining feedback of potential end-users was of the essence, this being the primary goal of the first cycle of implementation.

The prototype version of CC was explored in three 90 minutes sessions with 24 tenth grade students at an urban secondary school in Caldas da Rainha. The teacher participated in the sessions, and the researcher took part in the experience as an observer and participant. The sessions included feedback activities related to the use of the storyworld and were recorded for observation purposes. Throughout the sessions, students' learning artifacts were collected.

It is also important to refer that the three sessions occurred at the end of the school year. This meant that students had already had contact with the curricular topics that are at the core of the storyworld.

Regarding context, this secondary school is part of a larger group of schools set in an urban area of the country. There are no limitations in terms of access to technology - students have access to the WiFi network in all the buildings, the available IT labs are equipped with updated hardware and software. It is noteworthy that the school sets an example in the development of an active educational community within the national territory. Throughout the school year, students have the opportunity to take part in a varied programme of cultural, civic, extracurricular activities and clubs as well as sports events fully integrated with the broader community in the area. The community is also active in the online world - besides an official website, the community makes use of a Facebook profile (regularly updated) to disseminate school-related activities and strengthen communication with students, parents and the local community at large.

It is also worthy of mention that educators in this school also nourish the interest in transmedia practices. The teachers' training center, part of this group of schools, Centro de Formação de Associação de Escolas Centro-Oeste, took part and assumed a research coordination role in the research Erasmus+ Project (2014/2016) "Transmedia: a new narrative that involves communication and education towards the future classroom" -

> The Training Centre of Caldas da Rainha (Portugal) will coordinate along with the University of Girona, the production of the online courses and the pedagogical products. The Training Centre will have the pedagogical committee to check the quality of the pedagogical products. They will participate in the organization of the online courses. The Training Centre will be responsible to translate all the documents and products into Portuguese.
>
> (Blasco, Josep & Eliadou, 2016: 3)

Outputs of this research project were also presented by educators of this group of schools, at the international congress "Communication and Education by Transmedia" held in 2016, in Girona, Spain.

Taking the aspects mentioned above and also based on observation at the school's site, it was possible to infer that participants in this study not only had access to appropriate physical facilities but they were also a part of an engaging educational community that favored the development of a wide array of academic activities but also of their interest - most of the students were involved in a school-related event, had participated in a workshop or were part of a school's club.

During this cycle, it was also possible to access the participants' end of terms assessment records, and the teacher also provided samples of tests and resources explored. This allowed building a perspective on the work and the topics students had developed and covered throughout the school year and acquire an overview of their level of performance in ESL.

Based on the resources provided by the teacher, up to the point of the implementation sessions, students had covered content related to the use of media namely, the impact in their lives as well as linguistic diversity and

multiculturalism related matters. Based on the variety of documents presented by the teacher, it was possible to verify that topics were explored through the use of media resources as many of the worksheets concerned movies targeted to the exploration of the topics students had to cover. Teacher's, as well as students' feedback, indicated that instructional methods used throughout the year were not solely based on the exploration of the textbook adopted by the school.

The end of the first and second term assessment records indicated that this particular group of participants in the study had an overall positive performance in the subject of ESL. Only three presented results below 10 (in a scale of 0-20), and there were also four high-level performance students with scores above 17. A significant number of students presented scores above 13.

Students were informed about the goals of the sessions and purpose of research and were asked to take the survey regarding their online interactions and perceptions on learning through the use of media and social media prior to the sessions via a communication note relayed by the teacher to the students (Appendix V).

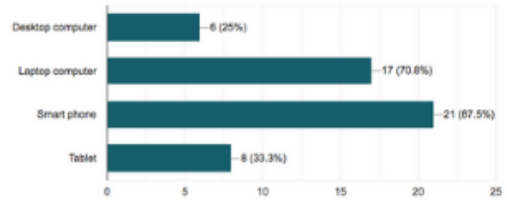
A summary of the data collected through the survey is presented on the following pages.

Who are you online?

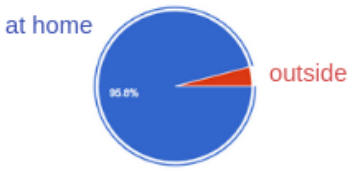
Cycle 1

24 respondents
13 male - 11 female
15 to 17 years old

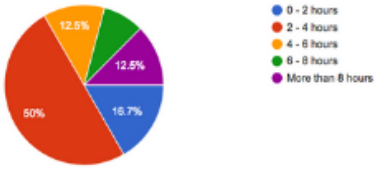
DEVICES



PREFER TO BE ONLINE

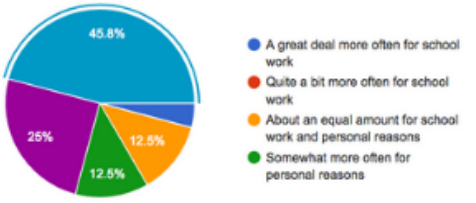


TIME SPENT ONLINE ON A WEEKDAY



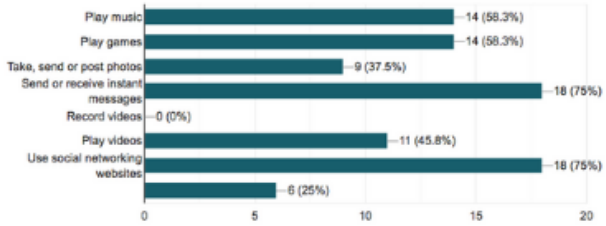
USE THE INTERNET

a great deal more often for personal use (45,8%)



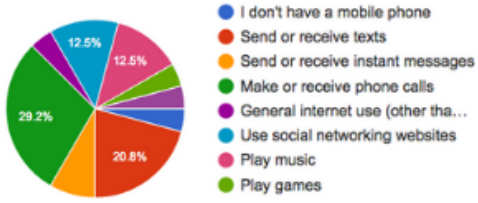
or quite a bit more often for personal use (25%)

ONLINE THEY LIKE TO



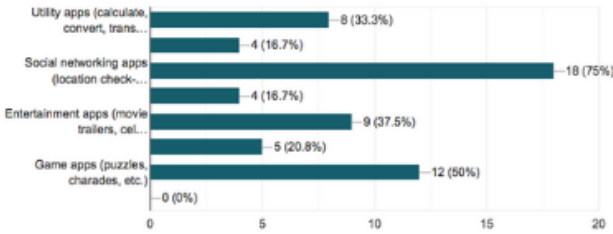
but only 25% make use of the online world to find information for school work

ON THEIR MOBILE PHONES



APPS

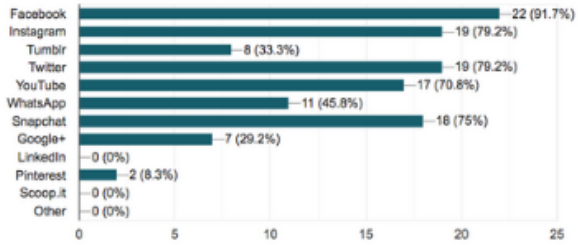
They predominately use social networking (75%) and game (50%) apps



TIME SPENT ON SOCIAL NETWORKS

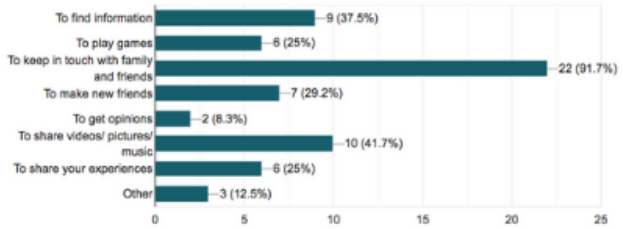


SOCIAL MEDIA PREFERENCES

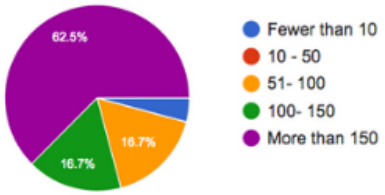


62, 5 % are members of 3 - 6 social media platforms
16, 7 % of more than 6
20, 8 % of at least 1

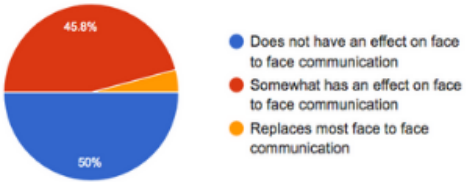
ACTIVITIES ON SOCIAL MEDIA



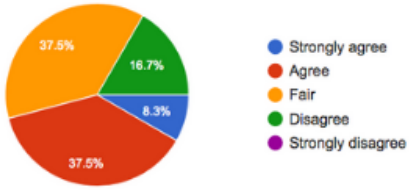
FRIENDS / CONTACTS



IMPACT ON SOCIAL LIFE



ARE SOCIAL MEDIA PRIVACY POLICIES EFFECTIVE?



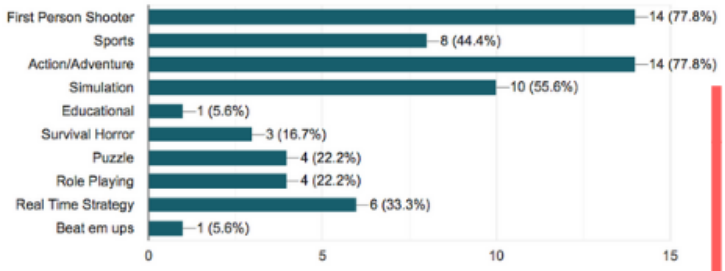
VIDEO GAMES

Responses regarding video games were optional since not all respondents played video games

Respondents reported preferring playing games with friends (71, 4%) rather than alone (28,6%) * 19 respondents

Examples of games played by respondents : Real Racing 3, Overkill, Candy Crush, LoL, CS:GO, Black Ops, Portal, The Sims, Mafia, Fifa 16,Rocket league, Assassin's Creed, Elder Scrolls, Pay Day, Minecraft, GTA V / San Andreas, Starcraft 2, Ark, Metin, Euro truck, Realm of the Mad Dog, Garry's Mod

GENRES



When asked about their favourite character in games, feedback was diversified.

CHARACTER TRAITS

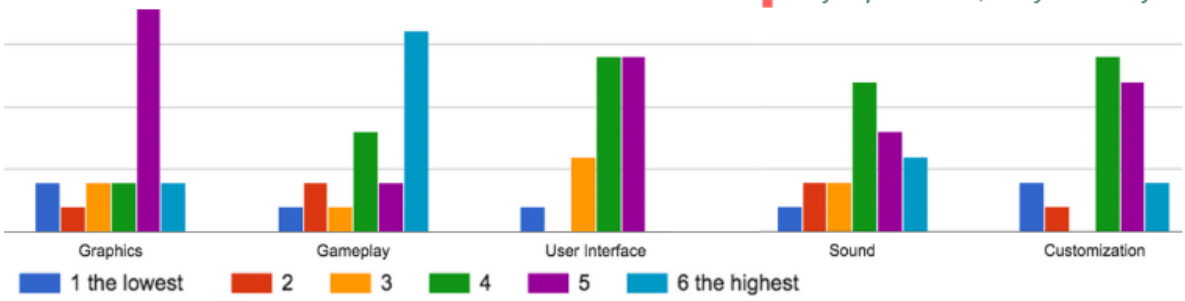
The one controlled by the player, because it's the one who introduces us to the games.

My favorite game character is a LoL character named Azir, who is a sand emperor. I like him a lot cause he's super cool and quite powerful, being able to command entire sand armies to kill everything. He's also quite fun to play as well.

Edward Kenway from Assassin's Creed IV because is such a badass.

Trevor from GTA V because he is very unpredictable, crazy and funny.

GAME FEATURES



Respondents attributed higher levels of relevance to gameplay and graphics.

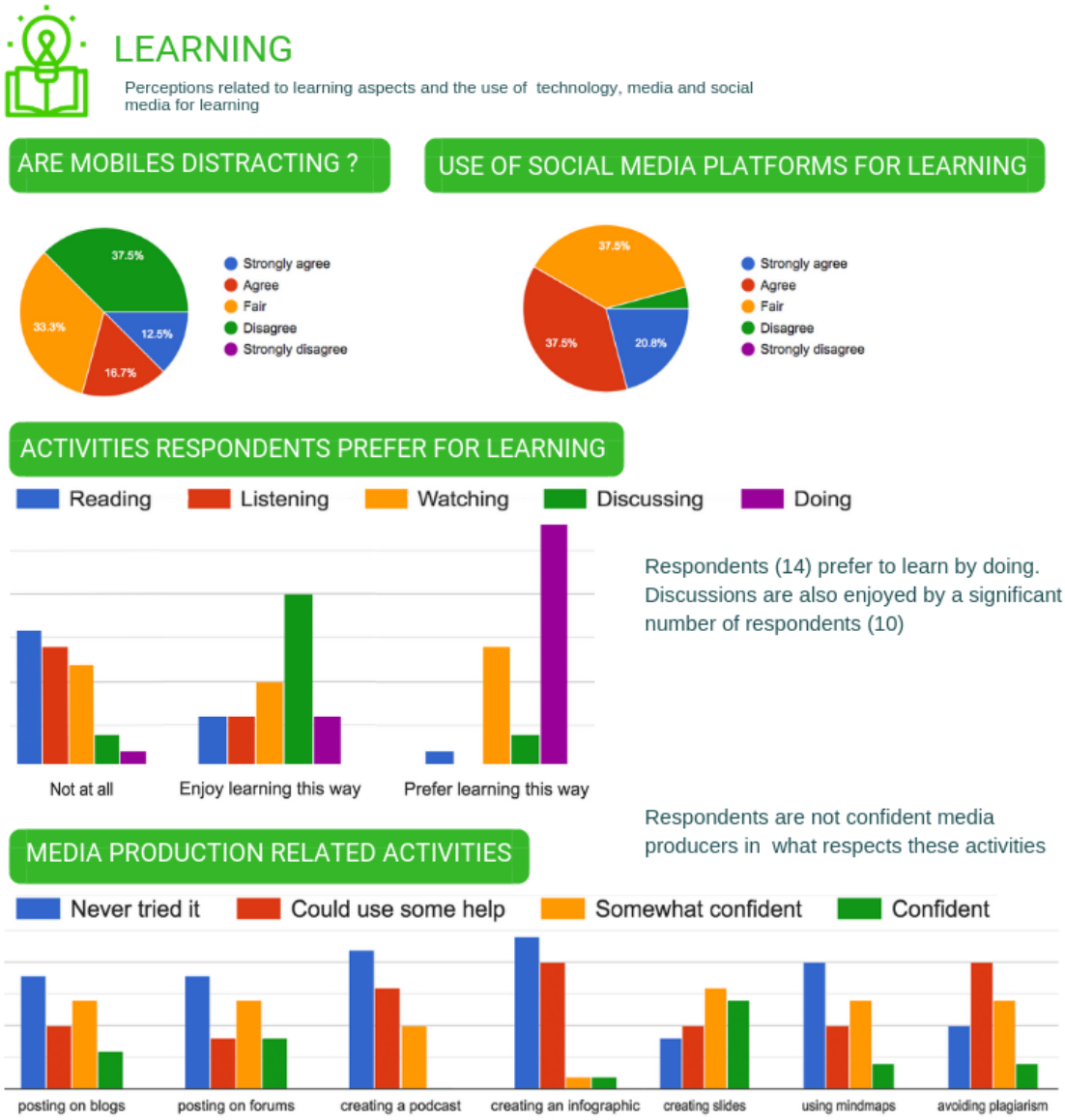


Figure 4.2 Overview of the data collected through the online survey "Who are you online?" during the 1st implementation cycle of CC.

Taking into consideration participants' responses in this survey, it is possible to infer that students are strong media users. They mostly use their devices for personal use among the most rated activities in the online world is the use of social networking sites (75%). Music and games also play a significant role in their lives. Nevertheless, it is also important to point out that none of the participants reported recording videos which may indicate that may not be proficient in terms of media production skills. However, the fact that 19

participants (79,2%) reported being members of Instagram might also indicate that they may engage in digital editing processes of photos. Social media platforms are mostly used to keep in touch with family and friends (91,7%), to share videos, pictures, and music (41%7). It is relevant to mention that more than 62% reported having a vast network of friends or contacts online (more than 150 friends) - indicating that they invest in online social interactions. The most used social media platform by the participants is Facebook (91,7 %) while Instagram and Twitter appeared in a second position (79,2%) and Snapchat in third (75%). Youtube is also used by a significant number of the participants (70,8%) however in what regards blogging platforms only eight participants (33,3%) reported to use them.

Feedback was mixed in what regards the impact of social media. While 50% does not feel it affects their offline interactions, 45,8% reported having somewhat of an effect. Participants revealed a moderate level of confidence in what regards the implementation of privacy policies on social media platforms. Only 16.7% disagreed on their effectiveness, and 8.3 % strongly disagreed.

For the purpose of designing the storyworld, it was important to tap into their use of video games. Since not all were players, responses to questions targeting this area of interest were optional. Nevertheless, 19 respondents confirmed their use of video games, the majority of which prefer to play them with friends (71,4%). Regarding genre, first-person shooter, as well as action and adventure video games, seem to engage students the most (77.8%). References to the games they played were varied in terms of genre, however LoL, *CS:GO*, *Black Ops*, and *GTA V* were mentioned by more than three students. In video games, among the most appreciated features are the graphic design and gameplay. To further support the development of the main character of CC, the section of the survey related to video games included a question targeting preferences on video game character traits. Feedback provided by participants indicates they value humor, style, and a strong personality. One interesting comment related the importance of the character to learning how to play the game - “The one controlled by the player because it’s the one who introduces us to the games.”

This survey also targeted students' perceptions on the use of social media and technology-enhanced learning processes. Only a small percentage of students disagreed with the use of social media platforms for learning. However, a significant amount of participants considered their mobile devices to be a distraction for learning. 12,5% strongly agreed it was a distraction and 16,7% also agreed that mobiles were distracting.

Concerning learning activities, participants showed a preference for activities they could learn by doing. The debate of ideas it was also something they enjoy. In what concerns media production related activities, thus relevant for the development of activities regarding the storyworld, participant revealed low levels of confidence in the development of activities of this type. For instance, the majority of participants reported not having ever attempted to create an infographic or a podcast, and an expressive number of participants revealed they needed help to avoid plagiarism online.

Taking into account the goals of the pilot study - elicit overall feedback from users regarding the use of the storyworld for learning purposes, the pedagogical sequence: reception, participation, contribution was not followed. Nevertheless, at different points of the pilot study, students engaged with the storyworld by producing digital artifacts or by being active participants in the story through the quest set via QR codes and augmented reality triggers.

In the first session, students had the possibility to explore the storyworld in an independent manner. To track the students' experience of the storyworld, a hash number was generated and saved on the client side. In this manner, it was possible to identify which points the students had accessed to. The majority of the students preferred to explore the motion book sequence and the interactive video. Returning on separate occasions during the sessions to replay the content on these two platforms. In the last 30 minutes of the session, in groups of four, the students exchanged information with their peers about the story and tried to map the events of the main protagonist. All groups were able to track the main events of story.

During the second session, after a brief review of their experience of the storyworld, students were asked to explore the *Fluxus Logs* blog. They were

then requested to select one of the posts and create their own submission to the blog. The remaining 30 minutes were used to discuss what they had learned through the exploration of the blog posts and the creation of their digital artifacts.

During the last session, students had the opportunity to participate in the AWOL quest. Students were encouraged to help Cat by revealing vital clues and story details that ultimately would lead to the discovery of one of the portal pieces. The remaining 30 minutes of the session were used to collect feedback on the overall experience of the storyworld.

There were several challenges during the development of the activities proposed in the sessions. Often students expected direct guidance from the teacher or researcher to explore the storyworld.

The activity related to the *Fluxus Logs* was time-consuming, and some students struggled with the submission process of their work. To further aid students in the completion of the task, an online board with a set of online content creation tools was provided (available at http://tinyurl.com/create-ed-cc) and special attention was given in terms of certifying that the submission process on the blog platform was clearly understood by students (Appendix VI). It was also necessary to provide additional instructions concerning the search and use of digital resources since the majority of participants were not aware of intellectual property rights. Nevertheless, it is important to point out that during the feedback session, students reported having enjoyed the activity given the fact that they were allowed to choose to which post they could reply giving them the freedom of selecting the topic they most liked. Despite the challenges mentioned above, outputs of this activity put into evidence that students engaged in media production activities, such as the construction of mind maps or digital presentations, for instance, a synopsis of the series *Mr. Robot*,[7] while using the target language and exploring curricular contents covered throughout the school year. The following screenshots of digital artifacts produced by students relate to topics as diverse as virtual reality;

[7] Available at http://prezi.com/2g0jh4bocnx6/?utm_campaign=share&utm_medium=copy&rc=ex0share

online safety and the extinction of languages and represent part of the work published on the blog.

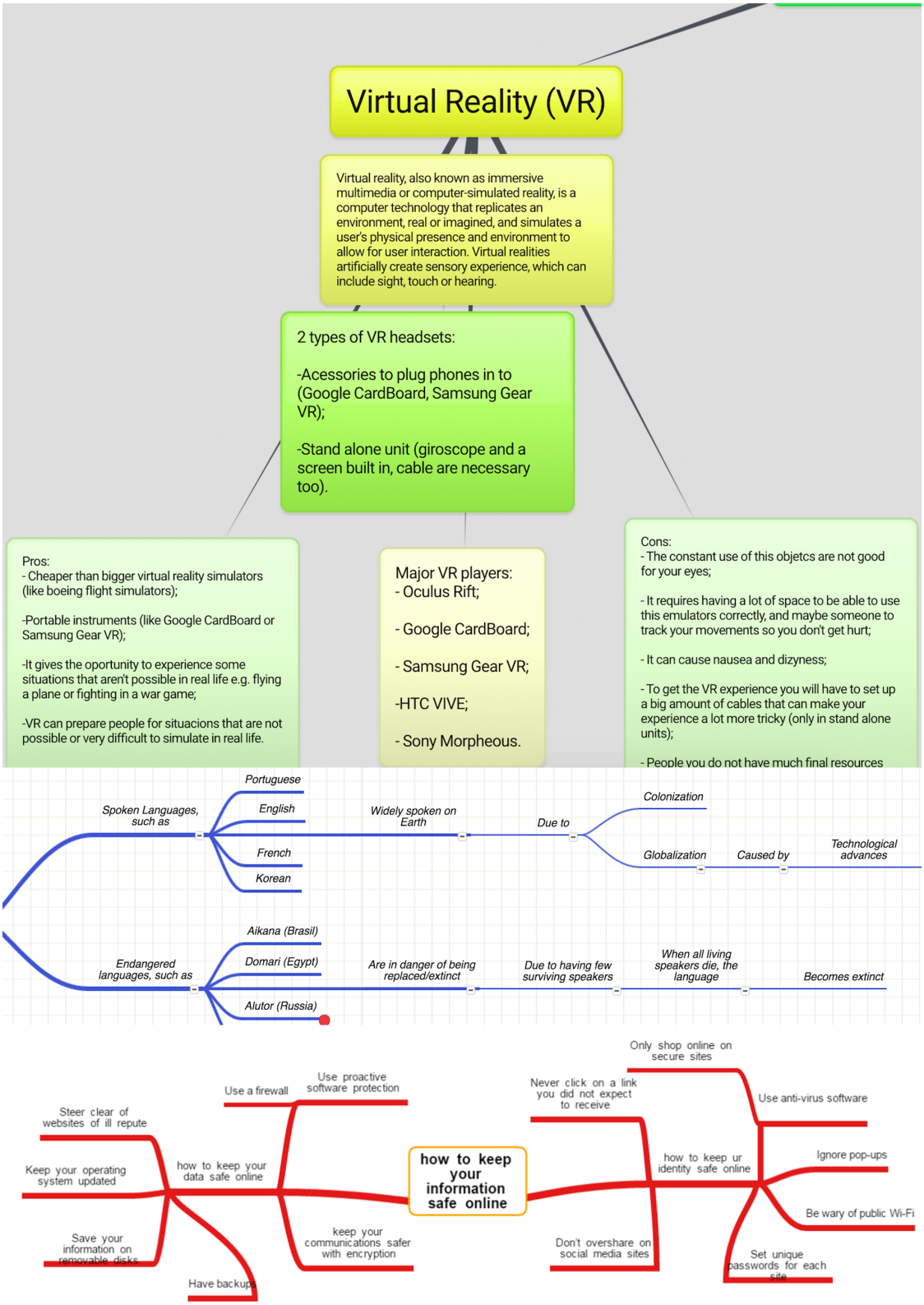


Figure 4. 3 Screenshots of digital artifacts produced by students for the *Fluxus Logs* activity.

Feedback on the work developed by students related to this activity was provided only after the sessions (Appendix VII) given time constraints and to provide students a broader experience of the storyworld through other experiences.

Regarding the quest, students engaged in collaborative practices to complete the task. In order to fill in the police's missing person report, the teams scanned the codes to retrieve information concerning the circumstances of Megan's disappearance. Students were able to fill in the report with accurate information nevertheless there was no time to expand the story further. Students would be placed at the point that Megan was last seen in La Paz, Bolivia and would have to present their version of what would happen next.

Developing this type of activity implied that some students moved around the classroom to scan the codes while others collected the information for the report. Having different groups completing the task at the same time led to some confusion and created a noisy environment. However, participants showed to be focused on completing the mission despite some occasional friction between groups stemming from competition among them. The task was one of the most appreciated by the participants.

After this brief exploratory experience of the storyworld, the researcher asked the students for feedback regarding the activities they had developed. Questions targeted both the story and aspects concerning how it was delivered across the platforms. Additionally, participants were asked to reflect upon the relevance and appropriateness of the activities to the development of their communication skills and the enhancement of learning processes within the subject of ESL.

Opinions regarding the overall concept of a TL storyworld targeted to ESL seemed to be consensual on the point of being an alternative to the traditional methods used to explore the language - "It's much better than having to work a textbook."

In what regards the story, one of the participants suggested that ideally the story should be written with the input of students to be more appropriate and in tune with their interests. Two of the participants mentioned it to be too childish. Explicitly addressing the plot of the interactive video, one of the participants found it to be too predictable.

Despite recognizing that it was a work in progress and ultimately the storyworld needed improvement, in particular, the technical aspects, such as the site or sound in the videos, they found the storyworld to have the potential to be a learning tool for students.

In what respects the development of activities, they felt overwhelmed by the number of tasks proposed - “It’s too much, I need more time.” Not all enjoyed the experience, one of the participants said “I didn’t know what I was doing. Things should be in just one place… it made no sense.”

When asked what they would do to improve and expand the storyworld, participants suggested the integration of an Instagram account for the main character through which they could track Cat’s quests and the creation of a blog through which they could post their Cat adventures. Other suggestions were daily challenges via Snapchat. In what concerns the interactive video, one of the participants suggested to cut down the number of options for exploration but at the same time invest in different endings to the story.

To further tap into their experiences of the storyworld, participants were asked to complete a survey regarding the platforms of CC after the sessions. The following provides an overview of the data collected.

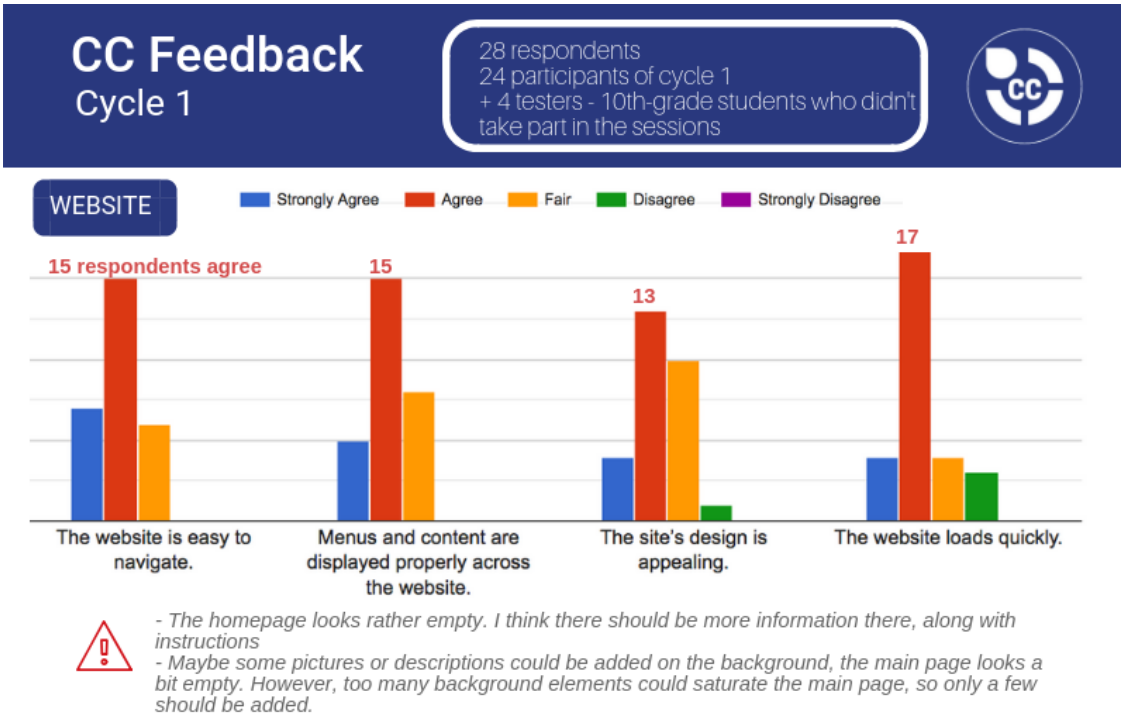


Figure 4.4 Feedback related to the storyworld's main interface - first implementation.

In what regards CC's site, feedback was overall positive. Participants' suggestions were taken into account in the design of the second version of the site.

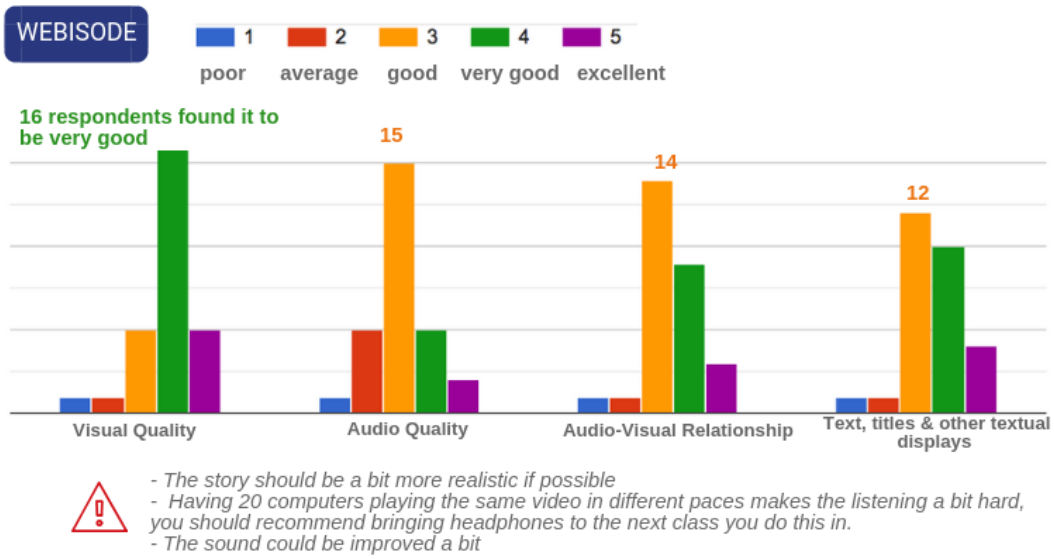


Figure 4.5 Feedback related to the webisode – 1st implementation.

One of the main issues indicated by participants both in the webisode as well as the interactive video was sound. Feedback regarding this output platform was moderately positive.

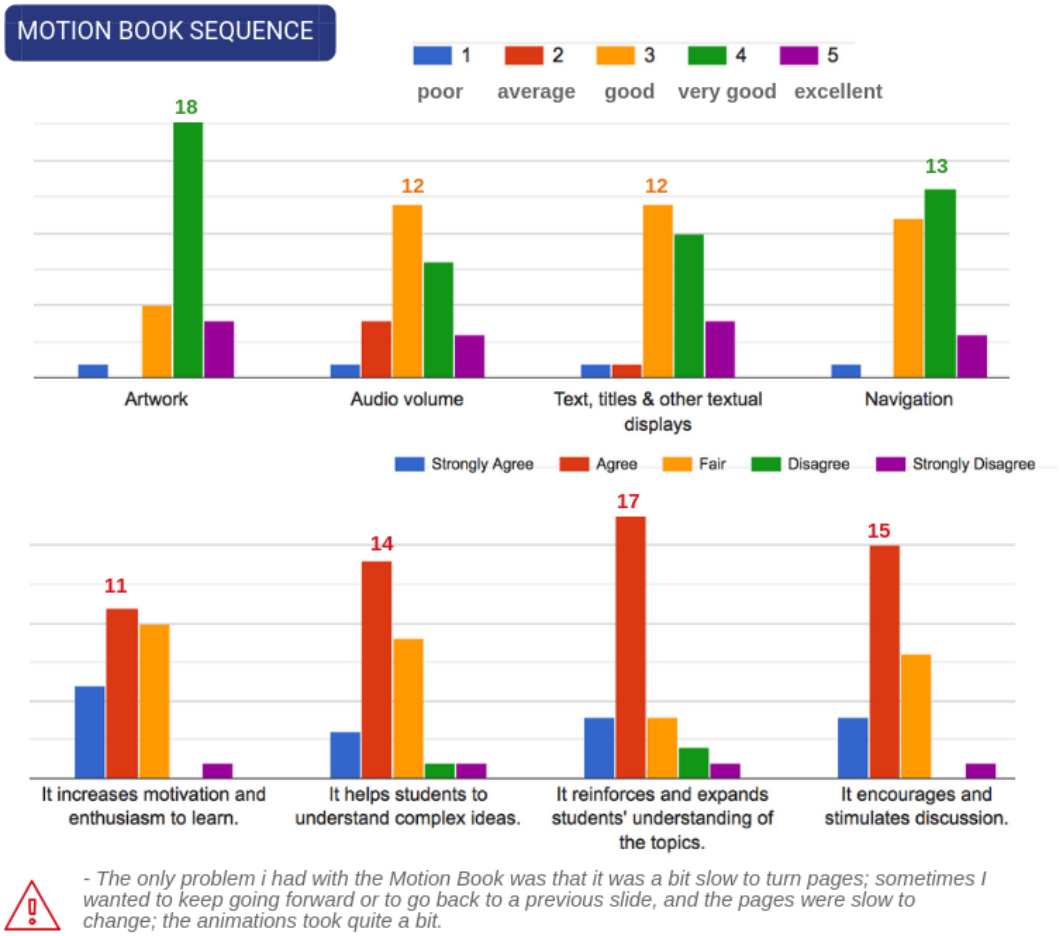
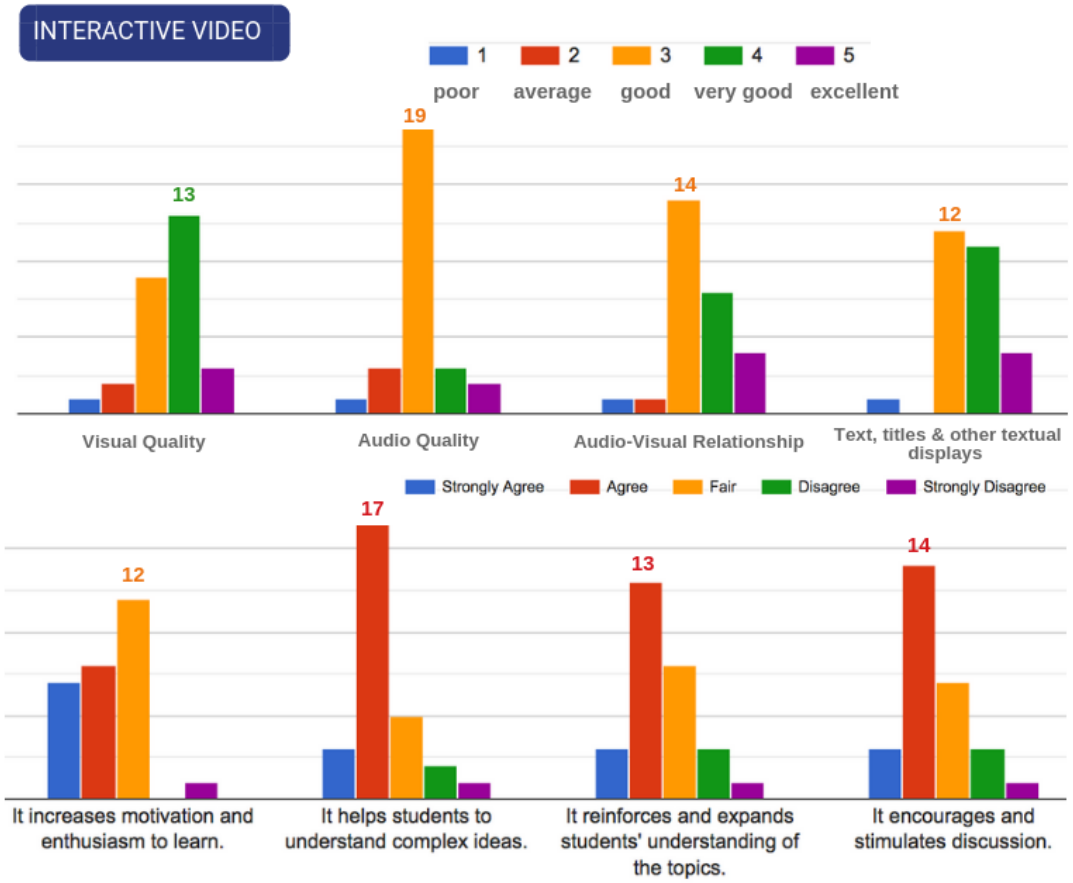


Figure 4.6 Feedback related to the motion book sequence – 1st implementation.

Investing in a rich visual environment was one of the features most appreciated by students. It is also important to note the significant number of participants that reported that content explored through this platform allowed them to reinforce and expand knowledge regarding curricular topics.



- Though it's hard to make it more complex, the fact that she gets all the clues so easily and they find the answer to them without many doubts isn't very realistic.
- I think the time out for making a choice to continue should be increased or removed.
- Less options on the video.

Figure 4.7 Feedback related to the interactive video – 1st implementation.

Participants were more responsive to the interactive video than the webisode. Despite moderately ranking the overall experience as positive, it is noteworthy the fact that 17 respondents reported finding that the interactive video helped them understand complex ideas. Participants valued more the experience of the interactive video in terms of correlating content explored in it with learning strategies and practices.

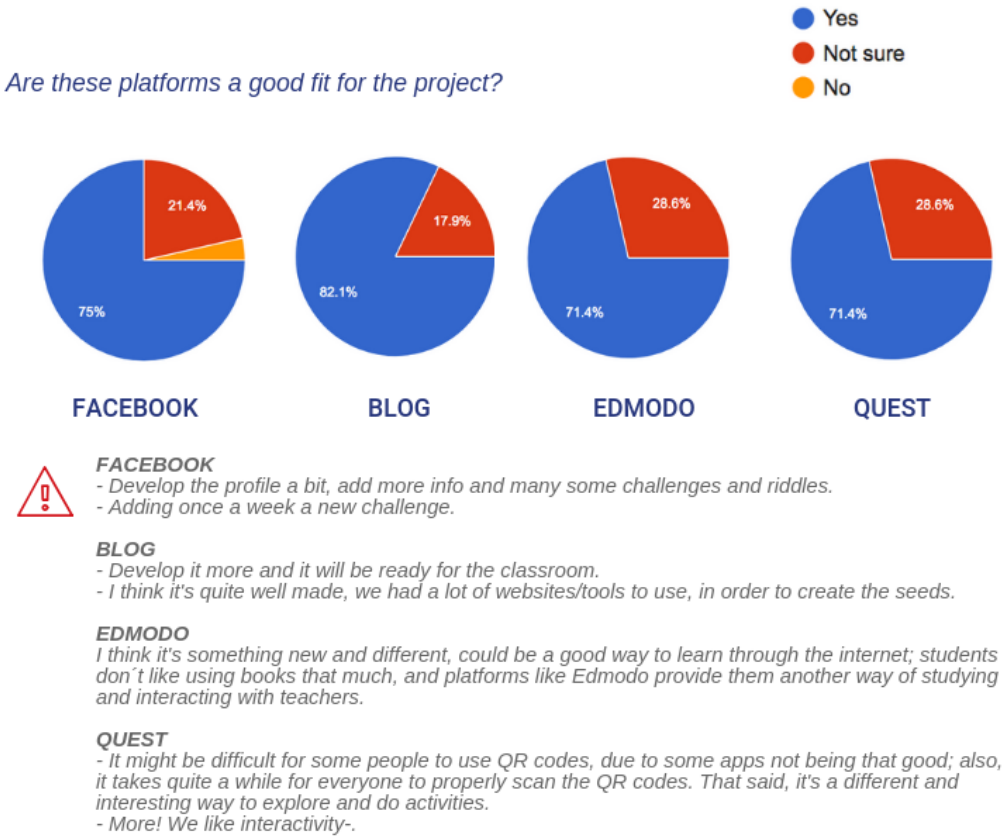


Figure 4.8 Feedback related to the storyworld's output platforms – 1st implementation.

Participants' feedback about the output platforms was generally positive. Despite the fact that some participants struggled with the development of the activities related to the exploration of the blog, feedback related to this platform was the most positive in relation to the other three platforms. In comparison to the input platforms, the output platforms received better feedback. This may be attributed to the fact that through these platforms participants could play an active role and express themselves.

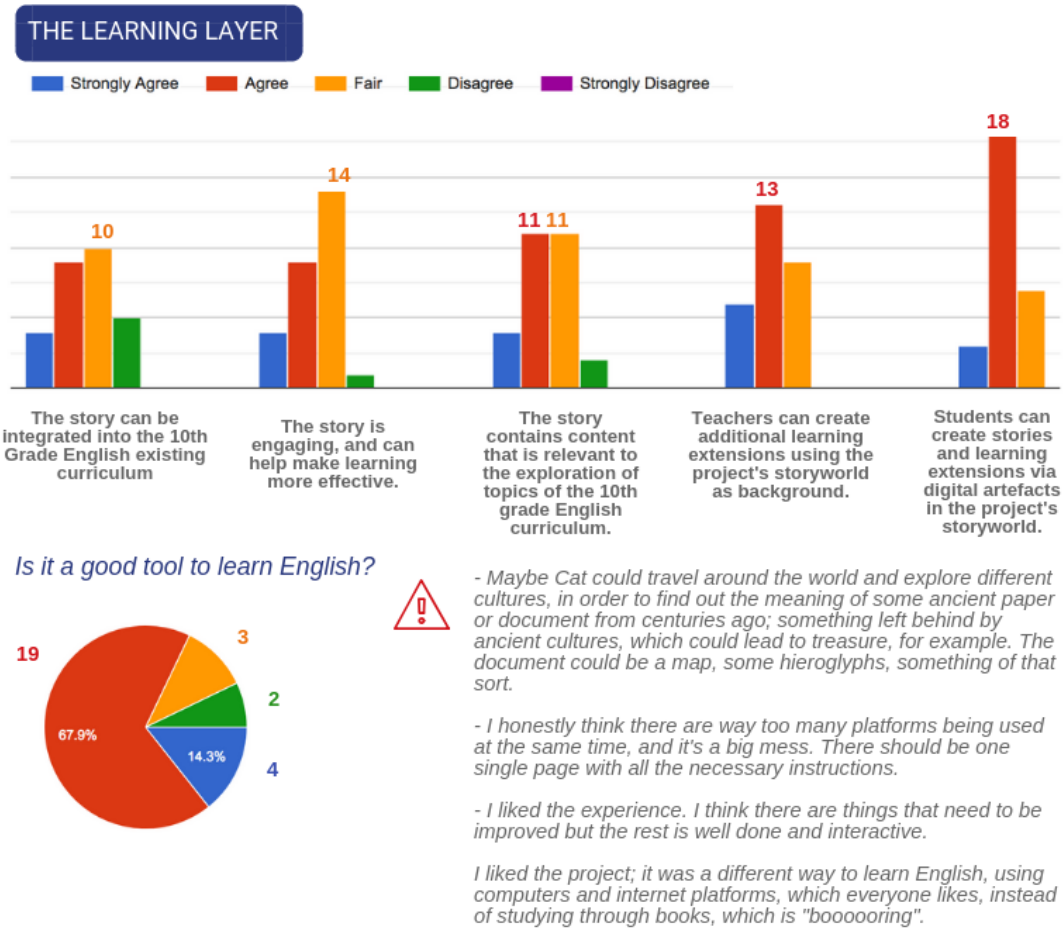


Figure 4.9 Feedback related to learning practices through the use of the storyworld – 1st implementation.

Taking into account participants' feedback, it is possible to assume that they valued the experience of the storyworld and perceived it as a useful instrument of exploration of the target language.

In general, feedback provided by participants was constructive and positive, however, it is also relevant to point out that not all participants enjoyed the experience indicating there is no "formula" or universal strategy applicable to all students.

4.3 Second Cycle – Learning Experiences in Two Different Settings

Using the feedback of the participants of the first implementation cycle, it was possible to improve the storyworld. As previously mentioned in the design chapter, new spaces were added:

- Cat's Instagram profile providing glimpses and records of her daily life and adventures concerning her quest;
- more posts were added to her Facebook profile and to further facilitate access, a public profile was created;
- the hub of the storyworld was also improved with an additional and potentially more aesthetically pleasing menu to induce students to explore the storyworld;
- in the interactive video, navigational issues were also addressed by improving the process of selection of the video threads;
- more posts were added to the *Fluxus Logs* to diversify contents and ultimately gateways to immerse students in the curricular topics.

The development of the aspects presented above puts into evidence how a storyworld has a life of its own and needs constant updates to become more tangible and in tune with the interests and preferences of the target audience.

The first cycle of implementation was exploratory and more focused on the refinement of CC. Despite its potential to engage students in language learning practices, during this initial stage the sequence "reception; participation and contribution" had not been fully explored, meaning that students did explore both output and input platforms but not with the purpose of following the sequence, at least intentionally.

One of the issues that emerged during the first cycle was that oftentimes students felt lost while digging into the different layers of CC. Condensing the experience to a period of three 90 minutes sessions may be one of the reasons why participants might have referred to it as "a packed experience" and also why they requested more time to develop the activities.

It is also necessary to take into consideration the fact that it was their first time exploring this type of learning approach and trajectory. One that is far removed from the sequenced steps and tempo of the instructional methods part of their routine in school. Perhaps everything that is new takes time to set in.

To cope with this matter, it was necessary to map possible strategies that would, on the one hand, provide guidance, a sense of direction to students while progressing through the spaces of the storyworld and on the other hand would not interfere with their preferred courses or set a specific route within it. Thus, three exploration guides were developed (Appendix II, III and IV). Their design, specific goals and pedagogical proposals have already been described and discussed in the previous chapter (sections 3.8.1 to 3.8.3)

From a different perspective, the exploration guides also sought to equip ESL teachers, the mediators of the experience. The premise was that by putting forward possible entry points to CC, in this case, suggestions of activities within the context of the storyworld, these would prompt teachers, together with their students, to develop and set up courses in CC. Not only would the explorations guides serve the purpose of providing a preliminary exploratory experience in the storyworld, but they would also serve as a basis upon which teachers could scaffold their pedagogical proposals in a situated manner.

The design of learning experiences is a participatory act - "a process of investigating, understanding, reflecting upon, establishing, developing, and supporting mutual learning between multiple participants" (Simonsen & Robertson, 2012: 2). Design processes, in particular, the design of learning experiences, are also situated practices - they take place in particular settings.

> To say that design is situated is to highlight the interactions and interdependencies between designers, designs, design methods, and the use situation with its actors, activities, structures, particulars, and broader context.
>
> (J. Simonsen et al., 2014: 1)

It is about creation but also the re-creation of knowledge in a community of practice. It is from this perspective that the exploration guides serve as resources and tools - not to determine a course of action but to support participants of a learning ecosystem to shape their actions in response to contextual contingencies.

Until this point in time, CC had been informed by students and attempted to be a space they could appropriate and designate as their own by shaping it according to their preferences and needs. However, it would also be relevant that the storyworld could be informed and shaped by teachers. Their inputs would lead to the creation of a collective set of data and knowledge useful for all participants of the storyworld but also ultimately would allow it to be refined and evolve through a collective contribution.

To engage teachers and to seek their participation in this collaborative process, an informative site regarding CC was created - http://bit.ly/ccat_world. Besides providing an overview of the storyworld as well as an inside view on the rationale; goals and design, the site includes a call to action, inviting teachers to take part in CC. Given CC's embryonic stage, the first steps to build a community of practice in and through CC involved asking for feedback regarding the storyworld as well as acquiring insights on pedagogical practices relating them to the use of media and technology. An overview of the main findings related to this exploratory survey is presented at the end of this section.



Figure 4.10 Picture retrieved from a QR code on the site CCatWorld depicting the call to action disseminated among teachers and educators. Retrieved from https://spark.adobe.com/page/xdjFMzoLIIMb3/.

Outputs of the *Fluxus Logs* activity, developed during one of the sessions of the first cycle of implementation, put into evidence that some of the participants struggled with the selection and use of resources for the production of digital artifacts, namely intellectual property rights. Addressing this particular issue, prior to the development of activities related to the storyworld, participants of the second implementation cycle had access to an infographic covering creative common licenses and how to appropriately indicate sources of online resources they might want to use for their digital productions.

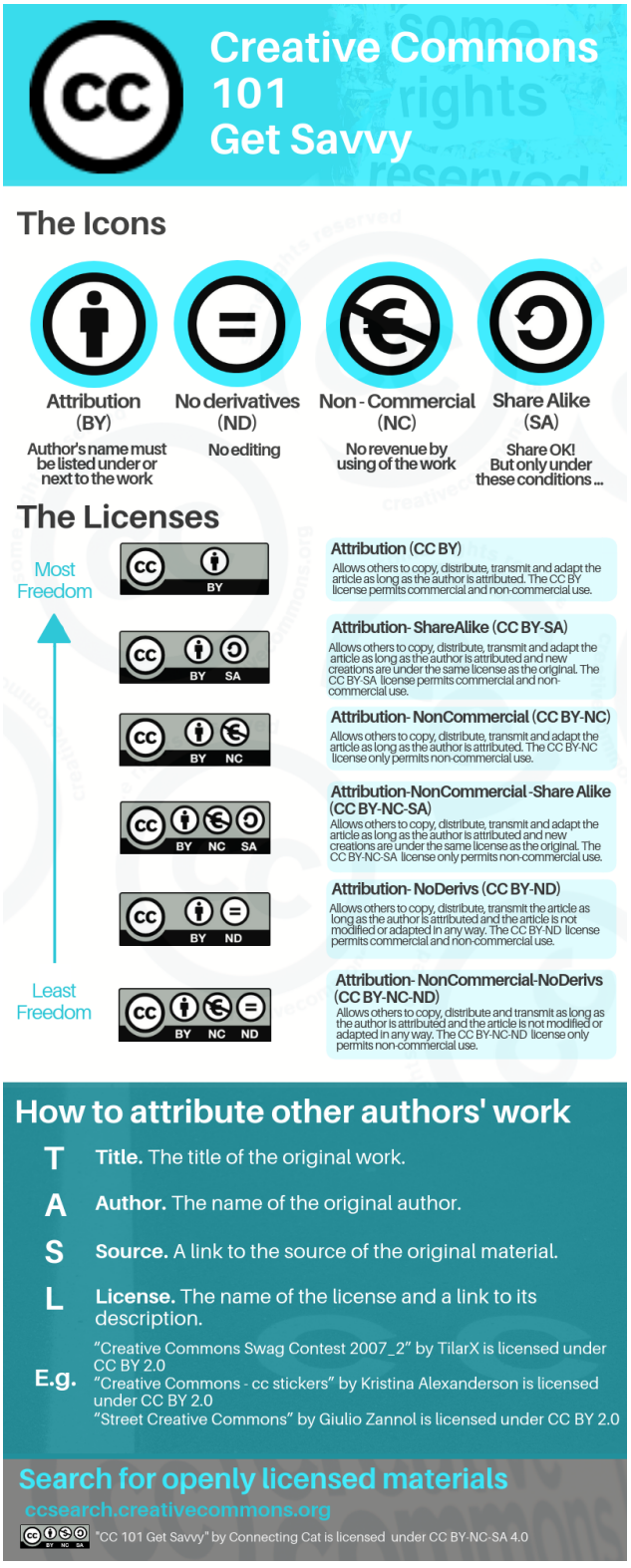


Figure 4.11 Infographic covering Creative Commons Licenses.

To further engage participants with the content covered in the infographic, an interactive multiple-choice quiz was created in a game-based

learning platform. The goal was two-fold. First, to engage participants through a fun and interactive challenge with matters that at prima facie would not be of their interest. Second, to assess if participants had an overall understanding of the topic. The later was possible through records related to participants' performance generated on the platform after completion of the quiz. Moreover, the fact that participants could take the quiz via an app on their mobile devices or computers would, on the one hand, set the tone for activities that would be developed posteriorly, and on the other, participants would be able to use their mobile devices inside a classroom, something that in one of the schools (in which the second implementation cycle took place) is not allowed and in the other is not regularly encouraged during classes. The participants' scores concerning this challenge are discussed in the context of the development of activities of the sessions related to this implementation cycle.

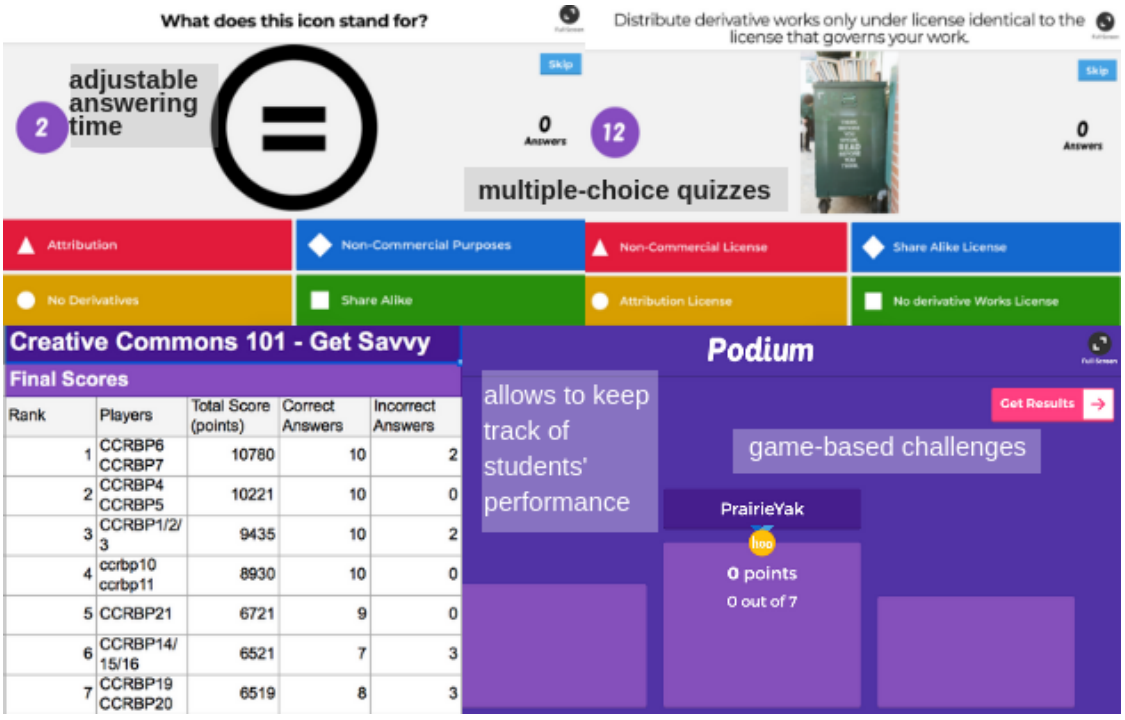


Figure 4.12 Screenshots of the interactive quiz "CC 101 - Get Savvy."

As previously mentioned, this cycle was implemented with students of two different formal learning environments. The first located in Caldas da Rainha, in an urban area on the mainland territory and the second in a rural

area in São Miguel - Nordeste, in the Azores Islands. The two will be, henceforth, respectively, designated by school A and school B.

It is also important to refer that in this cycle, in contrast with the first cycle of implementation, the sessions were developed during the first term with 11th-grade students. Despite the fact that CC is targeted initially to the exploitation of curricular topics 10th-grade students have to cover, the storyworld also allows for the exploration of a more extensive array of topics of interest in ESL.

In this particular cycle, activities were designed first targeting the acquisition of insights regarding the application of the learning sequence "reception, participation and contribution" and second to provide students with opportunities to tap into topics that they would explore throughout the school year. The fact that there was a window of opportunity to develop the sessions during the first term was also advantageous. The students would be able to recall topics explored in the previous year and gain new insights. Moreover, the ESL national curriculum for secondary students is structured around the three overarching themes: technology, multiculturalism and media. Across the 10th and 11th grades, students explore them from different perspectives.

If the context of participants in school A was previously described in the first cycle of implementation, it is also relevant at this point to explore the context of school B. This secondary school is located in one of the most remote parts of the island of São Miguel. Access to the main cities on the island and transportation facilities have increased and have been improved in recent years. Nevertheless, despite its natural beauty, the residents of this area are still limited to a scarce amount of social and cultural services in comparison to other inhabitants of the island living in larger population areas.

It is relevant to point out that participants in both schools are part of vibrant learning communities. Although it is much smaller in terms of in-school population, the insular school promotes throughout the school year a vast set of activities that value the distinctive regional, social and cultural heritage of this community. It also promotes civic participation events and workshops that

seek to engage students in the development of social connections with members of the community outside school walls.

In contrast to school A, School B is not as well equipped in terms of access to technology. The IT Labs are outdated both in terms of hardware and software, and students do not have access to the WiFi network, apparently due to the fact it was systematically overloaded.

Similar to the planning stage in cycle 1, the goal was to explore the storyworld through a set of three sessions. In this case, it was possible to implement the three sessions with one group of participants in school A and one group in school B but not with a second group of participants in school B due to juxtaposition of possible dates to implement the project in the two schools.

Prior to the sessions, teachers had access to the activities plan (Appendix VIII). Despite the fact that it was only possible to develop two sessions with one of the groups of school B, the original plan of activities for this particular group was readjusted. In school A and given its community active online participation, a short video related to CC was posted on the school's Facebook page. The goal was to stimulate students' interest in the storyworld while providing an overview of events that constitute the experience of it. The video is available at https://vimeo.com/235288684. The development of the second cycle of implementation in this school was reported to the larger community through this platform as well.

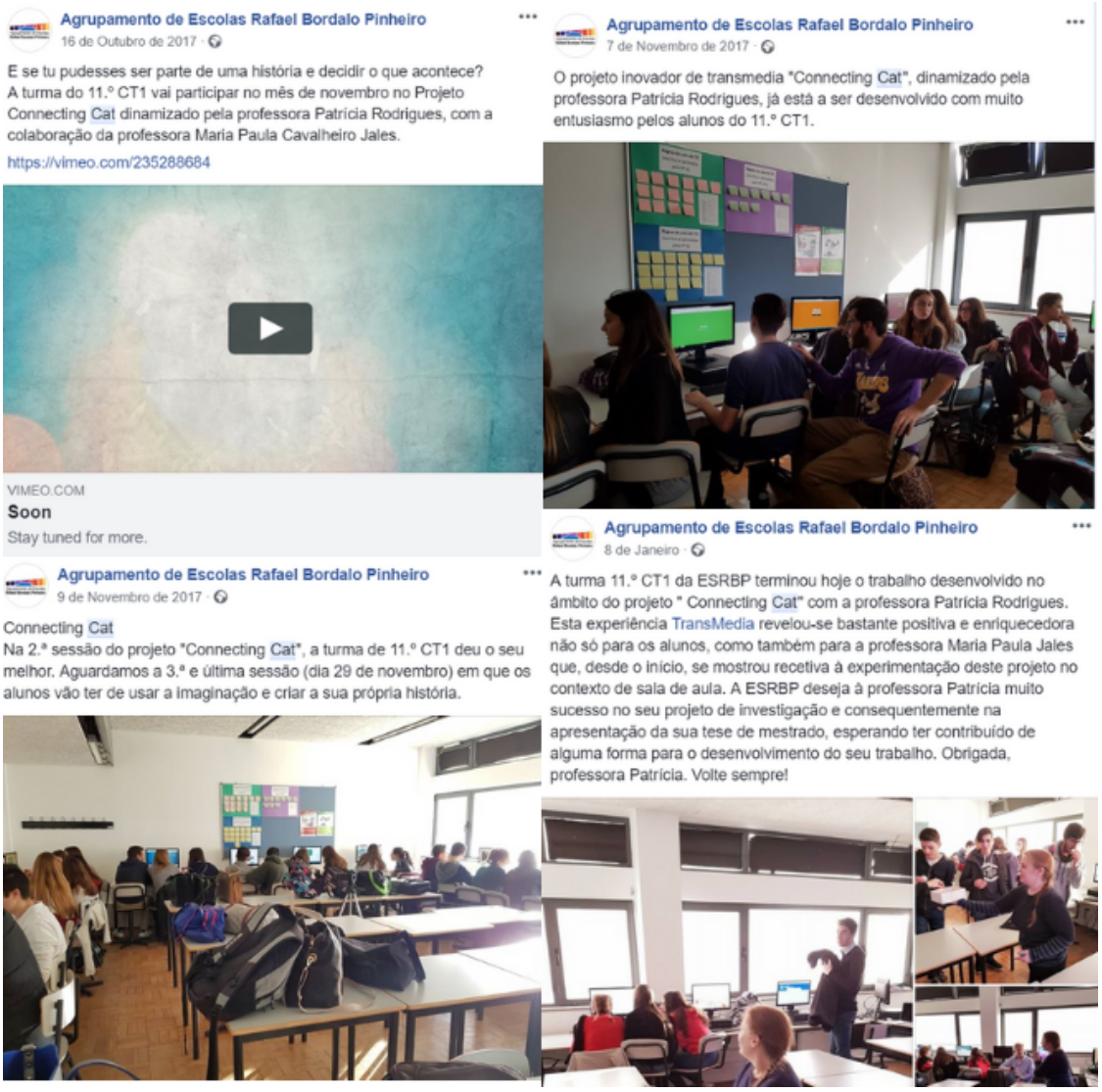
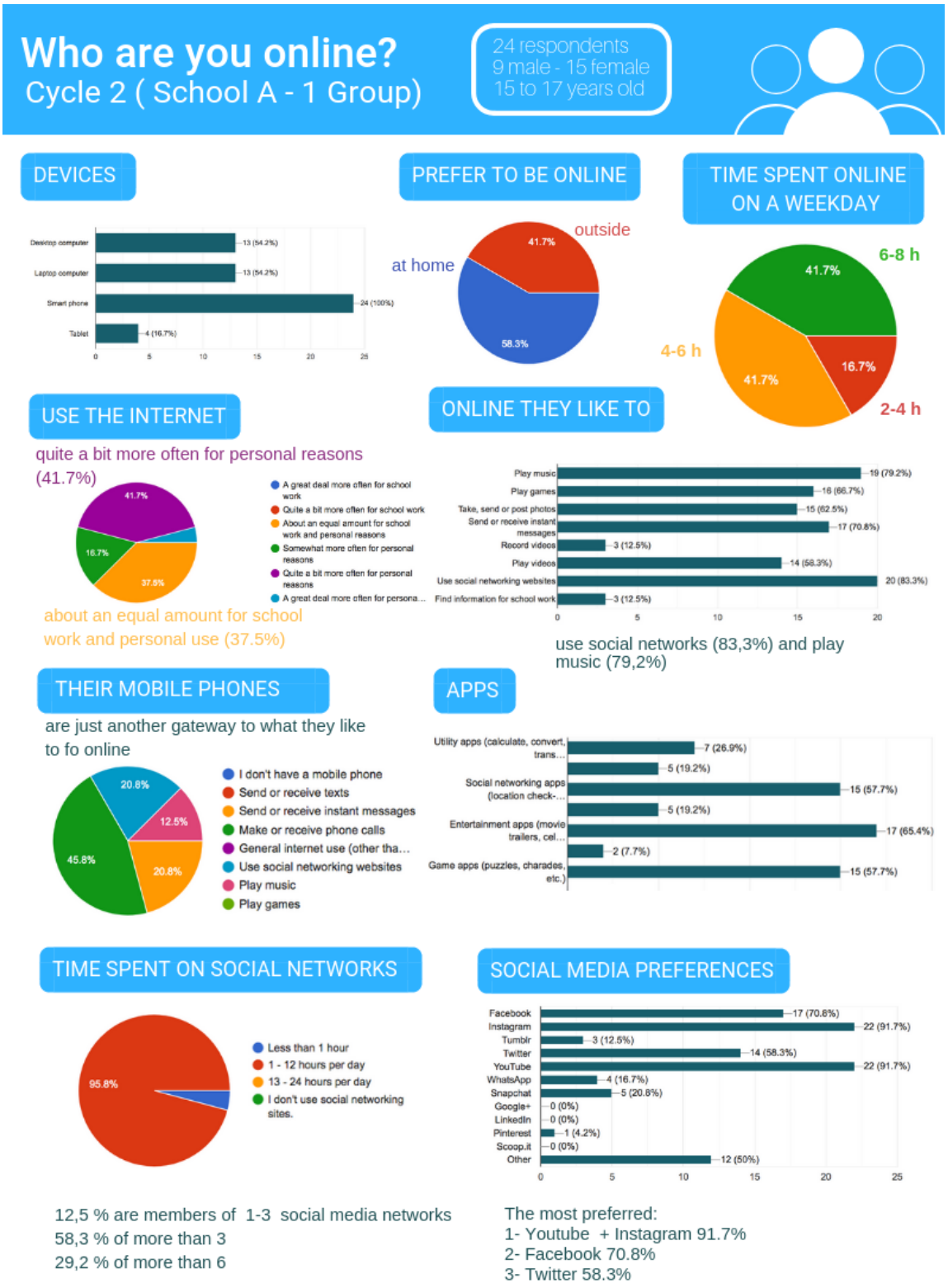


Figure 4.13 Posts related to the 2nd implementation cycle of CC.

In School B, after the school board's approval to implement the project, teachers informed the students about the research goals and the sessions. Additionally, it was necessary to send a request to their parents or guardians to obtain their permission to record audio during the sessions. Neither during cycle one nor two, was this necessary in the case of School A, since at the beginning of the year, parents/guardians had signed a form stating their position regarding these matters.

As relevant as the context of the implementation are the ones who take part in it. The following presents an overview of the data collected regarding participants of the study in school A. It is important to note that there are 27

participants in this group; however, three did not complete this exploratory survey concerning their media use and preferences since they were absent during the day when the first session took place.



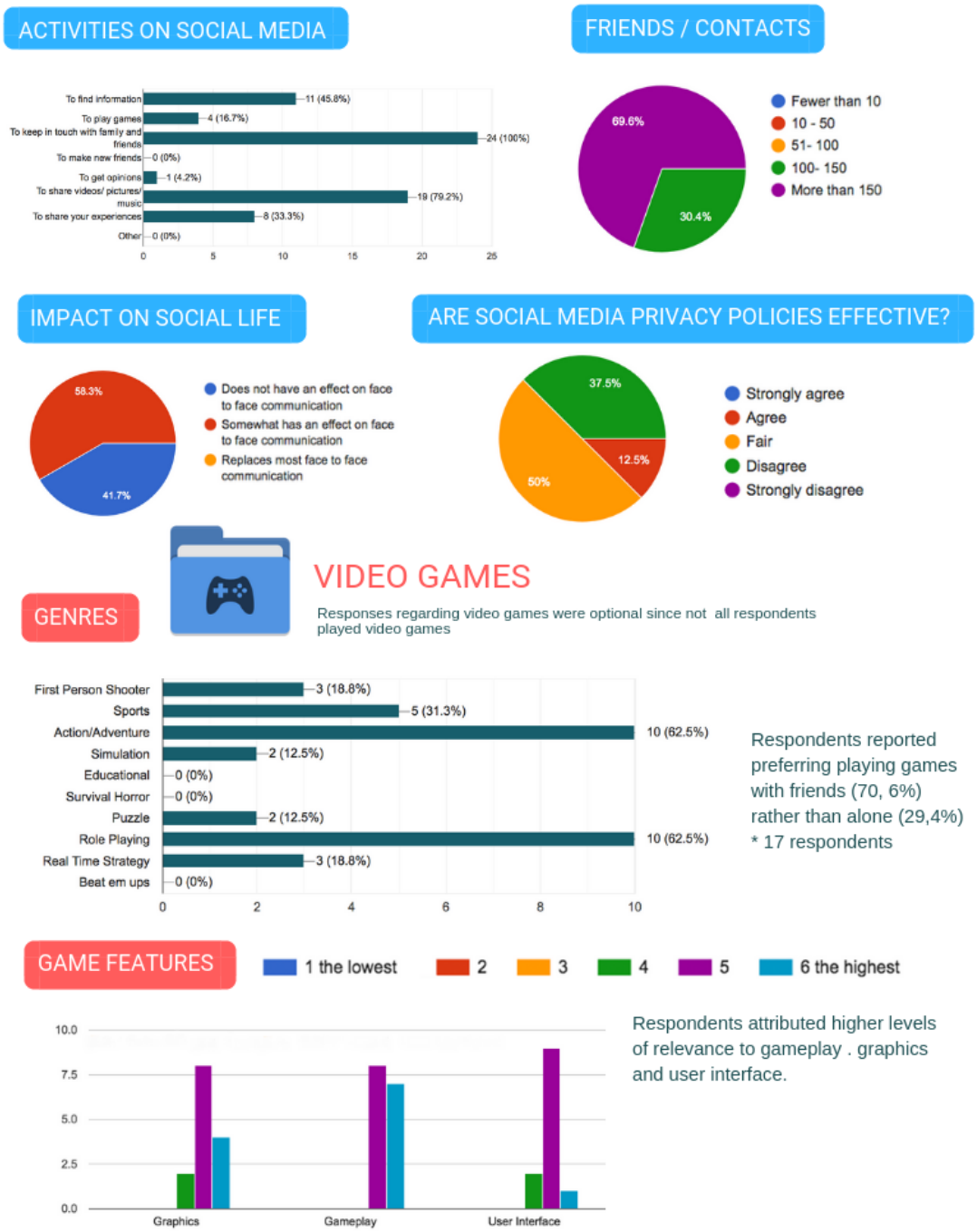


Figure 4.14 Overview of the data collected through the online survey "Who are you online?"– 2nd implementation, school A.

Respondents of this survey according to feedback provided by them are well connected having diversified access to devices to connect to the online world. Despite 58.3% having had reported preferring to be online at home, there is also a significant number of respondents that stated to prefer to be connected outside (41,7%). They dedicate a meaningful amount of time to

activities on the online world, despite the fact that 41,7% have stated that they use it for their personal interests, the numbers are expressive regarding respondents that divide their time between academic tasks and personal interests - 37, 5%.

Besides being active members of social networks (83,3%,) they are also passionate about their music (79,2%) and games (66,7%). Perhaps the most surprising aspect is that three respondents, 12,5%, make use of the online world to record videos. Their use of apps points to their areas of interest - 65,4% of respondents make use of entertainment apps, and more than half (57,7%) are users of social networking apps as well as game apps.

Unlike the group of respondents of cycle one, Facebook (70,8%) only comes in second, it's Instagram and Youtube that are the top of their preferences (91,7%). Their networks on social media are large - 69, 6% reported to have more than 150 friends/contacts and 30,4% between 100 and 150 friends. In terms of impact on their social life their opinions divide. While 56,3% reported that social media has somewhat of an effect on face to face communication, 41,7% reported that interactions on social media platform do not have an effect on face to face communication. In what regards social media privacy policies, half of the respondents reported that they are somewhat effective. Related to gaming activity, taking into account feedback provided by 17 respondents, they prefer action adventure games and role-playing games (62,5%). Graphics, user interface, and gameplay are the most relevant aspects in what regards game features.

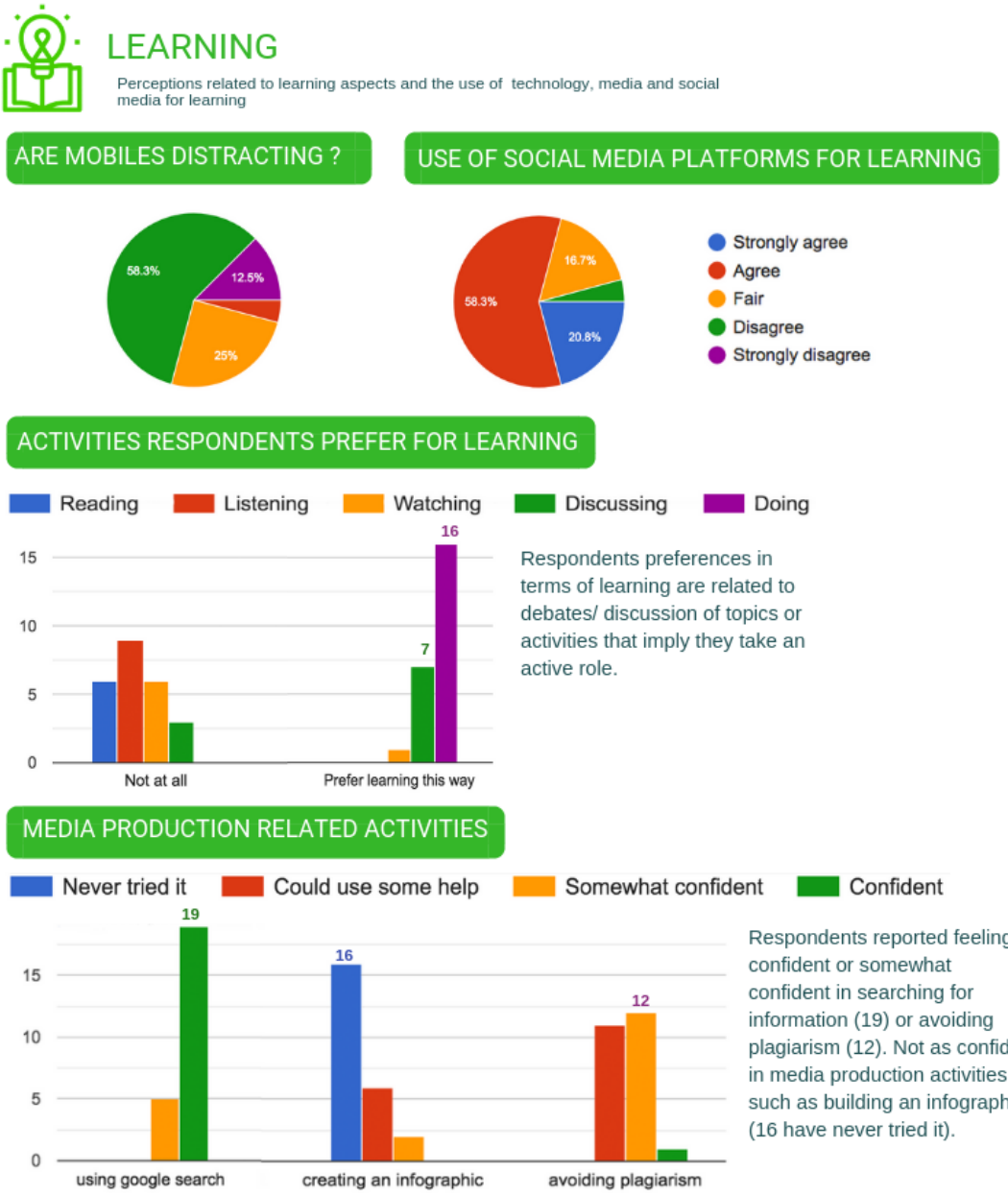


Figure 4.15 Perceptions on learning through the use of media and technology – 2nd implementation, school A.

In what relates the use of mobiles phones for learning, more than half of the respondents (58,3%) do not find them to be distractive. However, a quarter of the respondents consider them to be somewhat of a distraction. More than half are also in favor of using social media platforms for learning. Similar to respondents of this survey in the first cycle of implementation, respondents prefer to learn by doing (66,6%) and through the discussion of topics (29,1%). Concerning the development of media production activities, respondents

report a high level of confidence in their skills to search for information online (79,1%). However, 66,6% have never tried creating an infographic probably indicating they might not be very proficient in what regards the production of media artifacts. Half of the respondents reported feeling somewhat confident on being able to avoid plagiarism online.

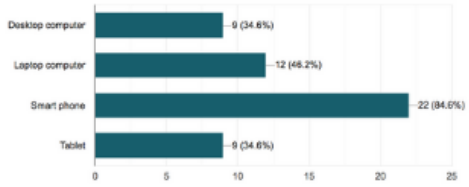
The following is an overview of the data collected regarding participants in school B.

Who are you online?

Cycle 2 (School B - 2 groups)

26 respondents
11th-grade students
10 male - 16 female
15 to 18 years old

DEVICES

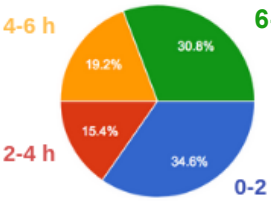


PREFER TO BE ONLINE

at home



TIME SPENT ONLINE ON A WEEKDAY

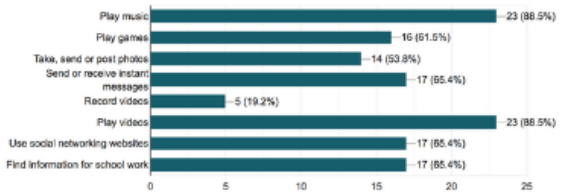


USE THE INTERNET

about an equal amount for school work and personal use (38.5%)



ONLINE THEY LIKE TO



Play music and videos (88,5%)

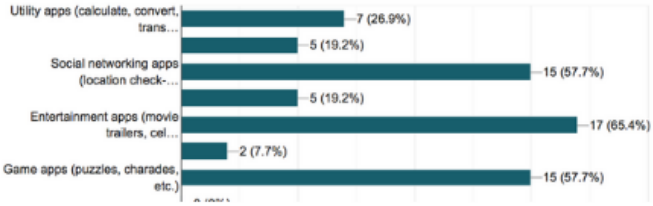
ON THEIR MOBILE PHONES

Diversified range of activities and uses

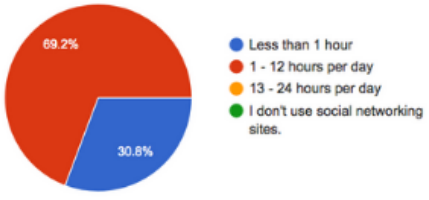


APPS

,They predominately use social networking (57.7%), entertainment (65.4%) and game (57.7%) apps

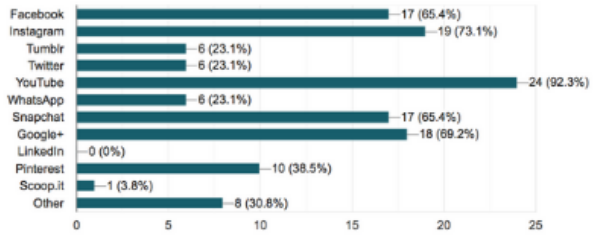


TIME SPENT ON SOCIAL NETWORKS



34,6 % are members of 1-3 social media networks
26,9 % of more than 3
19,2 % of more than 6
15,4% of more than 10

SOCIAL MEDIA PREFERENCES



The most preferred:
1- Youtube 92.3%
2- Instagram 73.1%
3- Google + 69.2%
4- Facebook & Snapchat (65,4%)

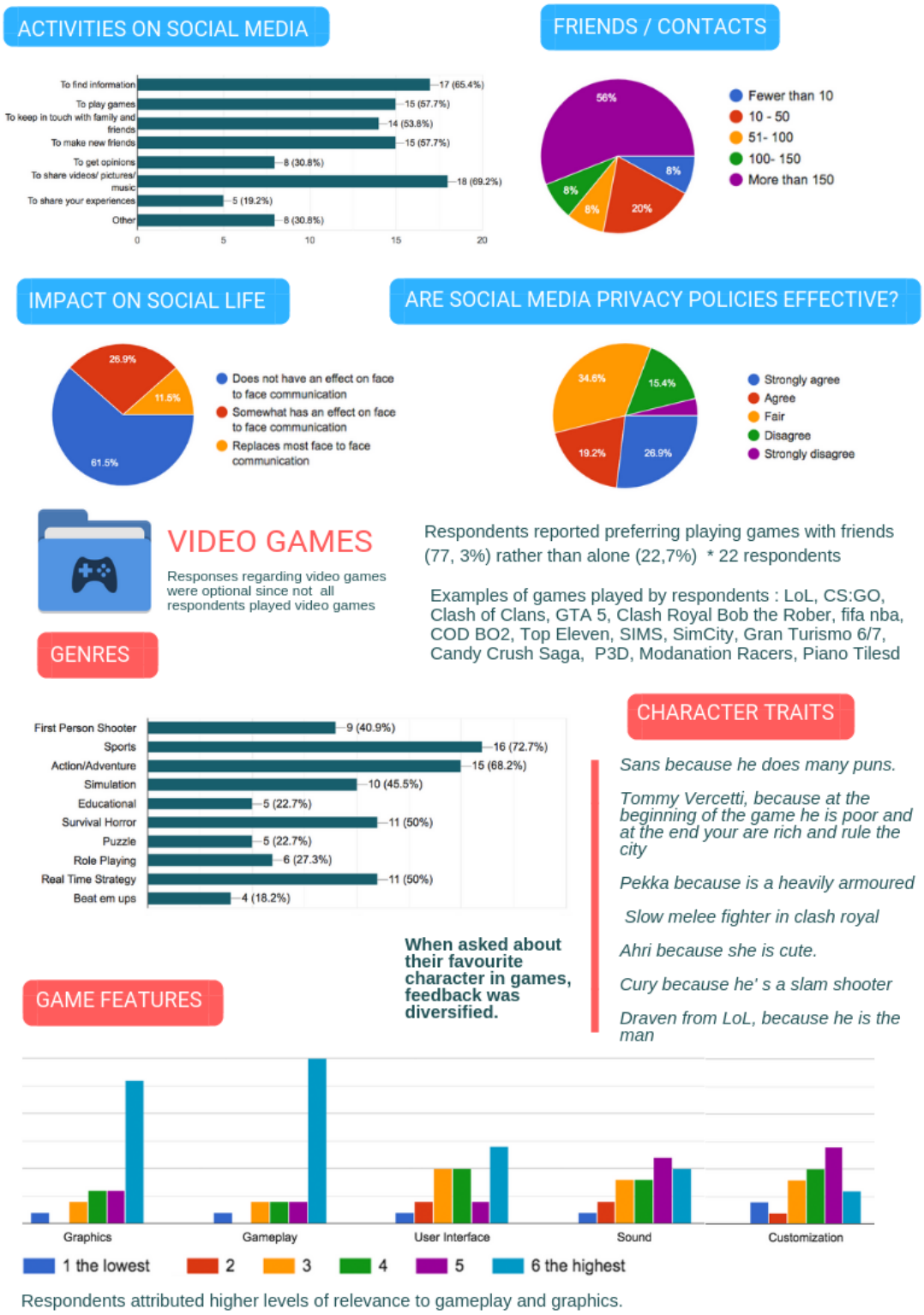


Figure 4.16 Overview of the data collected through the online survey “Who are you online?”– 2nd implementation, school B.

Similar to respondents of school A, respondents of school reported having access to a diversified set of devices. Nevertheless, respondents of school B reported preferring to be connected to the online world at home. This may be attributed to the fact that first, they do not have access to the WiFi network in school and second, the area they live in does not have many social and cultural spaces hence they may be more receptive to be with friends and peers at home or at their friends' houses. In comparison to respondents of school A, according to feedback provided by respondents of school B, they spend less time online (on weekdays) - 34,6% reported not to be online or just for a period of up to two hours. However, a significant number of respondents reported being online for a period of six to eight hours on a weekday.

A considerable number of respondents of school B reported to use the internet for school work - 38,5% dedicated their time online to school work related matters and to develop activities of their interest on an equal basis. However, comparatively, to respondents of school A in both cycles, they reported using the internet a great deal more often for school (15,4%).

Online they like to play videos and music (88,5%). There are also respondents that reported to like to record videos (19,2%). The use of social networking sites is lower than in the case of respondents of school A - 65,4%. As expected since they like to watch videos, Youtube was at the top of their preferences 92,3%. Their second favorite is Instagram (73,1%) and Google + the third (69.2%). A platform not referred by respondents of school B. Facebook and Snapchat are a fourth option for these respondents (65,4%). Based on their feedback during sessions, this might be attributed to the use of other platforms such as Viber. Similar to respondents in school A, they are part of a vast network in social media platforms - 56% reported having more than 150 friends or contacts in their network.

In what regards the impact on their interactions in the offline world, 61,5% respondents consider that interactions in the online world do not affect their interactions offline. Nevertheless, 11,5% reported that they could replace most face-to-face communication. 26% consider that social media privacy policies are effective and 34,6% consider them to be moderately effective.

In what concerns video games, similar to respondents of school A of both cycles, they prefer to play them with friends (77,3%). In terms of genres, their feedback indicates a preference for sports (72,7%); action and adventure (68%) and real-time strategy. In terms of characters in games, their preferences turn to strong characters, heroes that rise above the challenges they are faced with. In the same manner, as respondents of school A, the graphic design and gameplay are the most valued features in games.

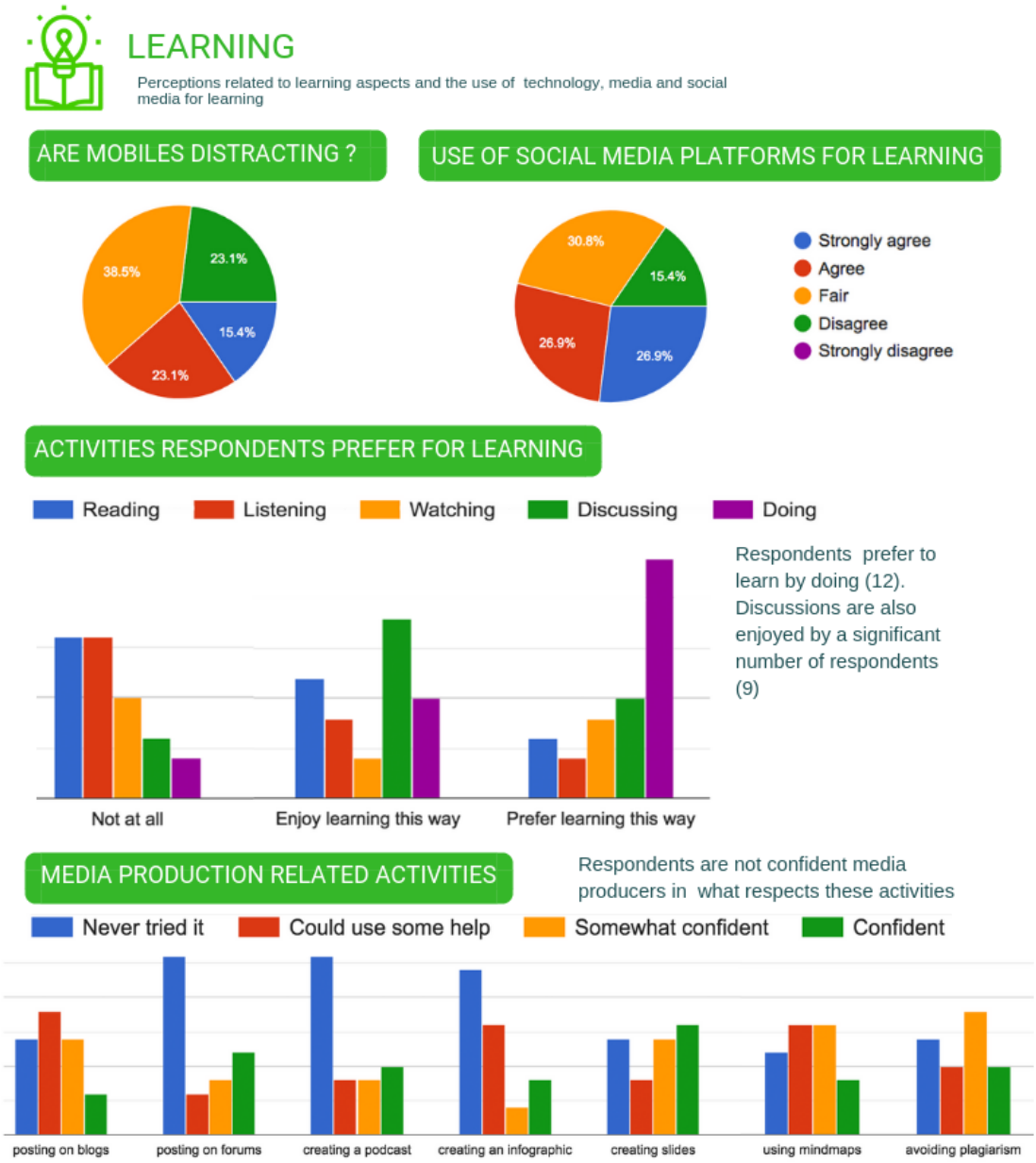


Figure 4.17 Perceptions on learning through the use of media and technology – 2nd implementation, school B.

A significant amount of respondents reported to find that the use of mobile devices in learning environments may be distracting - 38,5% considered them to be a moderate distraction, and 15,4% strongly agree that they are distracting. Only 23,1% does not consider them to be a distraction. In what concerns learning through the use of social media platforms feedback was diversified. While more than half of respondents are in favor (26,9% strongly support the use and 26,9% moderately agree), 15,4% strongly disagree with its value for learning, and 30,8% moderately agree with its use in learning environments. 46,1% of the respondents reported liking activities that implied learning by doing. Feedback related to media production activities indicate that they might not be confident media producers. For instance, more than half have never created an infographic or a podcast or posted on a forum, but 34,6% reported to be somewhat confident on their ability to avoid plagiarism.

In accordance to what has been discussed up to this point, sessions in this cycle were targeted to explore the learning sequence: reception, participation contribution through the use of CC. Despite this alignment, participants were allowed to explore the storyworld in an unconstricted way. Resources could point to the specific exploitation of content in a platform, but they were allowed to find information elsewhere in the storyworld. At the beginning of each session, students had access to a guiding document (Appendix IX) that served the purpose of a to-do list. In it, they could find useful resources and specific instructions or information to complete the activities proposed.

As previously mentioned, after completing the survey, the students started the first session with a challenge that explored creative commons licenses and guidelines on the selection and reference to online resources they might want to use. After a brief discussion of the information provided on the “CC 101 - Get savvy” infographic (figure 4.11), they completed an interactive quiz online. An activity enjoyed by all the groups that stimulated competition among them. For a few moments, the IT labs became completely silent, as participants were entirely focused on answering the questions on

time while looking to the screen and turning to their computers or mobile devices to answer. This particular platform provides instant feedback after each question, and so it was possible to know which participant was getting more correct answers in a row and the overall performance of the participants. The fact that they were competing against each other and expected to achieve a higher score played a determinant role in the engagement with the targeted matter. The overall scores of the groups are presented below. Despite not having achieved high scores, one of the groups even had a negative score, the goal of providing an overview of the appropriate use of online resources was to a great extent achieved.

Participants		Total Correct Answers
School A		54.79%
School B	Group 1	48.53%
	Group 2	59.38%

Table 4.1 Scores of the interactive quiz “CC 101 – Get Savvy”.

The completion of the “Who are you online?” survey was time-consuming and affected the development of the remaining activities planned for session one.

In school A the delay may be attributed to the fact that students were working in teams and there was only one computer per group of 2 to 3 participants - ultimately they had to take turns to complete the survey. The teacher had previously suggested the use of two IT labs since students could work autonomously on the tasks; however this would affect the researcher/ participants interaction dynamic and it would be much more difficult to support the students in the development of the activities.

In school B, this may be attributed to technical problems with the computers in the IT lab. The latter had a severe impact on the development of activities of all the sessions. Despite the ratio being one computer per student,

the computers were outdated in terms of software and hardware as well. In the particular case of completing the survey, several students had to change to another computer and because they had lost all their answers they had to restart the process of filling in the form.

Since it was the beginning of the school year, the researcher did not have access to assessment records of participants in the sessions, as was the case in cycle one. Nevertheless, through interaction with the students, and using feedback from teachers on the performance of students during classes, the researcher was able to identify students, especially in the two groups in school B, that were struggling to understand what was being proposed.

The sessions were conducted in English in the same manner their regular ESL classes are, but this might have posed an additional challenge to these struggling students. The linguistic barrier may be one the factors that might have affected their overall experience of the storyworld. They might have found the activities to be too complex or difficult in terms of the use of the language, for instance the completion of the online survey in English.

Students were working on the tasks at different paces. In the case of school A, the fact that it was a large group of participants hampered the process of providing feedback to students on what they were doing. Nevertheless, it is important to note, that in both schools, the teachers assisted in the management of the session either by providing assistance to students themselves or indicating to the researcher the students that needed support. In TL environments such as the ones created during the sessions, the teacher or researcher, i.e. the mediators of the experience, have ultimately to be multitaskers and acute observers. They need to be pragmatic and solve problems happening simultaneously and constantly readjust strategies and plans to provide the best possible experience of the storyworld. It is about developing a ”thinking on your feet” skill - react quickly and provide the feedback students need on time.

After verifying that all participants had viewed the webisode *Who am I?*, the first receptive step of this session, a brainstorm activity was suggested to the group. They had to gather information about Cat. This was done via a

collaborative tool that creates a word cloud with inputs participants provide. An example of a word cloud created by students is provided below.

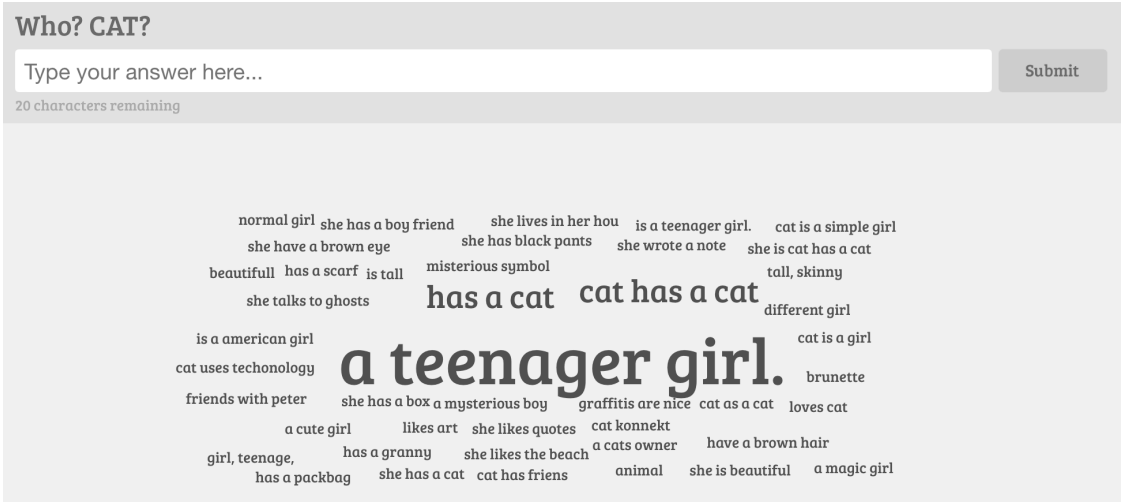


Figure 4.18 Wordcloud produced by participants regarding the main character.

Students' contributions to the word cloud were quite exploratory at this point; the larger words indicate that several participants provided the same input. Teachers found this tool to be particularly useful as a comprehension exercise. Both the teacher and the class can track the inputs and discuss them as a group. The teachers of this cycle also indicated that it is a quick and pragmatic assessment tool.

To further tap into the character's life, the following activities were targeted to explore both the Instagram page as well as her Facebook profile. Additionally, students could tap into her mobile, through an android system dump from which they could retrieve photos or access her contacts, records of calls and messages. They would take the role of hackers to further tap into Cat's world and at the end provide a report to an intelligence service. This exploration was guided through activities suggested in the exploration guide "*Who am I?*" (Appendix II).

Outputs concerning this stage put into evidence that the initial challenge to scaffold students with strategies of search and selection of digital resources paid off. They appropriately mentioned their sources as it possible to verify in some of the works gathered through an online bulletin board available at

https://padlet.com/ccatproj/who_am_i (access password - “cc”). Participants’ outputs indicate that they were able to track information across platforms, but they also took part in storyworld. For instance, by adding songs to Cat’s playlist related to their musical preferences. In what concerns language use, what they presented was not complex in terms of discourse but shows that they were able to develop their argumentative skills. They also discussed with peers their options; hence participants were also developing speaking skills such as expressing their opinions. Despite being a rather small contribution, they were able to add something new in this case assets related to the main character.

Throughout the development of activities at this stage, it was possible to identify that some students were struggling with the use of the platforms indicated for the completion of tasks. Even though the students were supported with information in the guiding document on how to use the platforms, basic processes such as copy and transfer their work to another format was confusing for them. This indicated that not all the participants had the necessary digital skills to complete the tasks. Lack of time and taking into account the occurrences mentioned above, the collection of digital artifacts was poor.

During this session it was possible to observe that groups used different strategies to tackle the tasks. Some groups took a considerable amount of time discussing their criteria to add resources to Cat’s mobile, while other groups distributed tasks among members to retrieve information from different platforms. While completing the tasks, they were using the language and exploring curricular topics, for example data protection. This is visible in one of the comments of one of the participants that was exploring the android system dump - “I didn’t know that we could extract so many things out of a mobile.”

task 1

"Liquid Art - Colorful TaT" by Liquid-Art is licensed under CC BY-NC-SA 3.0

We choose this photo because we saw on her Instagram and facebook that she was really into art, and this pictures reflects her interest in this topic.



Task 2

- She went to London
- she went on the 23th of june 2016
- Instragam followers and hackers
- By her social media posts and she llikes publish about art and her travellers
- she went to London and Aveiro

Task 3

Comment on facebook picture

"Such a wonderful picture <3"

The people who send the messages are her friends.

Figure 4.19 Example of work developed by participants of the 2nd implementation cycle (session 1).

Sessions two and three of this cycle followed the same structure. But the technical problems with computers often crashing in school B and different rhythms on the development of activities on the part of participants in school A, did not allow for the exploration of an in-depth analysis of the blog as it had happened during cycle one. Learning artifacts of this cycle were poor in terms of complexity. This does not necessarily imply that they wouldn't be able to produce digital artifacts for the storyworld of more complex matter. The fact is that 90 minutes were simple not enough to plan and structure more complex artifacts. For example, one of the groups in school A was developing a script to shoot a video when the school bell rang.

Some participants in school B failed to complete all the tasks because they were trying continuously to beat the score of other students at an online

drag and drop exercise related to the plot of *Seek and you shall find*. The "messiness" of these sessions showed that participants in both schools were discussing, planning while using the target language, despite the fact that they weren't able to complete all the tasks.

Using the Fluxus world as the setting, participants were also able to explore curricular topics they would cover during the rest of the year, such as the world of work. The following two examples regard the activity "Angel investor wanted," part of the exploration guide *Allure* (Appendix III):

- Example A

  Funds Request

  Dear Sir,

  We need funds to help us with research to know more about the Fluxus.
  We are aiming for a total of 6.5 million dollars to complete our project. We really are looking forward to know more and more about these people, so all the help would be great.

  Thank you for your time,

- Example B

  Subject - Funds

  Dear Belmiro,

  we are trying to know more about the Fluxus, but we need some funds to get the technology needed to investigate the planet. To get that money we ask you, if you can help us, we think that the Fluxus have a lot of potential benefits.

Despite being somewhat short pieces of writing, the two examples put into evidence how the storyworld can be used for the exploration of a curricular topic. Students' work can be used (on a hypothetical expansion of this activity) as a basis for discussion and improvement of formal writing skills – e.g. the use of surname instead of the first name or how to further ground their request. It can also be used to address issues of accuracy such as the correction of "know" to "knowing" and the omission of "really" or finding equivalents to "great" not appropriate in this case. Curiously, example B also shows how students bring their context into the storyworld. They address their message to Belmiro, in reference to Belmiro de Azevedo, a Portuguese

entrepreneur and the second richest man in the country that had recently passed away at the time of the sessions.

Participants' media artifacts or plots regarding the expansion of the AWOL quest, as was the case in cycle A, reveal that they bring the story to their real-life contexts or relate them to pop culture aspects of their interest. For instance, in a spark adobe slides presentation, a group of students developed a story [8] around Nasa, aliens and *Star Wars* developing a conspiracy theory about Cat knowing too much about alien life forms.

Other participants may have been inspired on the Latin American scenario where Megan was last seen and related it to series they were watching such as *Narcos* or *Queen of the South* by placing Cat or Megan at the center of the drug trafficking world, for example:

> *So Cat goes to Bolivia to try and catch Megan's trail... Afterward, she finds out that some coca farmers abducted Megan... Cat gets into much stress because of the danger that was involved with the situation and tries to alert the authorities... However, Cat finds out that the leader of the drug cartel that kidnapped Megan has in is possession a piece of the portal. Cat gets very excited with this and tries to dismantle the whole operation with the help of the CT unit SAS of England... They are able to rescue Megan, and secretly Cat sneaks into the headman's quarters and takes the portal piece leaving her one step closer to assemble the whole portal.*

Despite the lack of time to further develop their stories, participants who were able to complete the AWOL activity engaged in the exploration of their storytelling skills. Some media artifacts show a higher level of complexity than others, but even struggling students were able to develop skills related to media production. An excellent descriptive example is the fact that some participants enjoyed the use of online bulletin boards to gather information. They used them to create informative posters regarding Megan's disappearance both with the information they had collected through the AR and QR clues and with information on how to help authorities find missing people, they had searched online.

[8] "Nasa and Cat" is available at https://spark.adobe.com/video/wJ7JNUZtsnFsV



Figure 4. 20 Example of extensions of the AWOL quest created by partcipants of the 2nd implementation cycle.

Taking into account the research goals of this cycle (not only to gather students' feedback but also to acquire feedback from the teacher's perspective), feedback concerning CC in this cycle contrasts participants' feedback with data related to teachers' assessment of the storyworld. It is important to note that the number of respondents to the teacher's survey is small; thus it only regards feedback provided by the three teachers involved in this cycle of implementation plus seven other teachers.

Before presenting the overview of data related to the storyworld, and since it was not provided up to this point, the following is an overview of teachers'/ respondents' perceptions regarding the use of media and technology in formal learning environments.

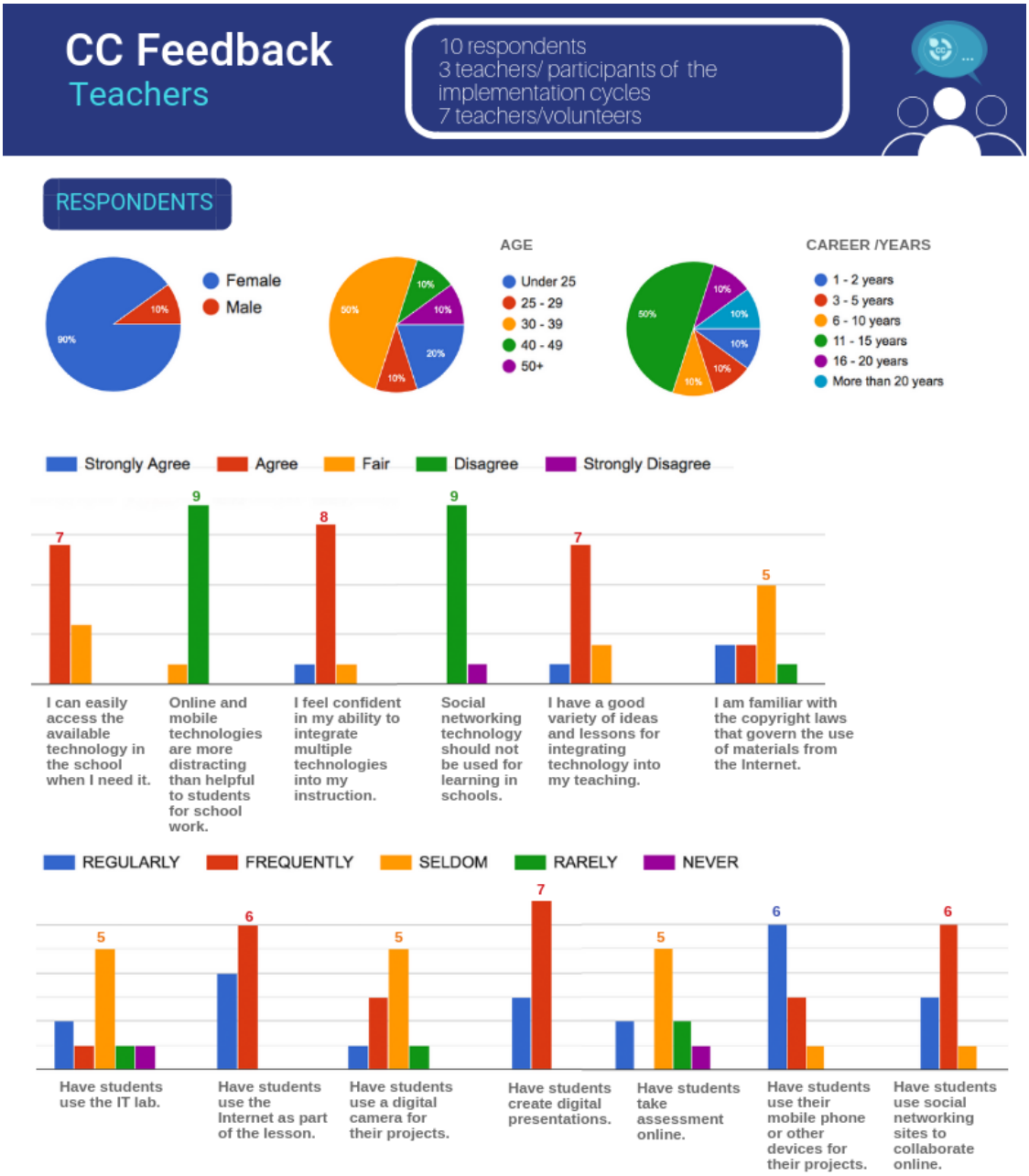


Figure 4.21 Teacher's perception of the use of technology and social media platforms- 2nd implementation cycle.

Teachers'/ respondents' feedback put into evidence that they are in favor of using technology and social media platforms for learning purposes, but not all of them have easy access to IT labs in their learning contexts. The fact that five respondents reported not to be fully aware of copyright laws may also indicate they may not be confident media producers. Data collected is inconclusive of whether or not they make appropriate use of online platforms

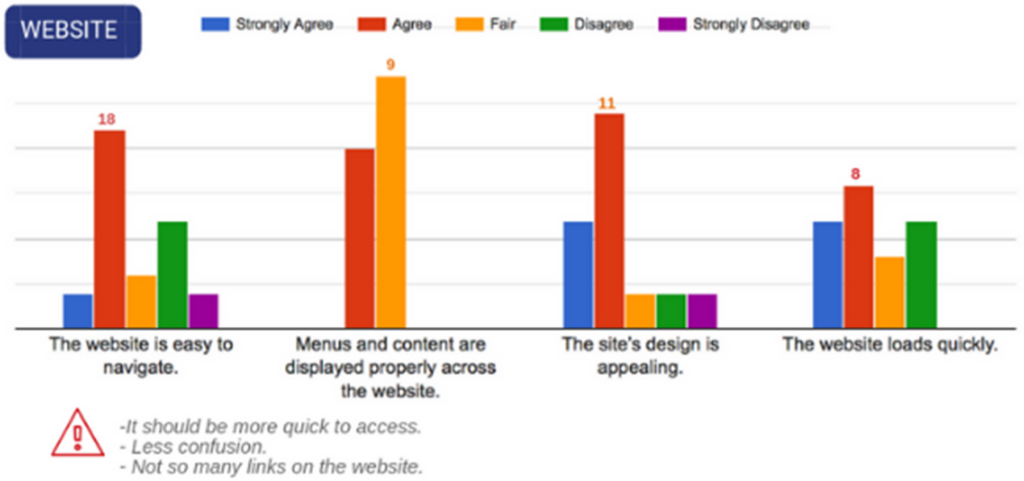
or whether or not they possess robust media literacy skills. Despite not being the target of this research project, it is necessary to tap into strategies on how to empower teachers with media and transmedia literacy skills. Otherwise one has to ponder on how teachers, who do not possess strong media literacy skills, will be able to design and cope in learning environments designed to explore media use and make use of media platforms.

The overview presented next concerns feedback given by students and teachers[9] regarding CC during this cycle.

[9] Teachers' feedback was coded and indicated with the use of light blue and respondents of school B with the use of red.

CC Feedback
Cycle 2 (School A - 1 group)

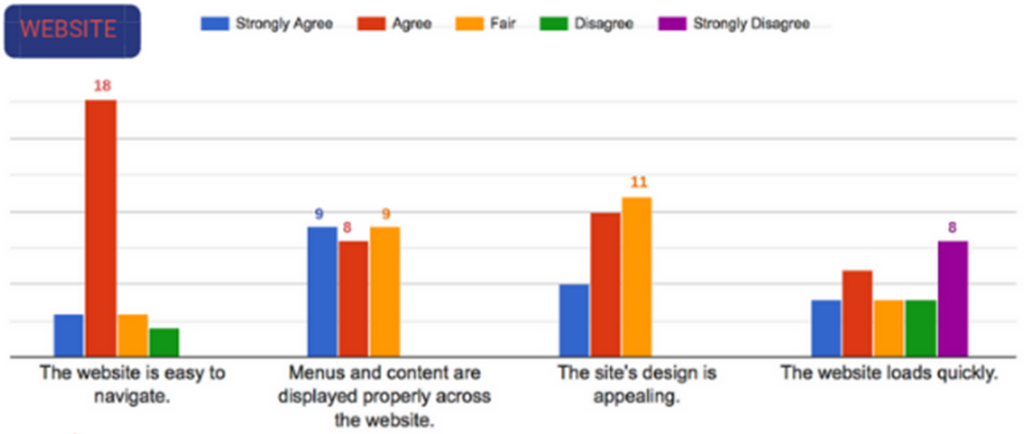
24 respondents
11th Grade Students



-It should be more quick to access.
- Less confusion.
- Not so many links on the website.

CC Feedback
Cycle 2 (School B - 2 groups)

26 respondents 11th Grade Students
Group B1 - 16 participants
Group B2 - 10 participants



-Improve loading!
- More bright colors.

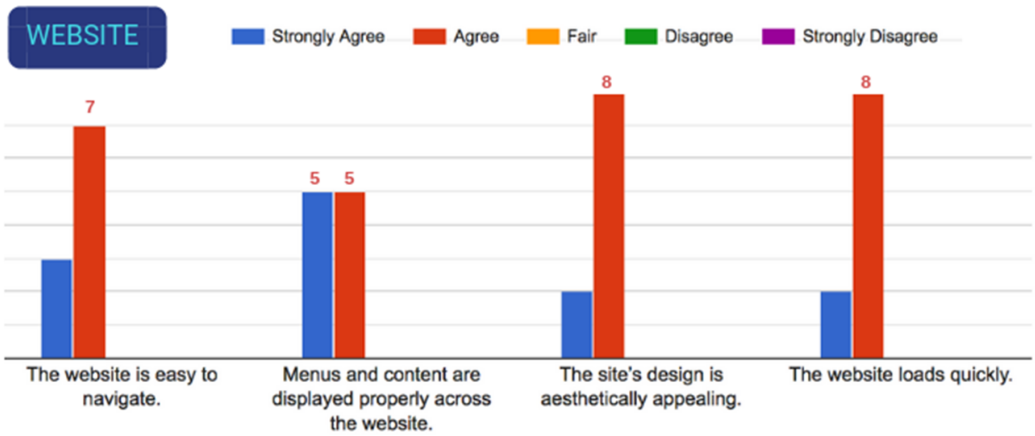


Figure 4.22 Feedback related to the storyworld's main interface – 2nd implementation.

In general, participants/students in this cycle provided feedback that indicates lower levels of satisfaction with the platforms than participants of cycle one. A concerning aspect is that participants of school A indicated higher levels of dissatisfaction with the menus and the main interface of the storyworld. An aspect that had been further improved taking into account participants' feedback of cycle one. Feedback of respondents of school B also indicated that the new design of menus was not entirely appealing to them. However, teachers feedback regarding the website was overall more positive. The next overview concerns the webisode *Who am I?*

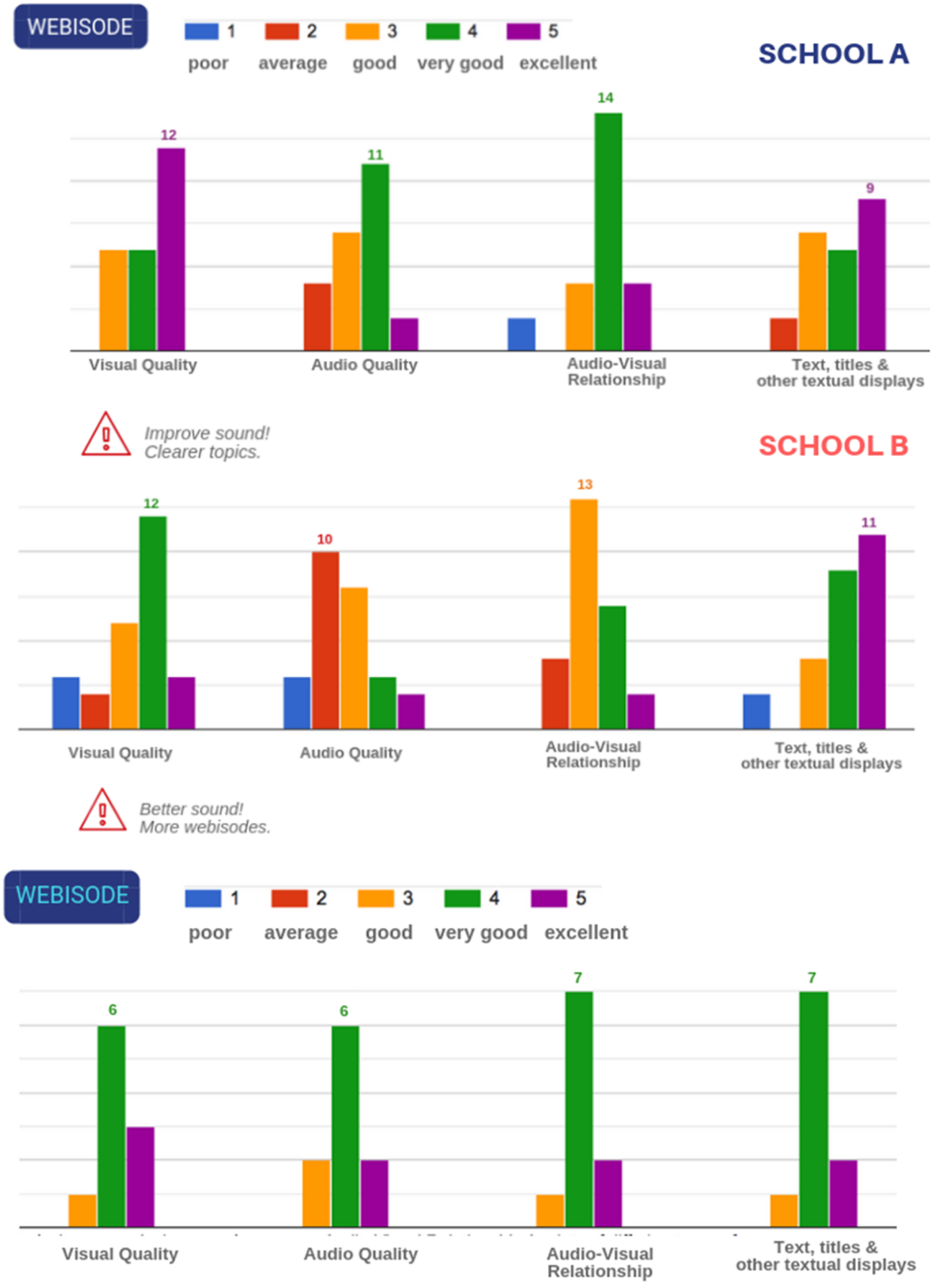


Figure 4.23 Feedback related to the webisode – 2nd implementation cycle

In what regards the webisode feedback was in general positive. Nevertheless, feedback from respondents of school A continued to indicate low levels of satisfaction regarding the audio quality of *Who am I?*

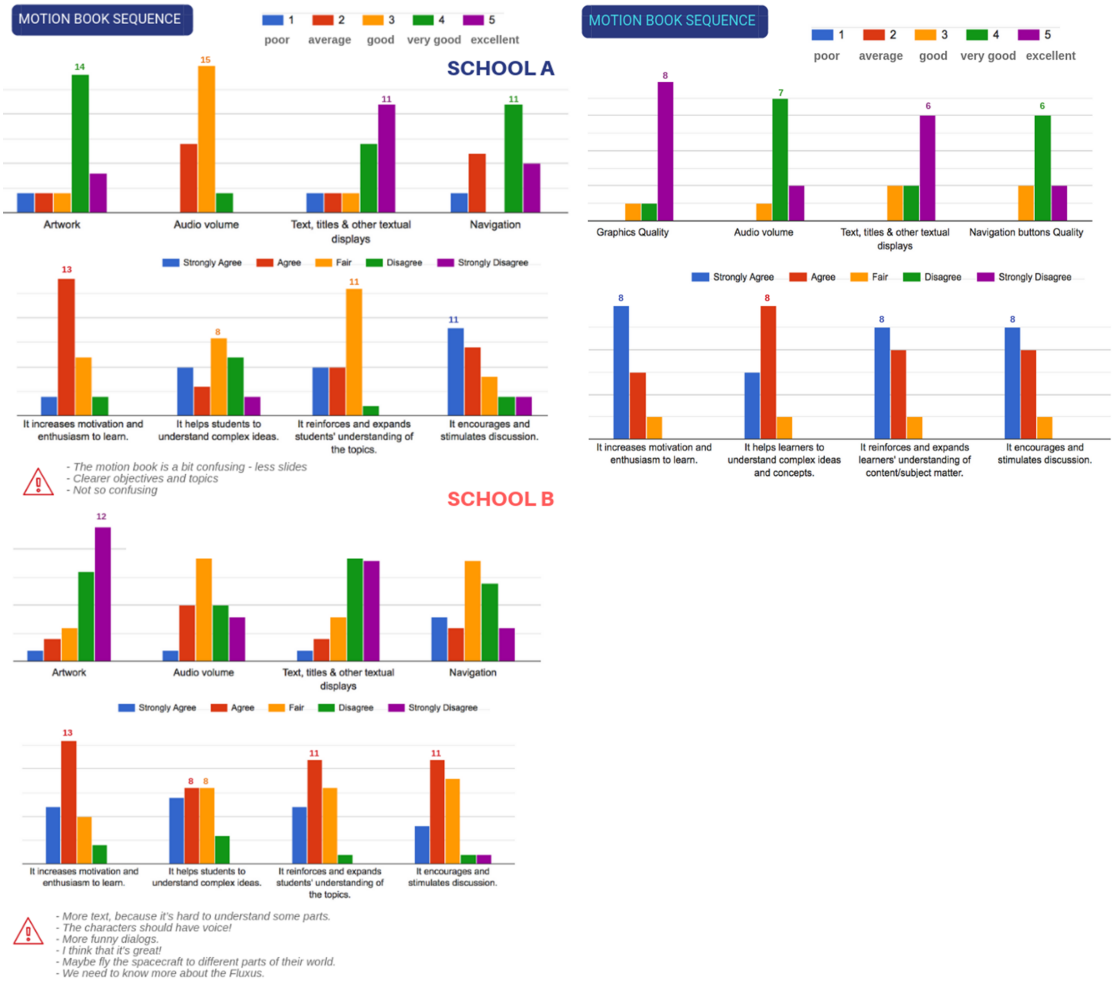


Figure 4. 24 Feedback related to the motion book sequence – 2nd implementation cycle

Feedback related to the motion book sequence was also in general positive, but teachers' feedback was unexpected. Despite rating the platform as good in terms of graphic quality, they rated quite low their learning exploration. Taking their feedback into account, the motion book sequence does not increase motivation to learn or helps learners understand complex ideas. Hence, the design strategy of using visual elements to explore complex concepts like linguistic diversity through the Bab-ili tree was not perceived by teachers/ respondents as a learning opportunity.

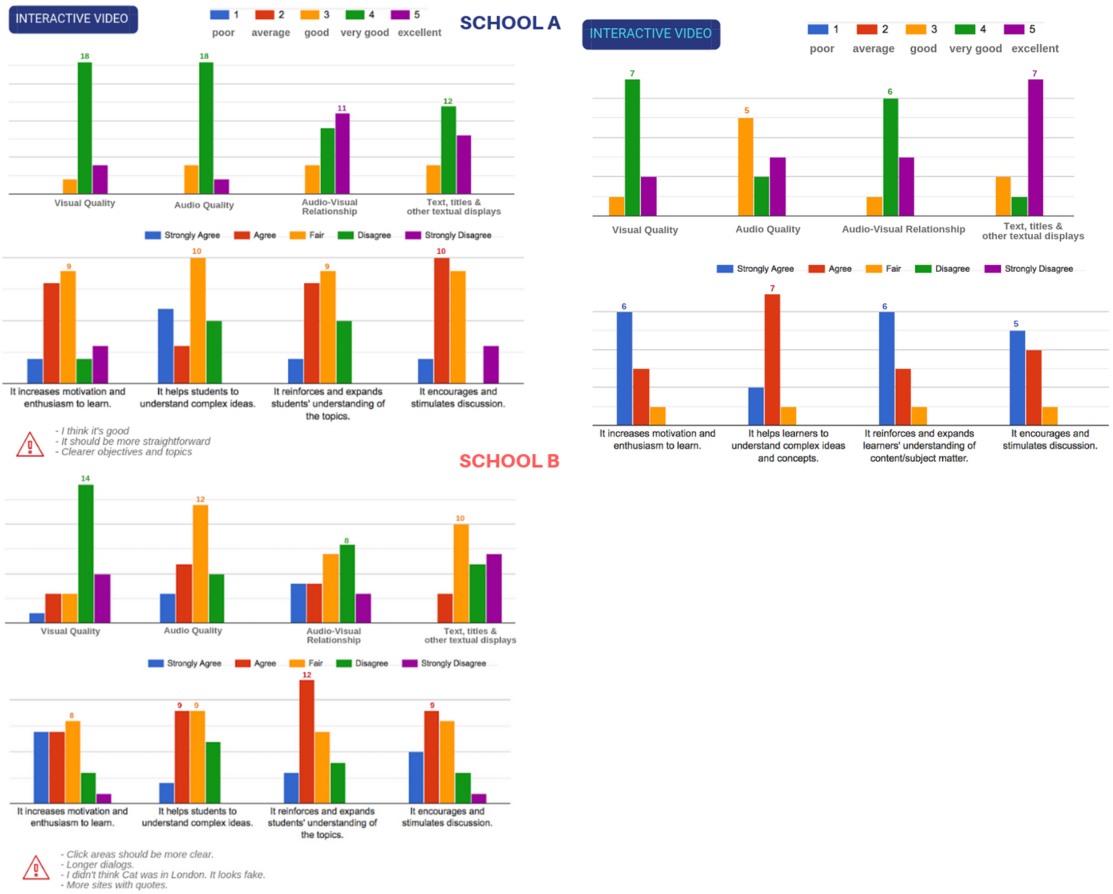


Figure 4.25 Feedback related to the interactive video – 2nd implementation cycle.

Similarly, teachers' feedback concerning the learning layer of the interactive video indicates that they did not identify this platform as appropriate to explore learning matter. Compared to respondents of cycle one, respondents in this cycle showed lower levels of engagement with this platform, despite the fact that navigation elements had been improved in the version of the interactive video they had explore. In both groups of respondents there were ratings as a low as one for this platform.

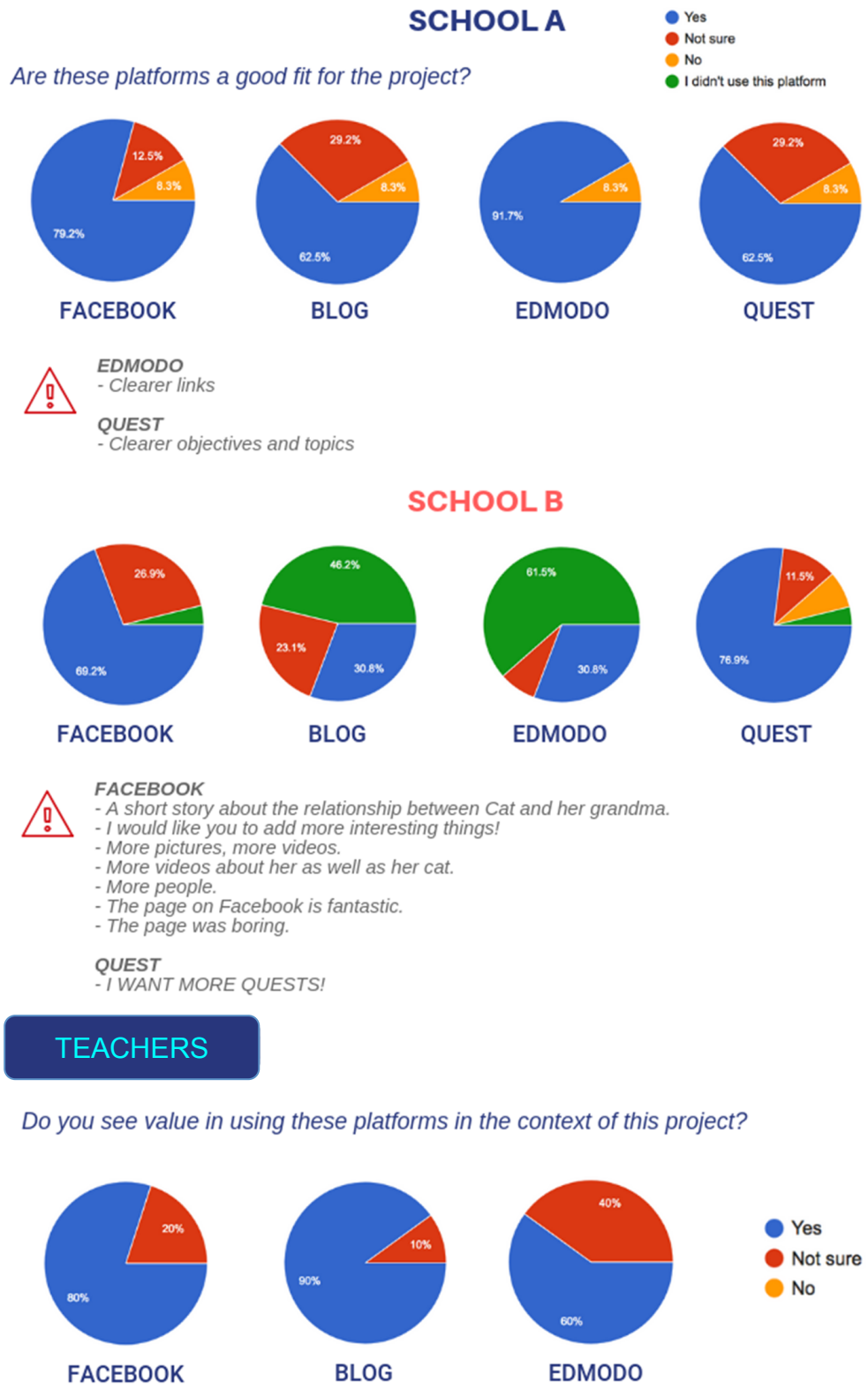
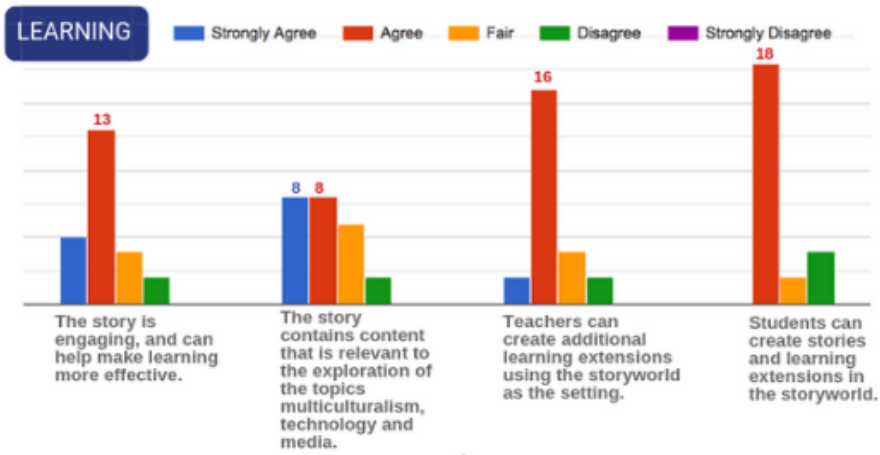


Figure 4.26 Feedback related to the storyworld's output platforms – 2nd implementation cycle.

Overall feedback regarding these platforms was low. A considerable amount of students of school B did not have the opportunity to explore the blog or Edmodo. Moreover, in school A, respondent's feedback indicated that for more than 30 % of students the experience was negative or they weren't sure about whether or not these platforms were a good fit for the storyworld. In what regards teachers the feedback was positive but a considerable amount of respondents was not sure if Edmodo was useful. This may be attributed to the fact that some might have never explored the platform.

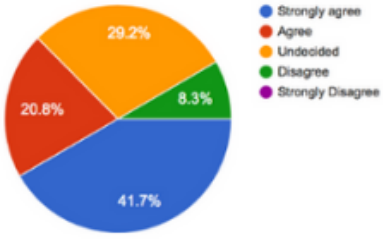
Before exploring the feedback respondents provided on the learning layer of CC. It is important to note some of the comments provided by students/ respondents. For instance, for some, Cat's Facebook profile was "fantastic" and for others, the page was "boring". It is necessary to understand how particular groups of students make use of the platforms provided for the experience. It might be the case, here just hypothetically (given the fact that there are no additional details to inform this opinion), that a given respondent does not use or likes Facebook and another respondent is an active member in this network. There were respondents in school A and B that were not satisfied with their experience of the quest. Relating this to the fact that the majority of students in both cycles reported to like learning by doing, this is then an unexpected finding.

The following overview targets the feedback given about the learning layer of CC.



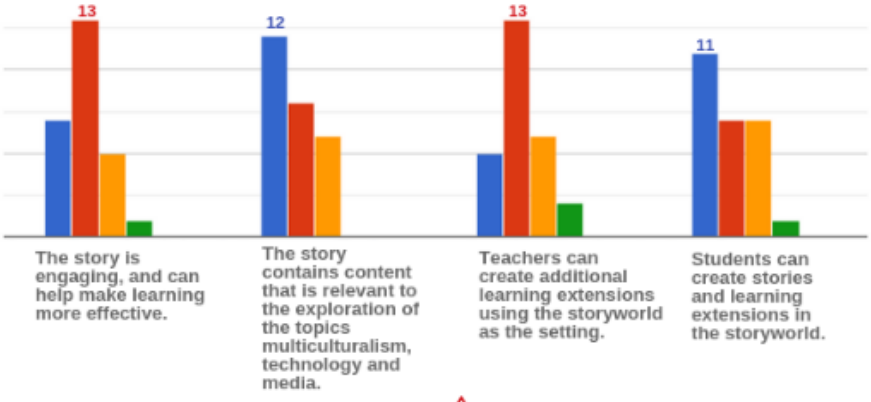
SCHOOL A

Is it a good tool to learn English?

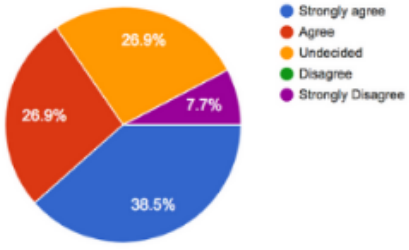


- I liked that we could write the story on our own.
- Try to make it less confusing.

SCHOOL B



Is it a good tool to learn English?



- In general, it was great - good plot, good artwork. The audio could be improved.
- More webisodes and more adventures.
- The characters could speak British English.
- It was exciting.
- I believe that it is a good way to learn English, but I would like characters spoke British English.
- Cat could travel to other countries.
- Cat could go to Atlantida.
- Cat should fight with a big guy.
- I want her (Cat) to have a boyfriend.
- Cat should play games.
- Cat should have a puppy as well.

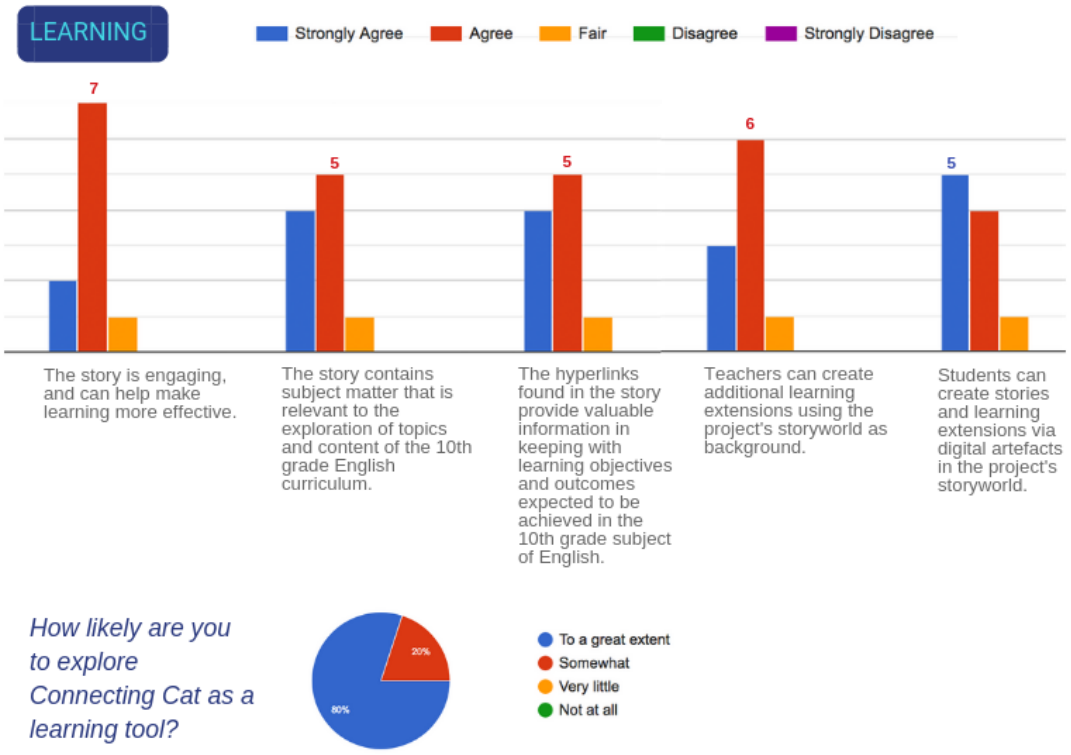


Figure 4.27 Feedback related to learning practices through the use of the storyworld – 2nd implementation cycle.

Feedback regarding the learning layer indicated that respondents in general in both schools regarded CC as a useful tool to learn English but contrary to feedback provided by respondents of cycle one, there were a significant number of students that expressed feeling undecided regarding the educational value of the experience.

In school B there were respondents that strongly disagreed with the value this experience might have for the development of learning opportunities. If there were more opportunities to conduct research with these participants, it would be helpful to acquire individual feedback through semi-structured interviews to understand why these students didn't engage with CC.

Teachers, on the contrary, rated the experience of CC as positive. Additional comments provided by respondents in School B indicate that they would like to expand Cat's adventure to different locations in the world or even explore imaginary places such as Atlantis.

In addition to the surveys, students and teachers of each group of participants provided their personal insights regarding the storyworld. The

interviews targeted their experiences of the storyworld during the sessions and what aspects could potentially improve the experience of CC.

One of the students, a regular player of video games, was able to provide a fully gamified scenario to expand this storyworld. In his opinion, the experience could be developed as a game across continents. Portal pieces would be scattered across the planet and participants of the experience would need other participants to help to solve clues and challenges to retrieve the pieces. This particular student had a quite developed worldview for CC. According to him, Cat needs to have a boyfriend older than her to be able to drive her to different locations. In what regards the plot of the Fluxus, he said that ideally, the sequence should be split into shorter sequences. One would explore Sassy morphing into Shakid; another would provide a deeper insight into Clotho's lifestyle to further immerse users in the imaginary world of the Fluxus. From his point of view, the transition from the real world to the imaginary happened too fast; thus it weakened the plot of the story.

School A's respondents in this cycle did not provide as many comments to improve the storyworld, but one stood out "I liked that we could write the story on our own" - a comment that resonates with feedback given by a participant in school B. This student proposed that students could create CC storyworld from scratch. Students could develop the story progressively according to what each group, week by week, would write in terms of plot. This student, in particular, liked to read comic books and was a fan of old Spiderman editions. One might wonder if the fact that the student who was passionate about video games and the other who was into comic books had scaffolded their critical perspective regarding the worldbuilding aspects of CC as well as its story based on their gaming and reading experiences.

In what regards teachers it is important to note that after having observed students engaging with the world of CC, teachers in school B were interested in learning more about transmedia practices. They asked the researcher if she was available to conduct a training course with them at the end of the year regarding these matters. This indicates that if teachers have the opportunity to come into contact with this type of learning experiences,

they might feel more inclined to explore or create their own TL experiences. Since the 3rd term teachers' meetings were postponed due to a teachers' strike, it was not possible to conduct this training course.

The teacher from school A, who was also a participant of the first cycle, indicated that the group of the second cycle was at certain points of the sessions somewhat confused. She also confirmed, taking into account both cycles of implementation at school A, that the storyworld could be used to enhance students' use of the language but that the exploration of it should be refined. She particularly enjoyed the experience as a different way to explore the English language with her students and was receptive to the development of pedagogical proposals that she might not be used to explore in her classes.

Feedback from teachers of school B indicates that they have a positive perception of the experience of CC. One of the teachers suggested that Cat's quests could be targeted to explore other English speaking countries as a way to put students into contact with a more diversified set of contexts in which the English language is used. Cat's adventures could take place in countries such as Australia or South of Africa, for instance. Other aspects that stood out for these teachers were the activities and resources of the exploration guides. Giving the example of a magazine layout with instructions so that students could create their own food magazines in the *Seek and you shall find* exploration guide (Appendix III) one of the teachers pointed out that instead of providing instructions on how to write about food, this type of activity would be useful to show and guide students on how to do it. Teachers of this school also commented on the need to learn more on how to explore this type of experiences; they expressed that they would not be able to run CC with students by themselves. On the same note, one of the students in school A referred that teachers should invest more in the development of this type of activities. From his perspective, teachers should not expect to use in the present the same methods that they learned at the time they started teaching. They should invest more in their professional development.

4.4 Application of the Storyworld in a Formal Learning Environment in Greece

The complexity and inherent challenges of applying CC in Portuguese ESL learning environments, already discussed through the two implementation cycles, were at some points of this research project discouraging aspects for the researcher – was in fact CC able to engage students in more complex media production activities and ultimately could students develop a continuous process of exploring the use of English through the storyworld in spite of all the constraints their learning contexts presented. Nevertheless, the storyworld and the underlying research purposes which brought it into existence aroused the interest of members of the ESL community, meaning that there were educators in the field that saw a potential use of CC in the exploration of the English language.

CC's ideation, as well as its design and development, was disseminated since the early stages via research papers (Appendix X) published in educational journals and also through the researcher's attendance at conferences, summits, and seminars of academic groups and communities of interest to this research project, for example the Media Education Summit. Opportunities are scarce in national territory to discuss with peers this type of work, and it was necessary to go beyond borders to find opportunities to get feedback and disseminate the experience of CC. It was through such an international event - the 8th International Conference on Interactive Digital Storytelling, ICIDS 2015 - that was possible to reach researchers and educators with the same interest for TL environments.

Having read the research paper presented at this conference and at the time developing research on this matter, the teacher and researcher Ioanna Vrentzou contacted the researcher seeking more information about CC. She was particularly interested in exploring it with her students. Despite the fact that the students she was working with were younger than the users CC originally targets, she expressed the interest of exploring it from a different

angle, i.e. adapting it to the goals of the Greek curriculum and most important adapting the experience of CC to her 6th-grade students.

At the time her students engaged with CC, the storyworld was still being refined in between the two cycles of implementation in Portugal. The following presents an account provided by Vrentzou (2017) to further tap into the experience of CC in Greek formal environments.

> Transmedia is a relatively unknown concept among Greek educators, and it carries a lot of false preconceptions to it. I decided to develop a questionnaire to have a grasp of Greek teachers' perceptions towards the application of transmedia in educational settings. After having collected a sizeable amount of data, I concluded that educators were unaware of the usefulness of applying transmedia learning practices in a classroom setting or what the application of these practices entails. To address this issue, I decided to focus my master thesis on the subject of transmedia literacy and try to provide preliminary data on the practical and beneficial use of transmedia storytelling in the classroom, focusing on the improvement of students' performance.
>
> Due to time constraints to complete my master thesis, I was not able to design my own transmedia resources. Thus, I searched online for transmedia content tailored to the needs of students of English as a foreign language and particularly, students between 11-13 years old. There weren't many choices available, but two transmedia projects caught my attention. The first was Inanimate Alice, which was a professional, well-organized transmedia experience and the other one was CC.
>
> Even though the project was, at the time, in an experimental stage and showed room for improvement in its design, it was better suited to the needs of the research I was attempting to develop. Firstly, because it was designed with clear educational goals in mind that could be aligned with the Greek curriculum goals and not less important the project allowed for a flexible exploration and adaptation that could suit my instructional goals and meet my students' needs.
>
> In order to measure the impact of using transmedia resources in an English lesson, I devised the following educational experience.
>
> At first, I used two groups of students from the 7th public primary school of Alimos (Athens), in which I work. Both groups were of the same educational level and roughly the same age. For research purposes, I had to transcribe the multimodal version of the story to regular, text-based form. The conversion of the video and interactive parts of the project were of considerable complexity and advanced level for

my students, especially since I had to ensure that both groups had access to the same type of information and story. I also had to adapt the tasks to my students' level.

The experimental group had access to an IT lab where each student got to engage with the transmedia experience of CC. The control group was taught in its regular classroom setting and explored the contents of CC through reading and writing activities.

Both groups completed a pre-test on specific educational goals for ESL students before starting the experience. In the same manner, after the experience, the students took a post-test measuring the same learning goals. They were also given a reading comprehension test right after the presentation of the story (during the experience) that sought to assess the students' level of comprehension of the story.

Upon completion of the experience, all data was imported into SPSS so that we could compare the change in performance of both groups. To measure students' level of engagement, both groups were given a motivation questionnaire with closed type questions, at the end of the experience. Statistical analysis was performed to compare the difference between the groups' answers.

The results were particularly impressive. There was an increase in students' performances in both groups. Nevertheless, the students of the group that had access to the transmedia experience of CC showed a much higher level of performance when compared to the students of the control group.

In general, the students from the experimental group performed three times better in the post-test, compared to the students of the control group. Moreover, their difference in scores in the comprehension test was statistically significant and showed that the experimental group understood the story better.

Regarding the impact of applying a transmedia approach in the students' engagement and motivation levels, it was noteworthy that students that often displayed disruptive behavior or were disengaged during the regular classes, displayed high levels of engagement and participation when they explored the resources of CC.

The transmediality of the content captured students' attention, and nearly all students reported increased levels of appreciation and contentment with this type of classes, whereas a significant amount of students from the control group reported feeling bored or disinterested with the story.

(Vrentzou, 2017)

Students' work related to the exploration of CC in Greece showed that they were deeply engaged with the content provided in the platforms and could relate it to acquire a broader perspective of the story. For example, they refer

that Cat is messy based on the bedroom presented in the motion book sequence targeting the Fluxus world and not on the *Who am I?* webisode. They are perceptive and form their opinions based on the character's reactions - "Cat is a friendly person because she easily talks to people she doesn't know."

They went to great length to track Cat. They selected songs for her playlist based on Portuguese national hits, such as the Eurovision 2016 winning song - "Amar pelos dois" by Salvador Sobral, and picked photos for her gallery from the actual beach where the webisode was shot. The name of the beach "Barra" is never mentioned across the storyworld. This means that solely using the reference to Cat's hometown - Aveiro (on her Facebook page), they had to dig deeper to locate the beach where Cat's adventure starts. They also engaged in digital artifact creation processes such as pixel art drawings to put into evidence Cat's preference for felines. Other students' work, such as a photo assemblage, track Cat's adventure in London and represent the main locations presented in the *Seek and you shall find* interactive video. Activities developed with the students were targeting descriptive skills, and it is the case that while exploring Cat's life they were effectively developing ways to describe people.

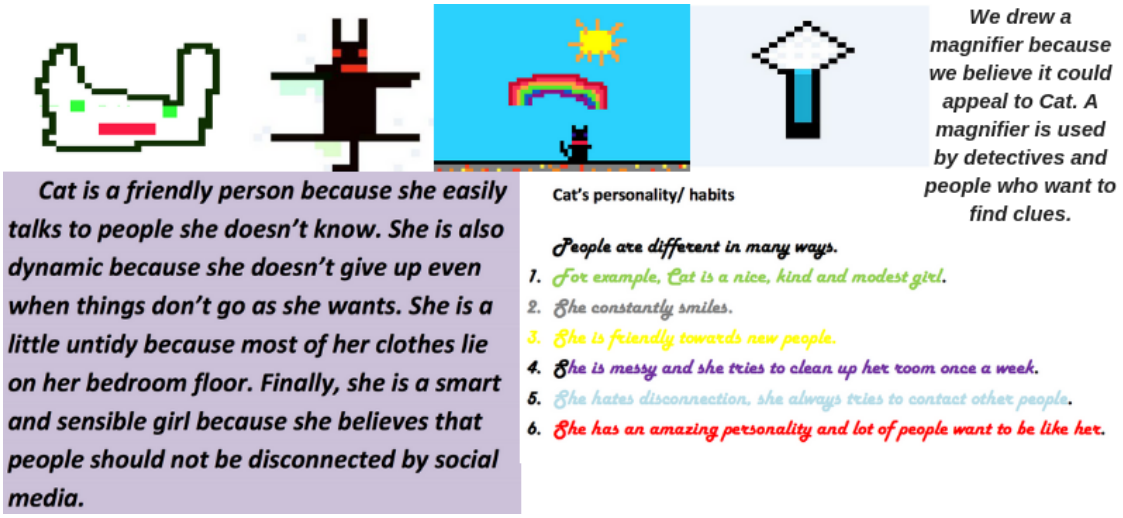


Figure 4.28 Examples of students' work in Greece related to the main character of the story.

Through the *AWOL* quest, students became even more creative. They edited videos by selecting pictures and adding their own voice to tell the story of Megan and Cat and created slides with audio effects. An interesting aspect of this experience is that besides developing media production skills, they established connections with the plot and structure of the interactive video to expand the AWOL quest. In their stories, they visit main locations, go to museums in different parts of the world to find portal pieces and to no surprise they use their own cultural context to tell the story. For example, they fly Cat from Bolivia where she was looking for Megan and place her at the Parthenon gallery to look for a portal piece. They also explored the places of the quest by bringing up relevant information about the locations while telling their stories - “She went to the nearest market which is the biggest in the world.”

Their stories revolve around fortune-tellers and magic events to further develop the events in their stories, similar to the strategy used in CC, or through information that Peter provides Cat - “Peter told her that the city behind this message is Paris. Cat couldn’t find Megan, so she decided to go to Paris”.

It is possible to say that the *AWOL* quest was not only a perfect setting to explore students’ storytelling and media production skills but also the thread that led students to explore aspects of different cultures and their own cultural heritage.



Figure 4.29 Examples of students' work in Greece related to the quest AWOL.

Putting this experience of the storyworld into perspective with the ones that were set in national territory, the one set in a Greek formal environment was more successful.

It is not possible to establish direct links between the experiences - research purposes and curricular goals were disparate. Furthermore the students in Greece that engaged in this storyworld are younger, and it is possible to assume that the learning environment in Greece, in which this experience was set, differs from the ones of the implementation cycles one and two. It is also important to note that in this case, students had more time to explore the storyworld thus allowing for a higher level of engagement with the contents and the development of digital artifacts. The above remark concerns solely the type of outputs emerging from the students' experience of the storyworld.

Details on the specific approach used by Vrentzou to adapt CC's storyworld as well the research framework used by this researcher and teacher are described and discussed in her master thesis - Research on the use of Transmedia Storytelling in Teaching English as a Foreign Language. Its contribution to the educational process (2017).

4.5 Insights on the Learning Experiences related to the Use of the Storyworld

Enfield (2018) points to storytelling as a way of giving meaning to the data collected and to communicate research findings. Through descriptions, accounts of students and teachers and analysis of learning artifacts produced by participants when exploring CC, this chapter sought to provide an overview of the implementation cycles of this research project. A learning experience is a complex phenomenon to describe, compare and measure. Hence, "telling the story" of these experiences may be of the interest of other educators that may want to explore this storyworld with their students.

Bringing back the two cycles of implementation into the discussion and considering the learning experience based on the storyworld in Greece, it is possible to indicate that CC has the potential to engage students both with the story and the exploration of the language.

Without ever leaving the digital world, Cat traveled across the globe and according to some participants she could even explore mythical locations such as Atlantis. From the teachers' point of view she could go to English speaking countries. One could add to the wish list the possibility of Cat learning a different foreign language such as Spanish by having her adventures set for example in South America.

Perhaps the common denominator of these learning experiences is the fact that through CC, participants were able to develop storytelling skills, their creativity and connect their real-life experiences to Cat's experiences. Moreover participants were using the language in a situated manner and exploring curricular topics.

Feedback from participants was not always positive. Different contexts, different media uses and a mixed set of preferences ultimate translated into a diversified range of experiences of the storyworld. Students that showed to be media savvy were the harshest critics of CC. They are used to rich media environments. They bring a repertoire of games, series, and engagement with commercial well-established storyworlds that cannot be used to put into comparison with a storyworld that was developed as a proof of concept, developed by a single individual and not by a skilled multidisciplinary professional team. Despite these constraints, based on feedback provided by participants on activities developed during the two cycles, most of the students enjoyed the experience of CC.



Fig.4.30 Screenshot of the online bulletin board regarding feedback on activities developed during the 1st and 2nd cycle of implementation of CC. (An overview of the all the feedback notes is available at https://tinyurl.com/cc-feedback-ss)

Context also determined the success of the development of the sessions. In school B, students did not have access to a well-equipped IT lab. During the sessions, participants had to restart activities or spend more time to complete them due to technical problems. On this matter, Tárcia suggests an alternative that possibly would be of interest to explore CC with these students if there were more opportunities to do so.

> […] offline extensions in transmedia educational projects are extremely important because they have the potential to enhance the learning process regardless of their technology advancement or whether they have all of the perks of digital environments available within their community.
>
> (Tárcia, 2018: 321)

The rigid time frame of 90 minutes did not encourage participants or allowed them to explore, develop or create media artifacts of higher complexity. It is important to note that despite the scarcity of learning artifacts

collected, it was possible to identify that participants had made use of transmedia skills in this case in terms of navigation across platforms to build their own experiences of the storyworld.

As important as the experience of the storyworld were activities that had to be designed to scaffold a better engagement with it. Some participants refer that the experience of CC was positive because they had learned how to use creative commons licenses for instance.

Taking into consideration how students developed the activities proposed to expand the storyworld it is possible to assume that if they were given more time, they would be able to create more vibrant and more complex extensions of the storyworld. It would be necessary to have a longer cycle of implementation across the school year to further tap into this matter.

On all the cycles, some participants found the experience of CC to be confusing; this may attributed to the fact, that this type of exploration is not something they are familiar with in formal learning settings. This issue could be addressed with an additional session targeting the development of activities related to the storyworld. This was not possible during the two cycles.

Taking into account the development of the experiences described in this chapter, it is possible to indicate some guidelines related to the application of a TL storyworld in formal learning environments.

First, experiences of TL storyworlds should allow students to navigate across content and platforms in a relatively unconstricted way, meaning that the goal of an activity may be the exploration of a specific topic or platform within the storyworld, but students may navigate to other spaces within the storyworld to find information needed to a complete a given task.

Second, activities developed within the context of the storyworld must be scaffolded. This means that the teacher should beforehand identify possible knowledge gaps that students may have and that may hamper their experience of and contribution to the storyworld.

Third, ideally, students should be allowed to engage with the storyworld for more extended periods of time than short. This implies that students

should be given a sufficient amount of time to explore learning input platforms and significantly more time to use output platforms and provide a contribution to the storyworld.

Fourth, the experience should be developed across time. Students should be given a sufficient amount of time to design their own strategies to explore the storyworld. By developing and using their preferred methods on different occasions, they may feel more confident in their ability to tackle different challenges within the storyworld.

Fifth, the exploration of the storyworld should take into account students' context and social, cultural and media use preferences to promote engagement with curricular content and the story.

5. PARTING THOUGHTS

DBR is rarely fully finished!
(Reeves & McKenney, 2013:17)

This chapter puts the research process into perspective by providing an overview of the main matters discussed throughout this research report.

Making use of outputs and findings emerging from this research journey, the last section presents possible points of discussion and target areas that need to be further explored by educators.

5.1 Connecting the Pieces – Insights on the Research Process

Formal learning environments that blend academic content with language learning can be considered to be complex and thus challenging to explore. In addition to this, formal learning environments, here reporting to the Portuguese educational context, are considerably detached from the processes and strategies that students use to make sense of the world and acquire knowledge.

Students keep being boxed in a controlled and rule-governed environment and are provided with the same type of "learning diet". In the case of ESL, it is about having a well-sequenced curriculum fed to students on portioned amounts of grammar, reading, listening and speaking tasks. This ultimately ensures that students have covered the stipulated topics and that at the end of their educational journey they are able to become proficient users of the language. It is a one size fits all fallacy that keeps being applied in the majority of classrooms. The "elephant in the room" keeps being ignored since teachers must comply with the standardized curricular goals of the subject, which turns into a marathon throughout the year of checking items of a never-ending "to-do" list.

It is the case that 21st-century students are being prepared to interact and express themselves in a media charged environment but are learning to do so through books, pen, and paper. Castells (2007: 25) points out that "the idea that today a young person must load a backpack of boring textbooks set by ministerial bureaucrats, and must remain closed in a classroom to support an irrelevant speech in the name of his/her future, is simply absurd."

This research project assumes that learning a language is a situated experience. This implies that students have access to a learning environment where they can participate, interact and evaluate the effect of language actions. It is about finding ways of learning the language in the context it is used. In the 21st century, the context is a complex mediascape.

Despite the experience of the language not being properly addressed in formal learning environments, students are learning English in a diversified

and contextualized way. Mainly through activities that are, at first sight, considered not to be valuable learning practices. For instance, while playing video games online, they must interact with other international players using English. To interact within the game, they have to learn a staggering amount of features, rules, and strategies that are provided in English. Moreover, to learn how to play the video game they read tutorials or watch them in English, on Youtube. They turn to experienced players within the game's community to develop their gaming strategies and do so by speaking and writing in English. Taking a closer look at the type of activities they engage with to be proficient players in video games such as WoW or LoL, it becomes clear that they are developing communication skills in a diversified form. Not only through playing the game but by gathering information across affinity spaces related to it and interacting with other players in communities of practice.

The challenge for ESL teachers, in the present, is how to bring these participatory and collaborative processes of learning the language into the classroom. The quest for an educational framework that supports an overarching view of knowledge construction has given rise to several pedagogic movements, and even though particular attention has been given to the development of models that take into consideration the diverse interactions that emerge from the use of different technologies and media platforms, there is still an open discussion on how they can leverage learning processes. Raybourn argues "there are very few integrated applications of TL in use today by researchers, instructors, or training cadre and therefore few examples of experimental data are available on its effectiveness" (Raybourn, 2014, p. 472).

It was in this context and to address the needs of ESL Portuguese students and teachers that this research journey was set. The strategy was to design a media ecosystem that could support students' interactions while exploring the language and then applied it in national formal learning environments to further tap into its potential to support the development of language learning activities that were situated and meaningful to students.

Much like the media ecosystem in which students interact and develop the experience of the language, it was necessary to gather information from different spaces, in this case, educational and media studies related fields to acquire a clearer image what was necessary to create this type of environment. Hence, the literature review process was targeted to collect information regarding participatory processes emerging in the mediascape and then sought to put them into perspective with learning practices; theories and experiences that could inform the design of this type of media ecosystem. Therefore this research report taps into different perspectives of understanding TS providing an overview of theoretical perspectives as well as putting into focus how transmedia is applied today in its manifold ways.

Besides understanding the events occurring in the present media ecosystem, it was necessary to identify possible challenges students might face while interacting within it. For this reason, this study covers media literacy matters putting up front why students need to develop their media and transmedia literacy skills.

Since the context of this research is set in Portuguese formal learning environments, particular attention was given to document it by tapping into the challenges that the national educational community faces in the present.

After exploring the “what” and the “who,” respectively the phenomena and the ones who take part in the learning process, it was necessary to understand the “how.” This implied covering learning models, theories and frameworks that from different angles addressed the disconnection between informal and formal learning environments and practices and how different elements and dynamics within these models could be used for the design of the learning ecosystem. Besides the acquisition of relevant theoretical insights that could inform the design of the object of study in focus, the literature review of this project also provides examples of pioneering or exploratory transmedia experiences that are progressively emerging in the educational field.

The second stage of this research project targeted the design and development of the research object and instrument - a transmedia learning

storyworld targeted to ESL. It was assumed that given the scarcity of research targeting the design of transmedia learning experiences that the documentation of the process, as well as insights on the research framework, used, DBR, within this research context, would constitute useful and informative data for educators developing similar experiences.

Through different cycles of implementation, it was possible to improve, adjust and refine the storyworld. Despite significant efforts in this area, the fact that it was not developed by a multidisciplinary team deeply impacted the experiences students had of the storyworld. Being avid users of media and players of great immersive games, students throughout the implementation cycles of this project gave constructive feedback and provided glimpses of what an immersive learning scenario might be for them. It was not the case that students did not enjoy or engage in the storyworld it was more a question that they wanted more and better. A storyworld that would tap even further into their media use, preferences and put them entirely at the center of the experience. Consistently, feedback on the storyworld throughout the two cycles put the focus on activities in which they were taking an active role such as the case of the AWOL quest.

The documentation of the application of this storyworld was limited in scope and in time. It would be necessary to explore the storyworld with more and diversified groups of students and during a more extended period of time. However, it was possible to identify, during these short implementation cycles, activities that would lead to more engagement with curricular topics and the story.

Despite not being set in Portuguese territory, an additional account exploring the use of CC in Greek formal learning environments served to further tap into how it could be used for ESL learning purposes. Despite being younger students, this particular group of students put into evidence how the storyworld might favor the development of media production activities and the exploration of different cultures. Not only that, students throughout all cycles of implementation of this storyworld had the opportunity to explore the language

in a diversified way. They did so by expanding CC's storyworld by bringing their real- life experiences and particular preferences within popular culture.

Taking into consideration the development of the two cycles of implementation, as well as, feedback given by participants, it was possible to outline a set of guidelines that could help educators in the design and management of TL experiences.

In what regards teachers' feedback on the experience of CC, it becomes evident that they are receptive to the redefinition of their role within the classroom but feel they are not equipped with the necessary skills to do so. In a transmedia learning environment, the teacher is a mediator not only of the experience of the storyworld but also of students' experiences of the world.

> TML [Transmedia literacy] posits that educators will play a new non-exclusive role, positioning the teacher as a "cultural translator" who facilitates the recovery and use of transmedia skills (developed in informal learning environments) inside the school. If with conventional media literacy the teacher was considered a knowledge authority and inoculator of critical antibodies, then with TML the educator operates as a knowledge facilitator and translator (or interface) between formal and informal learning environments. Once the informal learning strategies and transmedia skills developed by young people outside of the formal institutions are identified, then TML should work to translate them into a series of didactic activities and proposals that can be implemented inside school settings.
>
> (Scolari, 2018: 329)

Formal learning environments in Portugal can progressively be transformed into participatory learning ecosystems but it is necessary to develop a concerted action plan. This must, however, take into consideration all members of the educational community. Students are at the center of this learning ecosystem but need good mentors and mediators of their learning experiences, formal and informal.

It's a collective journey all educators should embrace and embark on!

5.2 Expanding the Mosaic of TL Experiences – Future Work

Not surprisingly for the ones who have read this research report up to this point, the first recommendation concerning future work is the development

of more TL experiences that can be compared and analyzed to create a greater knowledge base.

The second regards teachers. If it is a fact that slowly TL experiences are emerging in educational arenas and more attention is given to students' learning needs, to my knowledge, there are just a couple of studies regarding teachers and the role they might play in this type of immersive learning environments. One was conducted by the Greek researcher that explored CC in Greek educational context and the second is also an exploratory attempt at tapping into teacher's perceptions regarding the use of transmedia practices for educational purposes - "Transmedia Storytelling in Education: English Language Teacher's acceptance of Transmedia Storytelling to Teaching Contexts" (Saltik, 2017).

The focus should not only be on the development of technology-enhanced learning scenarios but also on the ones who use them, shape them and build them.

As accounted up to this point, this research project is small in scale and exploratory in terms of research outputs. Even though this research journey ends here, it is critical that more educators and researchers share their TL experiences and methods used to design them. Only through a collective effort will it be possible to build learning arenas that suit 21st Century students' needs. A designed based-research project, like the one presented here, resembles an unfinished mosaic. Hopefully, future insights concerning the issues this research project attempts to address, will, in turn, provide different pieces to expand it.

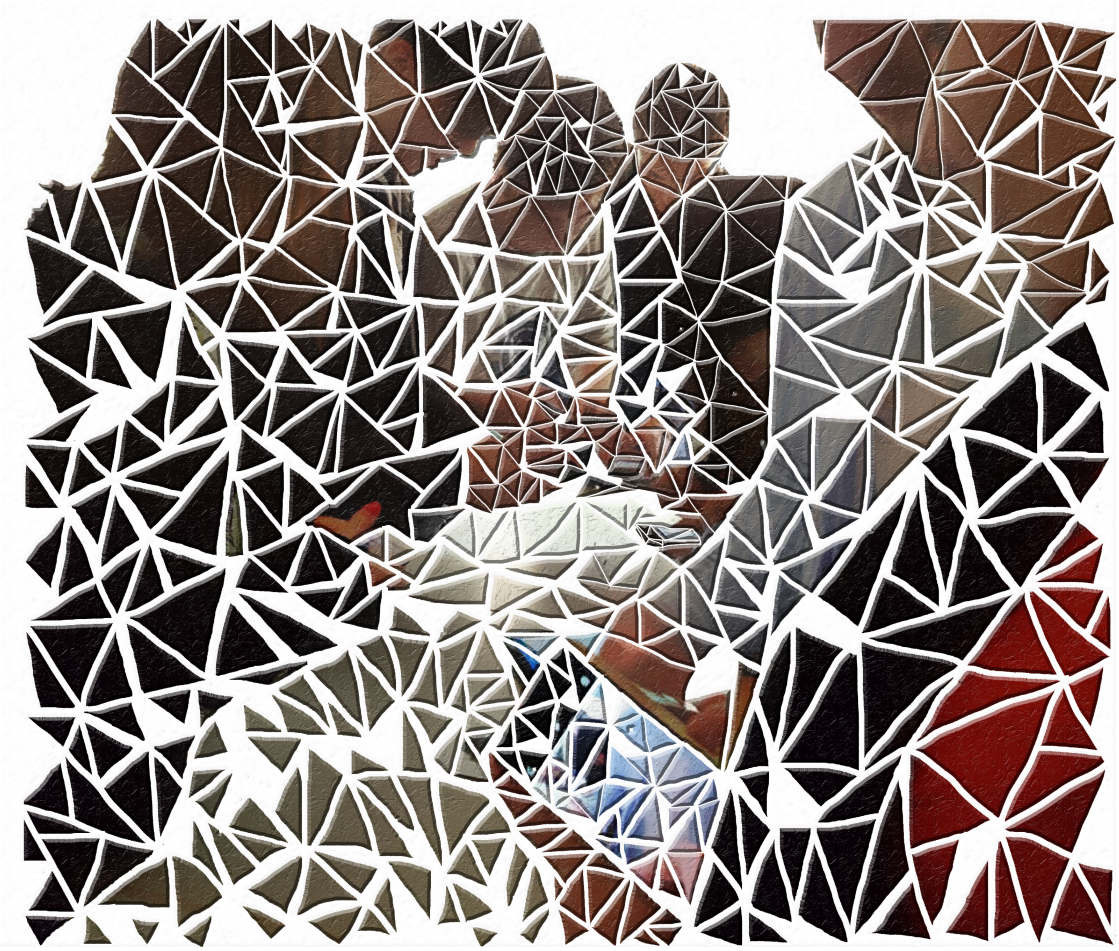


Figure 5.1. Depiction of the research process.

REFERENCES

#Orson80 Proyecto Educativo Transmedia. (2017). Retrieved from https://sites.google.com/view/orson80transmedia/home

@evankirstel. (2018). This school scans classrooms every 30 seconds through facial recognition technology #ai #ArtificialIntelligence [Twitter Post]. Retrieved from https://twitter.com/evankirstel/status/1000574670238834688

@hkoenitz. (2017). #icids2017 day 3 keynote Jay Bushman “Transmedia Storytelling: No, Really, What Is It?” Introduces his understanding of Mosaic Transmedia [Twitter Post]. Retrieved from https://twitter.com/hkoenitz/status/931099641302650880

Albarello, F., & Mihal, I. (2018). Del canon al fandom escolar: #Orson80 como narrativa transmedia educativa. *Comunicación Y Sociedad*, *33*(septiembre-diciembre), 232, 234, 237-239, 243. Retrieved from http://www.comunicacionysociedad.cucsh.udg.mx/index.php/comsoc/article/view/7055

Alper, M., & Herr-Stephenson, R. (2013). Transmedia Play: Literacy Across Media. *Journal Of Media Literacy Education*, *5*(2), 366-369. Retrieved from http://digitalcommons.uri.edu/jmle/vol5/iss2/2

Analyzing why Ahri is a kitty and not a fox - League of Legends Community. (2013). Retrieved from http://forums.euw.leagueoflegends.com/board/showthread.php?t=1465447&page=2

Antunes, R. (2014). Blue Pencil: Experiences in Transmedia. In *Interactive Narratives, New Media & Social Engagement* (p. 28). University of Toronto. Retrieved from http://interactiveconference.spanport.utoronto.ca/ebook/index.html

Armstrong, K. (2004). *A short history of myth (Vol.1)* (pp. 6-9). Canongate Books.

Arthur, M. (2017). Beyond Storytelling - 6 perspectives on how stories work. Retrieved from http://www.linkedin.com/pulse/beyond-storytelling-6-perspectives-how-stories-work-arthur?%20trk=portfolio_article-card_title

Arthur, M. (2017a). Beyond Storytelling (Part 3) - Two ways story can power your leadership learning edge. Retrieved from http://www.linkedin.com/pulse/beyond-storytelling-3-two-ways-story-can-power-humanitys-arthur?trk=portfolio_article-card_title

Arthur, M. (2017b). Working with Story Activism to change the future in organisations. Retrieved from http://www.linkedin.com/pulse/working-story-activism-change-future-organisations-mary-alice-arthur

Asociación Civil Chicos.net. (2018). *Transmedia Literacy: cómo aprovechar las competencias mediáticas de lxs jóvenes dentro del aula* [Video]. Retrieved from https://youtu.be/Ar8IVlDTVxY

Aspen Institute Task Force on Learning and the Internet. (2014). *Learner at the Center of a Networked World* (pp. 4, 16-17, 18-23). Washington DC United States of America: The Aspen Institute. Retrieved from https://assets.aspeninstitute.org/content/uploads/files/content/docs/pubs/Learner-at-the-Center-of-a-Networked-World.pdf

Athanasopoulos, P. (2015). How the language you speak changes your view of the world. Retrieved from https://theconversation.com/how-the-language-you-speak-changes-your-view-of-the-world-40721

Baldwin, J. (2010). Why I Stopped Hating Shakespeare. In J. Baldwin & R. Kenan, *The Cross of Redemption: Uncollected Writings* (p. 55). New York: Pantheon Books.

Barab, S. (2006). Design-based research: A methodological toolkit for the learning scientist. In R. Sawyer, *The Cambridge handbook of the learning sciences* (p. 155). Cambridge, UK: Cambridge University Press.

Barab, S., & Squire, K. (2004). Design-Based Research: Putting a Stake in the Ground. *Journal Of The Learning Sciences*, *13*(1), 3-4, 6. doi: 10.1207/s15327809jls1301_1

Bayne, S. (2015). What's the matter with 'technology-enhanced learning'?. *Learning, Media And Technology*, *40*(1), 5. doi: 10.1080/17439884.2014.915851

BBC Radio 4. (2018). The Medium Is the Message [Podcast]. Retrieved from https://www.bbc.co.uk/programmes/b09nqnxw

Behmer, S. (2005). Literature review digital storytelling: Examining the process with middle school students. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.452.6410&rep=rep1&type=pdf

Benjamin, W. (2016). *The storyteller - Short stories* (pp. 2-3). London: Verso.

Bennett, S., & Maton, K. (2010). Beyond the 'digital natives' debate: Towards a more nuanced understanding of students' technology experiences. *Journal Of Computer Assisted Learning*, *26*(5), 11. doi: 10.1111/j.1365-2729.2010.00360.x

Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal Of Educational Technology*, *39*(5), 775-786. doi: 10.1111/j.1467-8535.2007.00793.x

Bernardo, N. (2011). *The Producer's Guide to Transmedia* (1st ed.). Lisboa,Portugal: BeActive Books.

Bernardo, N. (2014). *Transmedia 2.0: How to Create an Entertainment Brand Using a Transmedial Approach to Storytelling* [Ebook] (Locations 801-802, 865, 875). Lisboa: beActive books.

Biology of Story. (2016). *A FUNDAMENTALIST NARRATIVE: Elijah Siegler - How Religious Fundamentalism Started* [Video]. Retrieved from https://youtu.be/FjM3nZRO7nY

Birner, B. Does the Language I Speak Influence the Way I Think?. Retrieved from https://www.linguisticsociety.org/content/does-language-i-speak-influence-way-i-think

Blasco, F., Josep, A., & Eliadou, S. (2016). Transmedia: a new narrative that involves communication and education towards the future classroom, 3. Retrieved from http://docs.wixstatic.com/ugd/b4726b_0f21245330364ca3ae935831e286d47d.pdf

Boroditsky, L. (2009). How does our language shape the way we think?. Retrieved from https://www.edge.org/conversation/lera_boroditsky-how-does-our-language-shape-the-way-we-think

boyd, d. (2014). *It's Complicated: The Social Lives of Networked Teens* (p. 176). Yale University Press.

Branigan, E. (2014). IF–THEN–ELSE Memory and the Path Not Taken. In M. Kinder & T. McPherson, *Transmedia Frictions: The Digital, the Arts, and the Humanities* (p. 46). University of California Press.

Breeze, M. (2018). *"Inanimate Alice: Perpetual Nomads" VR Adventure Trailer* [Video]. Retrieved from https://vimeo.com/252592172

Bringhurst, R. (2009). *Everywhere being is dancing: 20 pieces of thinking* (pp. 63-64). Berkeley, Calif.: Counterpoint Press.

Brites, M. ANLite Audiências, Notícias e Literacia | Audiences, News and Literacy Sobre | About. Retrieved from https://anlitemedia.com/sobre-about/

Brownlee, M. (2015). *Virtual Reality: Explained!* [Video]. Retrieved from https://youtu.be/i4Zt3JZejbg

Buchbinder, A. (2016). Biology of Story. Retrieved from http://biologyofstory.com/#/

Bucholska, R. (2018). When the hero's journey meets the collective journey in gamification with Jeff Gomez [Podcast]. Retrieved from http://www.professorgame.com/podcast/021/

Buckingham, D. (2013). *Media Education: Literacy, Learning and Contemporary Culture* (p. 49). New York, NY: John Wiley & Sons.

Buckingingham, D. (2008). Defining Digital Literacy - What do Young People Need to Know about Digital Media?. In L. Lankshear & M. Knobel, *Digital Literacies: Concepts, Policies and Practices* (p. 88). New York: Peter Lang.

Burke, L. (2018). "A bigger universe" - Marvel Studios and Transmedia Storytelling. In J. Chambliss, W. Svitavsky & D. Fandino, *Assembling the Marvel Cinematic Universe - Essays on the Social, Cultural and Geopolitical Domains* (pp. 32 - 48). Jefferson, North Carolina: McFarland.

Burns, C. (2016). Transmedia: Art Forms Created in Real Time - A one-platform Immerse response by someone who's been on them all. *Immerse*. Retrieved from https://immerse.news/transmedia-art-forms-created-in-real-time-4943648389a4

Bush, M., & Sorensen, M. (2013). An Alternate Reality Experience for Language Learning: A Design-Based Evaluation. In J. Rodríguez & C. Pardo-Ballester, *Design-Based Research in CALL - Calico Monograph Series, Volume 11* (p. 88). San Marcos, Texas, USA: CALICO.

Castells, M. (2007). Estudiar, ¿para qué?. Retrieved from http://egym.bligoo.com/content/view/134411/Manuel-Castells-estudiar-para-que.html#.WiFUCkqWZPY.

CCEMS. (2017). Cineastas Digit@ias - XI edição. Retrieved from http://cineastas.ccems.pt/

Chan, T. (2018). A school in China is monitoring students with facial-recognition technology that scans the classroom every 30 seconds. Retrieved from http://www.businessinsider.com/china-school-facial-recognition-technology-2018-5

Chlopczyk, J. (2018). From Forecasting to Transformation – A Conversation on Working with the Future. Retrieved from https://www.beyondstorytelling.com/blog-x/2018/4/4/from-forecasting-to-transformation-a-conversation-on-working-with-the-future

Choontanom, T., & Nardi, B. (2012). Theorycrafting: The Art and Science of Using Numbers to Interpret the World. In C. Steinkuehler, K. Squire & S. Barab, *Games, Learning, and Society: Learning and Meaning in the Digital Age* (1st ed., pp. 185-187). Cambridge University Press.

CIAC. 4CDE – Code, Content, Creation and Culture for Digital Education. Retrieved from https://ciac.pt/projetos/4cde-code-content-creation-and-culture-for-digital-education/4085

Ciancia, M. (2015). Transmedia Design Framework. Design-Oriented Approach to Transmedia Research. *IJTL - International Journal Of Transmedia Literacy*, (1.1), 142. doi: 10.7358/ijtl-2015-001-cian

Claire Wardle, C., & Derakhshan, H. (2017). *Information Disorder: Toward an interdisciplinary framework for research and policy making* (p. 5). Council of Europe. Retrieved from https://rm.coe.int/information-disorder-toward-an-interdisciplinary-framework-for-researc/168076277c

Clinton, K., Jenkins, H., & McWilliams, J. (2013). New Literacies in an Age of Participatory Culture. In H. Jenkins, W. Kelley, K. Clinton, J. McWilliams & R. Pitts-Wiley, *Reading in a Participatory Culture: Remixing Moby-Dick in the English Classroom* (p. 11). New York: Teachers College Press.
Cobb, P., Confrey, J., diSessa, A., Lehrer, R., & Schauble, L. (2003). Design Experiments in Educational Research. *Educational Researcher*, *32*(1), 10. doi: 10.3102/0013189x032001009

Connected Learning Alliance. (2016). *Richard Arum on Connected Learning* [Video]. Retrieved from https://vimeo.com/170697536

Connected Learning Alliance. (2018). About Connected Learning. Retrieved from https://clalliance.org/about-connected-learning/

Cosmic Voyage Enterprises. Retrieved from https://www.conducttr.com/success-stories/cosmic-voyage-enterprises/

Costanza-Chock, S. (2014). *Out of the shadows, into the Streets! Transmedia organizing and the immigrant rights movement* (p. 50). Cambridge, Mass: The MIT Press.

Cowdy, C. (2016). Pedagogical Encounters with Inanimate Alice: Digital Mobility, Transmedia Storytelling, and Transnational Experiences. *Jeunesse: Young People, Texts, Cultures*, *8*(1), 155-156. doi: 10.1353/jeu.2016.0007

Coyne, R. (2005). Wicked problems revisited. *Design Studies*, *26*(1), 6. doi: 10.1016/j.destud.2004.06.005

Craig, D. (2011). Encouraging Participatory Culture and Language Learning: Assisting ELLs in Becoming Part of the Digital Youth. *TNTESOL Journal*, *4*, 84. Retrieved from https://tntesol.org/Resources/Documents/Journal%20and%20Newsletter/TNTESOL%20Journal%20v4%202011.pdf#page=85

Darvin, R. (2017). Language, Ideology, and Critical Digital Literacy. *Language And Technology*, 1. doi: 10.1007/978-3-319-02328-1_35-1

Darvin, R., & Norton, B. (2015). Identity and a Model of Investment in Applied Linguistics. *Annual Review Of Applied Linguistics*, *35*, 48. doi: 10.1017/s0267190514000191

Davidson, D. (2011). *Cross-media communications: an Introduction to the Art of Creating Integrated Media Experiences* (p. 4). [Pittsburgh]: ETC Press.

De Abreu, B., Mihailidis, P., Lee, A., Melki, J., & McDougall, J. (2017). *International Handbook of Media Literacy Education* (1st ed., pp. viii-ix, xiii, 1-4). New York: Routledge.

De Fina, A. (2016). Storytelling and audience reactions in social media. *Language In Society*, *45*(04), 493. doi: 10.1017/s0047404516000051

Dena, C. (2009). *Transmedia Practice: Theorising the Practice of Expressing a Fictional World across Distinct Media and Environments* (Ph.D.). University of Sydney.
Dena, C. (2016). Transmedia Teen - An Immerse response. *Immerse*. Retrieved from https://immerse.news/transmedias-transitions-9c28ef2c5835

Denson, S., Stein, D., & Meyer, C. (2014). *Transnational Perspectives on Graphic Narratives : Comics at the Crossroads* (p. 271). London: Bloomsbury.

Dettori, G. (2011). Supporting knowledge flow in web-based environments by means of narrative. *Technology And Knowledge Flow*, 55. doi: 10.1016/b978-1-84334-646-3.50003-4

Dias-Fonseca, T., & Potter, J. (2016). Media Education as a Strategy for Online Civic Participation in Portuguese Schools. *Comunicar*, *XXIV*(49), 9-10, 12, 15-16. doi: http://dx.doi.org/10.3916/C49-2016-01

Dionisio, M., Nisi, V., & Nunes, N. (2016). Transmedia Storytelling for Exposing Natural Capital and Promoting Ecotourism. In F. Nack & A. Gordon, *9th International Conference on Interactive Digital Storytelling Proceedings, ICIDS 2016* (pp. 352, 355). Springer International Publishing.

Enfield, N. (2018). Our job as scientists is to find the truth. But we must also be storytellers. Retrieved from https://www.theguardian.com/commentisfree/2018/jul/20/our-job-as-scientists-is-to-find-the-truth-but-we-must-also-be-storytellers

Ersner-Hershfield, H., Wimmer, G., & Knutson, B. (2008). Saving for the future self: Neural measures of future self-continuity predict temporal discounting. *Social Cognitive And Affective Neuroscience*, *4*(1), 85-92. doi: 10.1093/scan/nsn042

ERTE. Concurso "Conta-nos uma história!" | ERTE. Retrieved from http://erte.dge.mec.pt/concurso-conta-nos-uma-historia

Espinosa, R., & Gómez, J. (2017). Transmedia Storytelling: explorando su uso en la educación. *Elisava Temes De Disseny*, *33*, 32. Retrieved from https://dialnet.unirioja.es/servlet/articulo?codigo=6062903

EU Kids Online Portugal. (2017). Projeto - EU Kids Online Portugal. Retrieved from http://www.fcsh.unl.pt/eukidsonline/projeto/

Europe, G. (2017). The Hero's Journey is no longer serving us - Jeff Gomez. Retrieved from https://www.youtube.com/watch?v=KBBm0we4sAU

European Commission. (2017). *Education and Training Monitor 2017 Portugal* (pp. 6-7). Luxembourg: Publications Office of the European Union. Retrieved from https://ec.europa.eu/education/sites/education/files/monitor2017-pt_en.pdf

Faculty of Arts and Humanities of University of Porto. (2018). Digital competence for teachers: innovation in foreign language teaching. Retrieved from https://www.digdocente.pt/mis-servicios/

Ferneding, K. (2003). *Questioning Technology - Electronic Technologies and Educational Reform* (p. 6). New York: Peter Lang.

Ferreira, S. (2015). *Location Based Transmedia Storytelling: Enhancing the Tourism Experience* (Ph.D.). Universidade do Porto.

Flecken, M., Athanasopoulos, P., Kuipers, J., & Thierry, G. (2015). On the road to somewhere: Brain potentials reflect language effects on motion event perception. *Cognition*, *141*, 41-51. doi: 10.1016/j.cognition.2015.04.006

Fleming, L. (2013). Expanding Learning Opportunities with Transmedia Practices: Inanimate Alice as an Exemplar. *Journal Of Media Literacy Education*, *5*(2), 371, 373-374. Retrieved from http://digitalcommons.uri.edu/jmle/vol5/iss2/3/

Frau-Meigs, D. (2013). *Exploring the Evolving Mediascape: Towards updating strategies to face challenges and seize opportunities - UNESCO/WSIS Report 2013* (p. 42). UNESCO. Retrieved from http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/wsis/WSIS_10_Event/exploring_the_evolving_mediascape_Report_final_version_DFM.pdf

Freire, P., & Ramos, M. (2011). *Pedagogy of the Oppressed- 30th Anniversary edition* (pp. 72-73). New York: Continuum Publishing International.

Fritzler, M. Proyecto Educativo Transmedia #Orson80 - En búsqueda de la competencia crítica en la clase de lengua extranjera. Retrieved from https://sites.google.com/view/orson80transmedia/actividades/ense%C3%B1anza-lengua-extranjera

Gaiman, N. (2015). Neil Gaiman on how stories last [Podcast]. Retrieved from https://soundcloud.com/brainpicker/neil-gaiman-how-stories-last

Gambarato, R., & Lapina-Kratasi͡uk, E. (2015). Transmedia storytelling panorama in the Russian media landscape. *Russian Journal Of Communication*, *8*(1), 3. doi: 10.1080/19409419.2015.1121789

Gee, J. (2005). Good Video Games and Good Learning. *Phi Kappa Phi Forum*, *85*(2). Retrieved from http://norcalwp.org/pdf/Gee--Learning_Principles_Articles.pdf

Gee, J. (2012). Foreword. In C. Steinkuehler, K. Squire & S. Barab, *Games, Learning, and Society: Learning and Meaning in the Digital Age* (1st ed.). Cambridge University Press.

Gee, J. (2015). A Situated Approach to Language Teaching, 12-14, 17-23. Retrieved from http://jamespaulgee.com/pdfs/Situated%20Approach%20to%20Language%20Teaching.pdf

Gee, J. (2018). Affinity spaces: How young people live and learn online and out of school - kappanonline.org. Retrieved from http://www.kappanonline.org/gee-affinity-spaces-young-people-live-learn-online-school/
Gee, J., & Hayes, E. (2010). *Women and Gaming: The Sims and 21st Century Learning*. New York: Palgrave Macmillan.

Giovagnoli, M., Vaglioni, P., & Montesano, F. (2011). *Transmedia Storytelling: Imagery, Shapes, and Techniques*. [S.l.]: ETC Press.

Gomez, J. (2007). Panel Discussion [Blog]. Retrieved from http://pganmc.blogspot.pt/2007/10/pga-member-jeff-gomez-left-assembled.html

Gomez, J. (2017a). The Hero's Journey is No Longer Serving Us - Classic Storytelling Models Are Faltering in the Digital Age [Blog]. Retrieved from https://blog.collectivejourney.com/the-heros-journey-is-no-longer-serving-us-85c6f8152a50

Gomez, J. (2017b). Regenerative Listening - Narratives Require Genuine Engagement [Blog]. Retrieved from http://Regenerative Listening Collective Journey Narratives Require Genuine Engagement

Gomez, J. (2017c). Story Can Assert Control Over the Masses - The Power of Propaganda & Multilateral Narratives [Blog]. Retrieved from https://blog.collectivejourney.com/story-can-assert-control-over-the-masses-a739e6c103cd

Gomez, J. (2017d). Superpositioning - How Digital Communication is Blowing Us Back to the Stone Age [Blog]. Retrieved from https://blog.collectivejourney.com/superpositioning-fef1e10ff24c

Gomez, J. (2017e). When It Comes to Story, You're Not Getting It - Classic Narrative Models Must Evolve in the Digital Age [Blog]. Retrieved from https://blog.collectivejourney.com/when-it-comes-to-story-youre-not-getting-it-f6e1f20006f1

Gomez, J. (2017f). Why is This Happening? A New Narrative Model Explains It [Blog]. Retrieved from https://blog.collectivejourney.com/

Gottschall, J. (2013). *The storytelling animal: How stories make us human* (p. 145). Boston: Mariner Books.

Gronstedt, A., & Ramos, M. (2014). *Learning through Transmedia Storytelling* (p. 1). vol. 31, no. 140. Infoline.

Guikema, J., & Williams, L. (2014). Digital Literacies from Multiple Perspectives. In J. Guikema & L. Williams, *Digital Literacies in Foreign and Second Language Education: CALICO Monograph Series, Volume 12* (p. 2). San Marcos, Texas - USA: CALICO. Retrieved from https://calico.org/publications/book-series/digital-literacies-in-language-education/

Hall, T., Long, B., Flanagan, E., Flynn, P., & Lenaghan, J. (2017). Design-Based Research as Intelligent Experimentation: Towards Systematising the Conceptualisation, Development and Evaluation of Digital Learning in Schools. In A. Marcus-Quinn & T. Hourigan, *Handbook on Digital Learning for K-12 Schools* (p. 64). Cham: Springer, Cham.

Harper, I. (2018). The Global Search for Education: Where in the Virtual World Is Alice? [Blog]. Retrieved from https://www.cmrubinworld.com/the-global-search-for-education-where-in-the-virtual-world-is-alice/

Harries, D. (2002). *The New Media Book* (p. 171). London: British Film Institute.

Hassler-Forest, D. (2016). *Science Fiction, Fantasy, and Politics: Transmedia World-Building Beyond Capitalism (Radical Cultural Studies)* (pp. 5-6, 11, 16, 18-19, 87, 196, 200). London: Rowman & Littlefield International.

Henry, S. (2013). *A New Story: Purposeful Storytelling and Designing with Data* (p. 4). New York: Harmony Institute. Retrieved from http://www.academia.edu/4248593/A_New_Story_Purposeful_storytelling_and_designing_with_data

Herr-Stephenson, B., Alper, M., Reilly, E., & Jenkins, H. (2013). *T is for transmedia: Learning through transmedia play* (pp. 26-27, 29). Los Angeles and New York: USC Annenberg Innovation Lab and The Joan Ganz Cooney Center at Sesame Workshop. Retrieved from http://www.joanganzcooneycenter.org/wp-content/uploads/2013/03/t_is_for_transmedia.pdf

High Level Expert Group - European Commission. (2018). *A multi-dimensional approach to disinformation: Report of the independent High level Group on fake news and online disinformation* (p. 35). European Union. Retrieved from https://ec.europa.eu/digital-single-market/en/news/final-report-high-level-expert-group-fake-news-and-online-disinformation

Honey, M., & Hilton, M. (2011). *Learning Science Through Computer Games and Simulations* (p. 2). National Research Council.

Hovious, A. (2013). The 7 Literacies of Transmedia Storytelling. Retrieved from https://designerlibrarian.wordpress.com/2013/11/21/the-7-literacies-of-transmedia-storytelling/

Howe, N., & Strauss, W. (2000). *Millennials Rising: The Next Great Generation*. New York: Vintage Books.

Human Knowledge Seeds Hub @Kodolando. (2016). [Blog]. Retrieved from https://fluxuslogs.tumblr.com/

Hung, H. (2013). Capitalizing on the Dual Goals of Design-Based Research in Computer-Assisted Language Learning Contexts. In J. Rodríguez & C. Pardo-Ballester, *Design-Based Research in CALL : CALICO Monograph Series Volume 11* (p. 68). San Marcos, Texas USA: CALICO.

Internet Society. (2017). *Paths to our Digital Future* (pp. 112, 113). Retrieved from https://future.internetsociety.org/
Ipri, T. (2010). Introducing transliteracy: What does it mean to academic libraries?. *College & Research Libraries News*, *71*(10), 532. doi: 10.5860/crln.71.10.8455

Ito, M. (2005). Intertextual Enterprises: Writing Alternative Places and Meanings in the Media Mixed Networks of Yugioh. In D. Battaglia, *E.T. Culture: Anthropology in Outerspaces* (p. 184). Durham NC: Duke University Press.

Ito, M., Gutiérrez, K., Livingstone, S., Penuel, B., Rhodes, J., & Salen, K. et al. (2013). *Connected Learning: An Agenda for Research and Design* (pp. 6-7, 13, 15, 22-23, 25, 27, 29, 33-34, 62, 74, 78, 87). Irvine, CA: Digital Media and Learning Research Hub. Retrieved from https://dmlhub.net/publications/connected-learning-agenda-for-research-and-design/

Jansen, E. (2012). Case Study Robot Heart Stories 1.0. *Reboot Stories LLC*, 1, 4, 8, 11-12. Retrieved from http://learndoshare.net/wp-content/uploads/2013/07/Case-Study_Robot-Heart-Stories-1.0_Ele-Jansen.pdf

Jenkins, H. (2003). Transmedia Storytelling. Retrieved from https://www.technologyreview.com/s/401760/transmedia-storytelling/

Jenkins, H. (2006). Confronting the Challenges of a Participatory Culture (Part Seven) [Blog]. Retrieved from http://henryjenkins.org/blog/2006/10/confronting_the_challenges_of_6.html

Jenkins, H. (2006). *Convergence Culture: Where Old and New Media Collide* (pp. 21, 95-96, 105, 334). New York: New York University Press.

Jenkins, H. (2007). Transmedia Storytelling 101 [Blog]. Retrieved from http://henryjenkins.org/2007/03/transmedia_storytelling_101.html

Jenkins, H. (2009a). Revenge of the Origami Unicorn: The Remaining Four Principles of Transmedia Storytelling [Blog]. Retrieved from http://henryjenkins.org/blog/2009/12/revenge_of_the_origami_unicorn.html

Jenkins, H. (2009b). The Revenge of the Origami Unicorn: Seven Principles of Transmedia Storytelling (Well, Two Actually. Five More on Friday) [Blog]. Retrieved from http://henryjenkins.org/blog/2009/12/the_revenge_of_the_origami_uni.html

Jenkins, H. (2010a). Avatar Activism and Beyond [Blog]. Retrieved from http://henryjenkins.org/blog/2010/09/avatar_activism_and_beyond.html

Jenkins, H. (2010b). Transmedia Education: the 7 Principles Revisited [Blog]. Retrieved from http://henryjenkins.org/blog/2010/06/transmedia_education_the_7_pri.html

Jenkins, H. (2011). Transmedia 202: Further Reflections [Blog]. Retrieved from http://henryjenkins.org/2011/08/defining_transmedia_further_re.html

Jenkins, H. (2013). T is for Transmedia... [Blog]. Retrieved from http://henryjenkins.org/blog/2013/03/t-is-for-transmedia.html

Jenkins, H. (2016). Telling Stories: Lina Srivastava Talks About Transmedia Activism (Part One) [Blog]. Retrieved from http://henryjenkins.org/blog/2016/01/telling-stories-lina-srivastava-talks-about-transmedia-activism-part-one.html

Jenkins, H. (2016). Transmedia What?. *Immerse*. Retrieved from https://immerse.news/transmedia-what-15edf6b61daa

Jenkins, H., Ford, S., & Green, J. (2013). *Spreadable media: Creating Value and meaning in A Networked Culture, New York: New York University Press. 2013* (p. 1). New York and London: NYU Press.

Jenkins, H., Ito, M., & boyd, D. (2016). *Participatory Culture in a Networked Era: A Conversation on Youth, Learning, Commerce, and Politics* (1st ed., p. 95). Cambridge: Polity.

Jones, J. (2017). Laurie Anderson Introduces Her Virtual Reality Installation That Lets You Fly Magically Through Stories. Retrieved from http://www.openculture.com/2017/09/laurie-anderson-introduces-her-virtual-reality-installation-that-lets-you-fly-magically-through-stories.html

Kafai, Y., & Peppler, K. (2012). Developing Gaming Fluencies with Scratch: Realizing Game Design as an Artistic Process In the Twenty-First Century. In C. Steinkuehler, K. Squire & S. Barab, *Games, Learning, and Society: Learning and Meaning in the Digital Age* (1st ed., pp. 355-358). Cambridge University Press.

Kalantzis, M., & Cope, B. (2012). Kalantzis and Cope: A Charter for Change in Education Chapter 1: New Learning - Νέα Μάθηση Neamathisi. Retrieved from http://neamathisi.com/new-learning/chapter-1-new-learning/kalantzis-and-cope-a-charter-for-change-in-education

Kali, Y. (2008). The design principles database as means for promoting design-based research. In A. Kelly, R. Lesh & J. Baek, *Handbook of Design Research Methods in Education* (p. 423). London, England: Routledge.

Kalogeras, S. (2014). *Transmedia storytelling and the new era of media convergence in higher education* (pp. 72, 74, 110-111, 147, 177-178). Houndmills, Basingstoke, Hampshire: Palgrave Macmillan.

Kelly, A. (2010). When is Design Research Appropriate?. In T. Plomp & N. Nieveen, *An Introduction to Educational Design Research: Proceedings of the seminar conducted at the East China Normal University, Shanghai (PR China), November 23-26, 2007* (3rd ed., p. 76). Enschede: SLO - Stichting Leerplan Ontwikkeling.

Kendall, A., & McDougall, J. (2012). Critical Media Literacy after the Media. *Comunicar*, *XIX*(38), 23, 27. doi: http://dx.doi.org/10.3916/C38-2012-02-02

Kern, R. (2000). *Literacy and Language Teaching*. Oxford University Press.

Kern, R. (2014). Technology as Pharmakon: The Promise and Perils of the Internet for Foreign Language Education. *The Modern Language Journal*, *98*(1), 340-357. doi: 10.1111/j.1540-4781.2014.12065.x

Kinder, M. (1991). *Playing with power in movies, television, and video games* (p. 3). Berkeley: University of California Press.

Klastrup, L., & Tosca, S. (2004). Transmedial worlds - rethinking cyberworld design. In *2004 International Conference on Cyberworlds*. Tokyo, Japan: IEEE. Retrieved from https://ieeexplore.ieee.org/document/1366205/

Koenitz, H., Sezen, T., Sezen, D., Ferri, G., & Haahr, M. (2015). *Interactive Digital Narrative History, Theory and Practice* (pp. 2, 19). New York: Routledge.

Konekt, C. (2016). Cat Konekt. Retrieved from https://www.facebook.com/CatKonnekt

Konnekt, C. (2016). Cat Konnekt (@cat.konnekt) - Instagram photos and videos. Retrieved from https://www.instagram.com/cat.konnekt/

Kramsch, C. (2009). *The multilingual subject: what foreign language learners say about their experience and why it matters*. Oxford, UK: Oxford University Press.

Kumpulainen, K., & Sefton-Green, J. (2014). What Is Connected Learning and How to Research It?. *International Journal Of Learning And Media*, *4*(2), 11, 15. doi: 10.1162/ijlm_a_00091

Kuppens, A. (2010). Incidental foreign language acquisition from media exposure. *Learning, Media And Technology*, *35*(1), 65-85. doi: 10.1080/17439880903561876

Kurek, M., & Hauck, M. (2014). Closing the Digital Divide: A Framework for Multiliteracy Training. In J. Guikema & L. Williams, *Digital Literacies in Foreign and Second Language Education: CALICO Monograph Series Volume 12* (pp. 119-120, 122, 126-127). San Marcos, Texas USA: CALICO.

Lacey, N. (2000). *Narrative and Genre: Key Concepts in Media Studies* (p. 132). Hampshire: Palgrave.

Larsen-Freeman, D. (2013). A Promising Combination: Complexity Theory, Design-Based Research, and CALL. In J. Rodríguez & C. Pardo-Ballester, *Design-Based Research in CALL : CALICO Monograph Series Volume 11* (pp. 23-24). San Marcos, Texas USA: CALICO.

Lave, J. (1991). Situating learning in communities of practice. In L. Resnick, J. Levine & S. Teasley, *Perspectives on Socially Shared Cognition* (p. 64). American Psychological Association.

Lave, J., & Wenger, E. (1991). *Situated Learning Legitimate: Peripheral Participation* (1st ed., p. 21). Cambridge UK: Cambridge University Press.

Livingstone, S. (2018a). Media literacy – everyone's favourite solution to the problems of regulation [Blog]. Retrieved from http://blogs.lse.ac.uk/mediapolicyproject/2018/05/08/media-literacy-everyones-favourite-solution-to-the-problems-of-regulation/

Livingstone, S. (2018b). What's new in 'digital parenting' research? Insights from the Connected Learning Summit 2018. Retrieved from http://blogs.lse.ac.uk/parenting4digitalfuture/2018/08/03/whats-new-in-digital-parenting/

Livingstone, S., & Sefton-Green, J. (2016). *In The Class: Living and Learning in the Digital Age* (pp. 4, 94, 104, 235). New York: New York University Press.

Long, G. (2007). *Transmedia Storytelling Business, Aesthetics and Production at the Jim Henson Company* (Master). Massachusetts Institute of Technology.

Lord of the Rings: The Fellowship of the Ring. Retrieved from http://www.tk421.net/lotr/film/fotr/16.html

Lott, T. (2017). A creative writing lesson from the 'God of Story'. Retrieved from https://www.theguardian.com/books/2016/sep/10/creative-writing-lesson-god-of-story-robert-mckee-tim-lott

Louisiana Channel. (2017). *Laurie Anderson Interview: A Virtual Reality of Stories* [Video]. Retrieved from https://vimeo.com/233785242

Mackay, J., Birello, M., & Xerri, D. (2018). *ELT Research in Action - Bridging the Gap between Research and Classroom Practice* [Ebook] (p. 8). Kent: IATEFL. Retrieved from http://resig.weebly.com/elt-research-in-action.html

Margini, M. (2017). "Hamlet on the Holodeck," Twenty Years Later. *The New Yorker*. Retrieved from https://www.newyorker.com/books/second-read/hamlet-on-the-holodeck-twenty-years-later

Marsh, D. (2002). *Content and Language Integrated Learning: The European Dimension – Actions, Trends and Foresight Potential* (p. 25). Jyväskylä, Finland: University of Jyväskylä. Retrieved from http://urn.fi/URN:NBN:fi:jyu-201511093614

Martinez Alfaro, M. (1996). Intertextuality: Origins and Development of the Concept. *Atlantis*, *18*(1/2), 268. Retrieved from http://www.jstor.org/stable/41054827

McCloud, S. (1994). *Understanding comics* (p. 6). New York, NY: Harper Perennial.

McLuhan, M. (1964). *Understanding Media : The Extensions of Man* (pp. 56-57, 66, 68). New York: McGraw-Hill.

McLuhan, M., & Leonard, G. (1967). The future of education: The class of 1989. *Look*, 23.

Meretoja, H. (2014). Narrative and human existence: Ontology, epistemology, and ethics. *New Literary History*, *45*(1), 89, 104. doi: 10.1353/nlh.2014.0001

Mirra, N. (2018). From Connected Learning to Connected Teaching: Editor's Introduction. *Cite Journal*, *18*(2). Retrieved from http://www.citejournal.org/volume-18/issue-2-18/english-language-arts/cite-english-language-arts-special-issue-editors-introduction/

MSL Group. (2013). *Now & Next: Future of Engagement* (p. 7). MSL Group. Retrieved from http://peopleslab.mslgroup.com/peoplesinsights/future-of-engagement/

Mui, R. (2017). The stories we tell. Retrieved from http://www.businesstimes.com.sg/brunch/the-stories-we-tell

Mungioli, M. (2011). Narratives, languages and media in the context of interactive digital technologies Interview with Carlos Alberto Scolari. *Matrizes*, *2*, 130. Retrieved from https://www.revistas.usp.br/matrizes/article/download/38296/4112

Murray, J. (1997). *Hamlet on the Holodeck - The Future of Narrative in Cyberspace* (1st ed., p. 213). New York: The Free Press.

Nack, F., & Gordon, A. (2016). Interactive Storytelling. In *9th International Conference on Interactive Digital Storytelling - ICIDS 2016* (p. 55). Los Angeles, CA, USA: Springer International Publishing AG. Retrieved from https://www.springer.com/gp/book/9783319482781

Nazerian, T. (2018). Anthropologist Mimi Ito: Good Intentions Don't Always Mean Equitable Outcomes in Edtech - EdSurge News. Retrieved from https://www.edsurge.com/news/2018-10-08-cultural-anthropologist-mimi-ito-good-intentions-don-t-always-mean-equitable-outcomes-in-edtech

NIETZSCHE, F. (2016). *Writings of Nietzsche* (p. 7). [S.l.]: LULU COM.
Norton, B. (2013). *Identity and language learning: : Extending the conversation* (2nd ed.). Bristol: Multilingual Matters.

Nunes, N., Oakley, I., & Nisi, V. (2017). Interactive Storytelling. In *10th International Conference on Interactive Digital Storytelling, ICIDS* (p. VI). Funchal, Madeira, Portugal: Springer, Cham. Retrieved from https://doi.org/10.1007/978-3-319-71027-3

O'Donnell, A. (2004). A Commentary on Design Research. *Educational Psychologist*, *39*(4), 257. doi: 10.1207/s15326985ep3904_7

Palalas, A. (2012). *Design Guidelines for a Mobile-Enabled Language Learning System Supporting the Development of ESP Listening Skills* (Ph.D.). Athabasca University.

Palalas, A., & Hoven, D. (2013). Implications of Using DBR to Investigate the Iterative Design of a Mobile-Enhanced Language Learning System. In J. Rodríguez & C. Pardo-Ballester, *Design-Based Research in CALL: CALICO Monograph Series Volume 11* (p. 60). San Marcos, Texas USA: CALICO.

Pardo-Ballester, C., & Rodríguez, J. (2010). Developing Spanish Online Readings Using Design-Based Research. *CALICO Journal*, *27*(3), 550. doi: 10.11139/cj.27.3.540-553

Pavlenko, A. (2015). Learning Languages in the Classroom and "in the Wild" [Blog]. Retrieved from https://www.psychologytoday.com/intl/blog/life-bilingual/201501/learning-languages-in-the-classroom-and-in-the-wild?amp=

Pereira, L., Jorge, A., & Brites, M. (2017). Media Education Competitions: An Efficient Strategy For Digital Literacies?. *Italian Journal Of Sociology Of Education*, *9*(1), 84, 88. doi: 10.14658/pupj- ijse-2017-1-5

Pereira, S., Fillol, J., & Moura, P. (2018). *Agenda de Atividades de Transliteracia - Levar os Media para a Escola* - [Ebook]. Universidade do Minho - CECS. Retrieved from http://www.lasics.uminho.pt/ojs/index.php/cecs_ebooks/issue/view/238

Pereira, S., Fillol, J., & Moura, P. (2018). *The informal meets the formal: Portuguese outcomes of the Transliteracy research project*. Presentation, Transmedia Literacy International Conference - Barcelona (Spain).

Pereira, S., Moura, P., Masanet, M., Taddeo, G., & Tirocchi, S. (2018). Media uses and production practices: case study with teens from Portugal, Spain and Italy. *Comunicación Y Sociedad*, *33*(September-December), 89-90, 93-95, 98–103, 113. Retrieved from http://www.comunicacionysociedad.cucsh.udg.mx/index.php/comsoc/article/view/7091

Pereira, S., Moura, P., Tirocchi, S., Taddeo, G., & Scolari, C. (2017). *Usos dos media e práticas de produção e participação. Estudo de caso com jovens de Portugal, Itália e Espanha*. Presentation, 10th Congress of the Portuguese Communication Sciences Association (SOPCOM), Viseu (Portugal).

Pereira, S., Pinto, M., & Moura, P. (2015). *Níveis de Literacia Mediática: Estudo Exploratório com Jovens do 12º ano* [Ebook] (p. 95). Braga - Portugal: Centro de Estudos de Comunicação e Sociedade - Universidade do Minho. Retrieved from http://www.lasics.uminho.pt/ojs/index.php/cecs_ebooks/issue/view/169

Pereira, S., Pinto, M., Madureira, E., Pombo, T., & Guedes, M. (2014). *Media Education Guidance* [Ebook]. Ministry of Education and Science. Retrieved from http://www.dge.mec.pt/sites/default/files/ECidadania/Referenciais/media_education_guidance_dge_pt.pdf

Phillips, A. (2012). *A Creator's Guide to Transmedia Storytelling* (p. 41). New York, N.Y.: McGraw-Hill.

Phillips, A. (2016). What's Happened to Transmedia?. *Immerse*. Retrieved from https://immerse.news/whats-happened-to-transmedia-855f180980e3

Pietschmann, D., Völkel, S., & Ohler, P. (2014). Limitations of Transmedia Storytelling for Children: A Cognitive Developmental Analysis. *International Journal Of Communication*, *8*, 2261. Retrieved from http://ijoc.org/index.php/ijoc/article/view/2612

Potter, J., & McDougall, J. (2017). *Digital media, Culture & Education: Theorising Third Space Literacies* (pp. 16-17, 40-41, 45, 59). Palgrave Macmillan.

Pratten, R. (2010). What is Pervasive Entertainment? [Blog]. Retrieved from http://www.tstoryteller.com/what-is-pervasive-entertainment

Pratten, R. (2011). *Getting started with transmedia storytelling: A Practical Guide for Beginners* (2nd ed.). Seattle: CreateSpace.

Pratten, R. (2012). Transmedia Storytelling in the Class Room – Conducttr. Retrieved from http://www.tstoryteller.com/transmedia-storytelling-in-the-class-room

Pratten, R. (2015). Transmedia for Change [Blog]. Retrieved from http://www.tstoryteller.com/transmedia-for-change

Prensky, M. (2001). Digital Natives, Digital Immigrants Part 1. *On The Horizon*, *9*(5), 1-6. doi: 10.1108/10748120110424816

Pringle, R. (2016). The Storyteller, the Fixer - An Immerse response. *Immerse*. Retrieved from https://immerse.news/the-storyteller-the-fixer-866fe492fa49

Producers Guild of America. (2010). PGA Board of Directors Approves Addition of Transmedia Producer to Guild's Producers Code of Credits [Blog]. Retrieved from https://www.producersguild.org/news/news.asp?id=39637

Question Bridge. Retrieved from http://questionbridge.com/

Rage Against The Machine. (1999). *Guerrilla Radio* [CD]. Sony Music Entertainment Inc. Retrieved from https://www.youtube.com/watch?v=H0kJLW2EwMg

Rampazzo Gambarato, R. (2013). Transmedia Project Design: Theoretical and Analytical Considerations. *Baltic Screen Media Review*, *1*(1), 81, 82, 90-95. doi: 10.1515/bsmr-2015-0006

Rand, P. (1993). *Design, Form, and Chaos* (p. 3). Yale University Press.

Raybourn, E. (2013a). Addressing Changing Mindsets: Transforming Next Generation Leader Development with Transmedia Learning. In L. Wells II, T. Hailes & M. Davies, *Changing Mindsets to Transform Security: Leader Development for an Unpredictable and Complex World* (p. 132). Washington DC, USA: Center for Technology and National Security Policy at the National Defense University.

Raybourn, E. (2013b). A new paradigm for serious games: Transmedia learning for more effective training and education. *Journal Of Computational Science*, *5*(3), 475. doi: 10.1016/j.jocs.2013.08.005

Raybourn, E. (2015). *Engage Learners with Transmedia Storytelling - TEDxABQED Presentation* [Video]. Retrieved from https://youtu.be/_j-2Ct9V9cQ

Raybourn, E. (2016). Toward Culturally-Aware, Next Generation Learning Ecosystems. In S. Schatz & M. Hoffman, *Advances in Intelligent Systems and Computing* (p. 173). Springer, Cham. Retrieved from https://doi.org/10.1007/978-3-319-41636-6_14

Raybourn, E., DiGiovanni, F., & Jones, M. (2015). Transmedia (Social) Learning in the Wild: Exploring a Continuum of Support for Transitioning Service Members. *Interservice/Industry Training, Simulation, And Education Conference (I/ITSEC)*, 2. Retrieved from https://www.osti.gov/servlets/purl/1324584

Rede de Bibliotecas Escolares. (2018). 7 dias, 7 dicas sobre os media. Retrieved from http://www.rbe.mec.pt/np4/1812.html

Reeves, T., & McKenney, S. (2013). Computer-Assisted Language Learning and Design-Based Research: Increased Complexity for Sure, Enhanced Impact Perhaps. In J. Rodríguez & C. Pardo-Ballester, *Design-Based Research in CALL: CALICO Monograph Series Volume 11* (pp. 12, 14, 20). San Marcos, Texas USA: CALICO.

Rodrigues, P. (2013). *The Rise of Generation C* [Image]. Retrieved from http://bit.ly/GenC_rise

Rodrigues, P. (2015). *Who am I? Connecting Cat Ep.1* [Video]. Retrieved from https://vimeo.com/122134357

Rodrigues, P. (2016). Connecting Cat. Retrieved from http://bit.ly/ccat_site

Rodrigues, P. (2016). Seek and you shall find. Retrieved from https://video.helloeko.com/v/A6qKEz#

Rodrigues, P., & Ruas, D. (2015). Allure - The Fluxus Flow. Retrieved from http://content.madefire.com/s-52e499b6eb0d42008b41136d98b397f4/index.html#

Rodríguez, N. (2016). *Diseño de narrativas transmedia para la transalfabetización* (Ph.D.). Universitat Pompeu Fabra Barcelona.

Rodríguez-Illera, J., & Molas-Castells, N. (2014). Educational uses of transmedia storytelling - The Ancestral Letter. *Journal Of Educational Multimedia And Hypermedia*, *23*(4), 342-345, 350-353.

Rose, F. (2011). Why transmedia Is like a walk in Patagonia. Retrieved from http://www.deepmediaonline.com/deepmedia/2011/08/why-transmedia-is-like-a-walk-in-patagonia.html

Rose, F. (2012). *The Art of Immersion: How the Digital Generation is Remaking Hollywood* (2nd ed., pp. 1-2). New York: W.W. Norton & Co.

Ryan, M. (2015). *Narrative as virtual reality 2 : revisiting immersion and interactivity in literature and electronic media* (p. 63). Baltimore: John Hopkins University.

Ryan, M., & Thon, J. (2014). *Storyworlds Across Media: Toward a Media-Conscious Narratology (Frontiers of Narrative)* (pp. 16-17). University of Nebraska Press.

Saler, M. (2012). *As if* (p. 7). New York: Oxford University Press.

Saltik, H. (2017). *ransmedia Storytelling in Education: English Language Teachers' Acceptance of Application of Transmedia Storytelling to Teaching Contexts* (Masters). Universidade do Porto.

Saltmarshe, E. (2018). Using Story to Change Systems. Retrieved from https://ssir.org/articles/entry/using_story_to_change_systems

Sánchez-Mesa, D., Aarseth, E., Pratten, R., & Scolari, C. (2016). Transmedia (Storytelling?): A polyphonic critical review. *Artnodes*, (18). doi: 10.7238/a.v0i18.3064

Sauer, T. (2009). Interview With Stuart Saunders Smith and Sylvia Smith. Retrieved from https://notations21.wordpress.com/interview-with-stuart--saunders-smith-and-sylvia-smith/

Schmidt, B. (2018). Madefire's Motion Book Tool Revolutionizes Comic Books For a Digital Age. Retrieved from http://tobereadbooks.com/madefire-motion-book-tool-revolutionizes-comic-books/

Schneidmueller, B. (2016). *The Dynamic Story Mosaic: Defining Narrative Strategies in Transmedia Environments* (Ph.D.). York University.

Scolari, C. (2009). Transmedia Storytelling: Implicit Consumers, Narrative Worlds, and Branding in Contemporary Media Production. *International Journal Of Communication*, *3*(4), 587. Retrieved from http://ijoc.org/index.php/ijoc/article/view/477/336

Scolari, C. (2013). Lostology: Transmedia storytelling and expansion/compression strategies. *Semiotica*, *2013*(195), 3. doi: 10.1515/sem-2013-0038

Scolari, C. (2018a). *Teens, media and collaborative cultures: exploiting teens' transmedia skills in the classroom* (pp. 9, 12-19, 53-54, 60-62, 64-65, 89-94, 99-103, 119-120, 122-123, 126). Barcelona: Universitat Pompeu Fabra. Retrieved from http://hdl.handle.net/10230/34245

Scolari, C. (2018b). Transmedia literacy in the new media ecology: white paper. *Universitat Pompeu Fabra. Departament De Comunicació*, *Barcelona*, 7, 9. Retrieved from http://hdl.handle.net/10230/33910

Scolari, C. (2018). Transmedia Literacy Rethinking Media Literacy in the New Media Ecology. In M. Freeman & R. Gambarato, *The Routledge Companion to Transmedia Studies.*. Routledge.

Scolari, C., Bertetti, P., & Freeman, M. (2014). Introduction: Towards an Archaeology of Transmedia Storytelling. In C. Scolari, P. Bertetti & M. Freeman, *Transmedia Archaeology: Storytelling in the Borderlines of Science Fiction, Comics and Pulp Magazines* (pp. 2 -7). UK: Palgrave Macmillan.

Scolari, C., Masanet, M., Guerrero-Pico, M., & Establés, M. (2018). Transmedia literacy in the new media ecology: Teens' transmedia skills and informal learning strategies. *El Profesional De La Información*, *27*(4), 809. doi: 10.3145/epi.2018.jul.09

Shaer, M. (2015). Can amateur journalism bring justice to Rio's favelas?. *The New York Times*. Retrieved from https://www.nytimes.com/2015/02/22/magazine/the-media-doesnt-care-what-happens-here.html

Shelton, M. (2011). Storytelling may help control blood pressure in some populations. Retrieved from https://www.umassmed.edu/news/Articles/2011/controlled_bloodpressure/

Silva, A., & Herdeiro, R. (2014). Educational Policies and the Quality of Teaching: Perceptions of Portuguese Teachers. *Creative Education*, *05*(11), 940, 943, 946. doi: 10.4236/ce.2014.511107

Simonsen, J., & Robertson, T. (2012). *Routledge International Handbook of Participatory Design* (p. 2). New York: Routledge.

Simonsen, J., Svabo, C., Strandvad, S., Samson, K., Hertzum, M., & Hansen, O. (2014). *Situated Design Methods* (p. 1). Cambridge, Massachusetts: The MIT Press.

Sipe, L. (2012). Revisiting the relationships between text and pictures. *Children'S Literature In Education*, *29*(97), 20.

Sockett, G. (2014). *The Online Informal Learning of English*. London: Palgrave.

Sonnenfeld, G. (2015). Archetype Evolutions – Gunther Sonnenfeld – Medium. Retrieved from https://medium.com/@goonth/archetype-evolutions-333273081e5d

Sonnenfeld, G. (2015). Story Evolutions. Retrieved from https://medium.com/@goonth/story-evolutions-a5fa0f7160ec

Staffans, S. (2017). Grappling with the Collective Journey [Blog]. Retrieved from https://simonstaffans.com/2017/01/23/grappling-with-the-collective-journey/

Starkey, L. (2012). *Teaching and Learning in the Digital Age* (p. 24). London: Routledge.

Steinkuehler, C., & Squire, K. (2014). Videogames and Learning. Retrieved from https://www.academia.edu/4875574/Videogames_and_Learning

Sukovic, S. (2016). Part 3: Transliteracy palettes: developing capabilities for “moving across” [Blog]. Retrieved from http://lark-kollektive.blogspot.com/2016/11/part-3-transliteracy-palettes.html

Sukovic, S. (2017). *Transliteracy in Complex Information Environments* (1st ed., pp. 5, 8, 15, 52, 87-88, 90-92, 100-103). Chandos Publishing.

Swaffar, J., & Arens, K. (2005). *Remapping the foreign language curriculum: An approach through multiple literacies* (p. 3). New York: Modern Language Association of America.

Tárcia, L. (2018). Transmedia Education Changing the Learning Landscape. In M. Freeman & R. Gambarato, *The Routledge Companion to Transmedia Studies*. Routledge.

Tate, R. (2014). The Next Big Thing You Missed: A Social Network That Could Truly Reform Our Schools. Retrieved from https://www.wired.com/2014/06/edmodo/

Television | beActive Entertainment. Retrieved from http://beactivemedia.com/tv/

The Bradfield Company Limited. (2018). Inanimate Alice. Retrieved from https://inanimatealice.com/

The Design-Based Research Collective. (2003). Design-Based Research: An Emerging Paradigm for Educational Inquiry. *Educational Researcher*, *32*(1), 5. doi: 10.3102/0013189x032001005

The Harry Potter Alliance. Retrieved from https://www.thehpalliance.org/

Thomas, S., Joseph, C., Laccetti, J., Mason, B., Mills, S., Perril, S., & Pullinger, K. (2007). Transliteracy: Crossing divides. *First Monday*, *12*(12). doi: 10.5210/fm.v12i12.2060

Transmedia Literacy. Transmedia Literacy. Retrieved from https://transmedialiteracy.org/

Type:Rider, un jeu vidéo typographique | ARTE. (2013). Retrieved from http://typerider.arte.tv/?lang=en#/

UNESCO. (2014). *Paris Declaration on Media and Information Literacy in the Digital Era* [Ebook] (p. 2). UNESCO. Retrieved from http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/news/paris_mil_declaration.pdf

Vrentzou, I. (2017). Re: transmedia literacy conference deadline 31st october [Email].

Vrentzou, I. (2017). *Research on the use of Transmedia Storytelling in Teaching English as a Foreign Language - Its contribution to the educational process* (Masters). National and Kapodistrian University of Athens.

Wagner, L., & Erickson, I. (2013). Augmented Reality and Neighborhood Narratives. In C. Williams, A. Ochsner, J. Dietmeier & C. Steinkuehler, *Proceedings GLS 9.0 Games Learning Society Conference* (p. 352). ETC Press. Retrieved from http://www.informalscience.org/gls-90-conference-proceedings

Wankel, L., & Blessinger, P. (2013). *Increasing Student Engagement and Retention using Multimedia Technologies: Video Annotation, Multimedia Applications, Videoconferencing and Transmedia Storytelling* (p. 5). Bingley, U.K.: Emerald.

Warren, S., Wakefield, J., & Mills, L. (2013). Learning and Teaching as Communicative Actions: Transmedia Storytelling. In L. Wankel & P. Blessinger, *Increasing Student Engagement and Retention using Multimedia Technologies: Video Annotation, Multimedia Applications, Videoconferencing and Transmedia Storytelling* (pp. 69, 71-74). Bingley, UK: Emerald Group Publishing Limited.

Warschauer, M., Tate, T., Yim, S., & Park, Y. (2014). *Supporting Digital Literacy in Educational Contexts: Emerging Pedagogies and Technologies* (p. 11). International Baccalaureate Organization. Retrieved from http://www.digitallearninglab.org/wp-content/uploads/2015/02/IBdigitalLiteracy12152014-2.pdf

Waudby, A. (2016). Group of Experts - information [Email].

Weaver, T. (2013). *Comics for Film, Games, and Animation: Using Comics to Construct Your Transmedia Storyworld* (pp. 8, 12). Burlington MA: Focal Press.

Weiler, L. (2016). An Evolution in Storytelling and Impact. Retrieved from https://immerse.news/an-evolution-in-storytelling-and-impact-a90a86f788e5

Weitbrecht, C. (2011). Storyworld 2011 in San Francisco: Day 3 [Blog]. Retrieved from http://christineweitbrecht.com/2011/11/storyworld-2011-in-san-francisco-day-3/
Welle, D. (2017). The Collective Journey: A Dynamic New Storytelling Model - DW - 29.05.2017. Retrieved from http://www.dw.com/en/the-collective-journey-a-dynamic-new-storytelling-model/a-38872767

WET_edugames. (2018). The Group Of Experts. Retrieved from https://wetedugames.com/group-of-experts

WITNESS: Documenting Human Rights with Video. Retrieved from https://witness.org/

Wolf, M. (2012). *Building Imaginary Worlds: The Theory and the History of Subcreation* (pp. 2-3, 5, 21-24, 29, 77, 143-145, 154-155). New York: Routledge.

Young, H. (2018). The digital language divide. Retrieved from http://labs.theguardian.com/digital-language-divide/

Zak, P. (2014). Why your brain loves good storytelling. Retrieved from https://hbr.org/2014/10/why-your-brain-loves-good-storytelling

Zheng, D., & Newgarden, K. (2012). Rethinking Language Learning: Virtual Worlds as a Catalyst for Change. *The International Journal Of Learning And Media*, *3*(2), 27. doi: 10.1162/ijlm_a_00067

Zhi, C. (2015). *Pale Blue Dot* [Video]. Retrieved from https://vimeo.com/chinlizhi/palebluedot
Zuckerman, M. (2016). *The New Human Narrative - Our Collective Journey* [Ebook] (pp. 4-5, 10, 16, 23, 26, 32-33). Retrieved from https://www.mayazuckerman.com/the-collective-journey

Zuckerman, M. (2016). *The New Human Narrative - Our Collective Journey* [Ebook] (pp. 4-5, 10, 16, 23, 26, 32-33). Retrieved from https://www.mayazuckerman.com/the-collective-journey

APPENDIXES

Appendix I

Connecting Cat’s Reference Guide

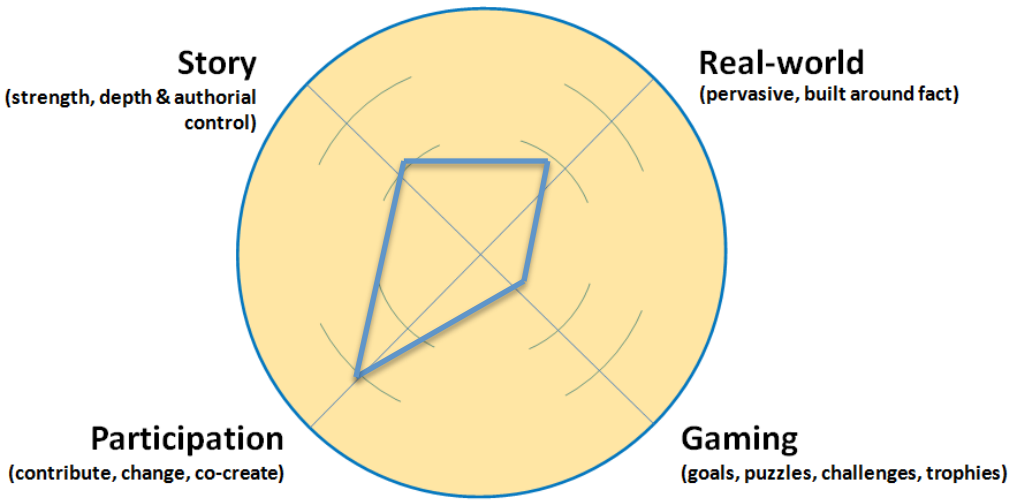
PROJECT'S REFERENCE GUIDE

STORY

Cat is an ordinary teen girl living in a small city in Portugal with her father and cat Sassi. When she comes across her deceased grandmother's papers, she discovers a whole new set of facts that shed a new light to her identity.
The whole new revelation leads Cat on a quest. She is a seeker of the Fluxus tribe (native cyberspace warriors) with the mission to assemble a portal that ultimately allows the Fluxus closely to interact with humans. The portal pieces were in ancient times scattered all over the world. In order to collect all the portal pieces, Cat relies on her cat, an undercover warrior of the Fluxus, to give her clues. Together they will try to connect the Fluxus to mankind.

EXPERIENCE

The project comprises a series of webisodes; an interactive comic book and a location-based event. Other access points to the story world are provided through the use of social media platforms - Facebook; Twitter, Tumblr and Edmodo.



Story = importance of narrative, depth of world & degree of authorial control
Real-world = extent to which story-experience pervades real locations & times, real people & events
Participation = ability of audience to change or contribute to the story-experience
Gaming = audience has goal, use of puzzles, game mechanics (trophies, levels, leader boards etc.)

PREMISE AND PURPOSE

The quests take place in a story world in which learners are direct participants in helping the story to unfold across different platforms. Through the creation of a fictional story world, one intends to provide space for the development of reading and writing, listening and speaking skills and engage ESL learners in the exploration of topics such as media culture, multiculturalism, linguistic diversity and use of technology.

AUDIENCE

The project is targeted to teenagers (14-17 years old) / ESL learners and more specifically it is aimed at Portuguese students.

PLATFORMS

- Webisodes: Vimeo, YouTube (?)
- Facebook
- Twitter
- Tumblr
- Edmodo

CHARACTERS

CAT

AGE: 16
LOCATION: lives in the suburbs
EDUCATION: attends the 10th grade in a highschool near her apartment; regular student and likes to learn foreign languages
FAMILY: lives with her father; deeply feels the loss of her mother and grandmother and has a strong bond with her cat Sassi.
HOBBIES: practises Capoeira and is an avid multiscreener - she plays LoL; checks her mobile every five minutes for facebook feeds and posts regularly on her blog
PET: Sassy - siamese cat (given to Cat by her grandmother when she was 5 years old)
MISSION: collect pieces on planet earth to assemble a portal to connect mankind to the Fluxus tribe
SPECIAL ATTRIBUTES: seeker for the Fluxus; empathic and morphing abilities

SASSY/ SHAKID

SASSY

SPECIES: Siamese cat
GENDER: female
AGE: 11 years old
LOCATION: Cat's apartment and surrounding area
ACTIVITIES: Fleeing to wonder around the neighbourhood; demanding Cat's attention through clawing and scratching
SPECIAL ATTRIBUTES: empathic and morphing abilities

SHAKID

AGE: undetermined for the Fluxus/ estimated to be more than 100 years old according to earth years
GENDER: male
SECRET IDENTITY: Fluxus warrior and messenger
MISSION: help Cat to collect the portal pieces on planet Earth by gathering intel and briefing it to her
SPECIAL ATTRIBUTES: "forgetfulness power" (delete the memory of any living being when necessary; "unbabel power"(ability to be fluent in any given language)

GRANDMA/
DAWN

DAWN (Cat's Grandmother)
STATE: deceased
* helped to raise Cat upon her mother's death
SPECIAL ATTRIBUTES: empathic and morphing abilities

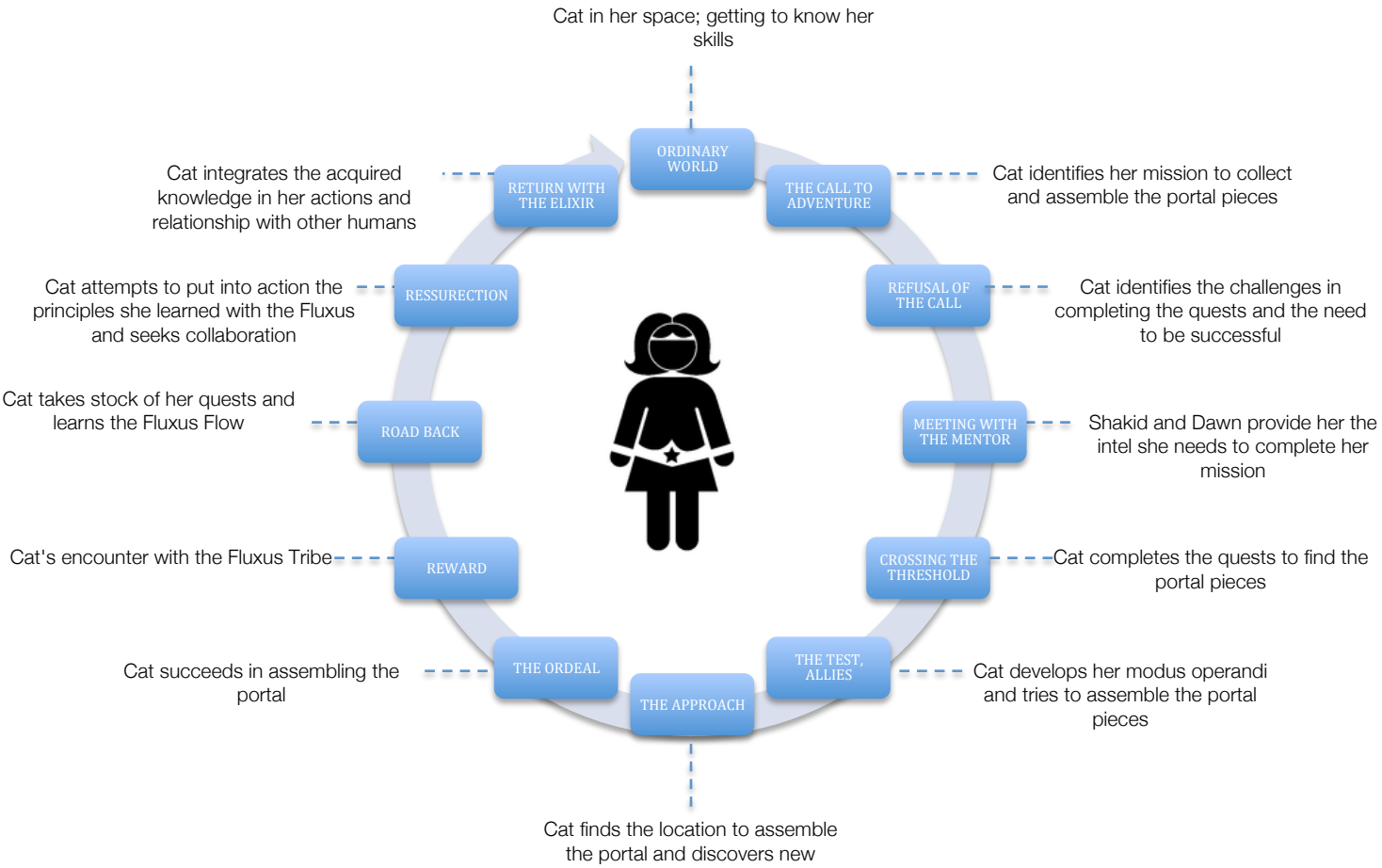
DAWN SPARKLE
AGE: undetermined for the Fluxus/ estimated to be more than 100 years old according to earth years
GENDER: female
SECRET IDENTITY: Priestess
MISSION: guide and awaken the gifts of the tribe members
SPECIAL ATTRIBUTES: "Light shed" (ability to provide glimpses of the future to others

FLUXUS TRIBE

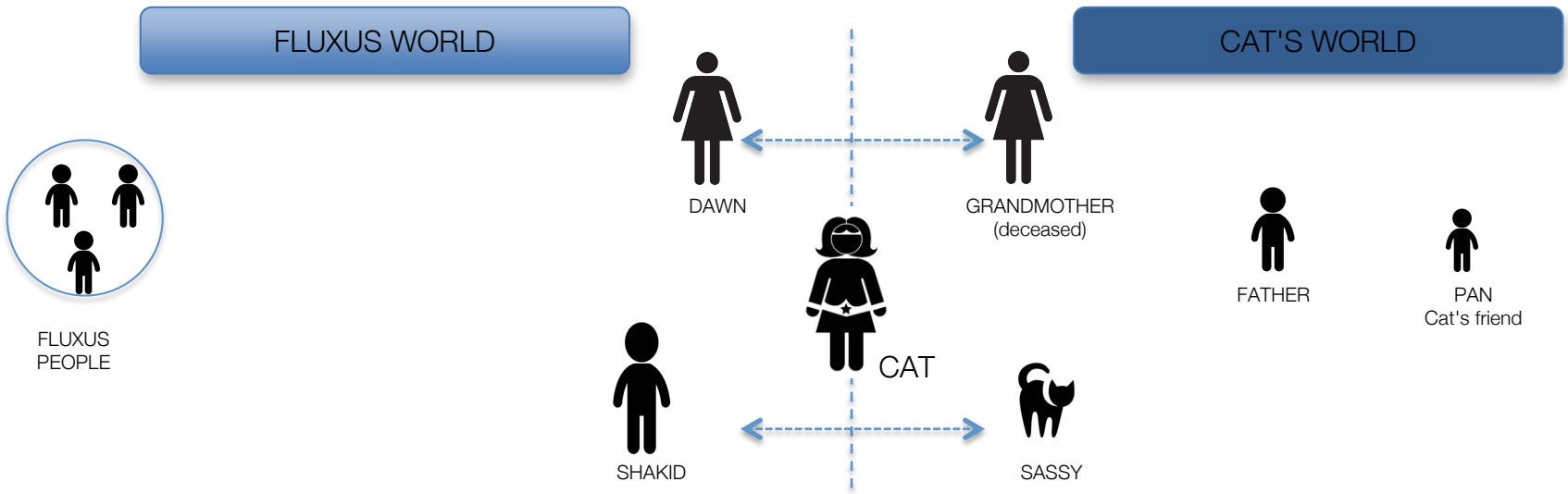
The Fluxus are an ancient alien tribe living in cyberspace. The Fluxus are ingenious, intelligent beings that seek the union of all beings across the universe. They are skilled and brave warriors engaged in the building of the collective knowledge across the universe. They believe in interdependence and that both humans and Fluxus alike will be able to thrive and develop if they can gather forces.

CAT'S JOURNEY

* based on Joseph Campbell's Hero's Journey structure.

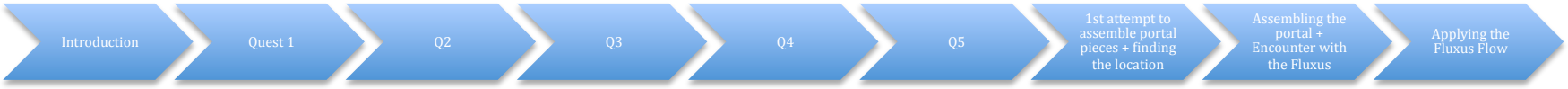


CHARACTER MAP



WEBISODES DEVELOPMENT

The webisodes are aimed at developing the main story. Apart from the first (introduction to the setting of the story and main characters), the webisodes will allow the user to build his/ her own path of exploration within a controlled set of options). Cat's webisodes are shot using the first person perspective, in order not disclose her identity and set a mystery mood.



INTRODUCTION -"*Who am I?*"
Synopsis
Cat turns on her laptop, checks her calendar, picks up some books from her backpack. She goes online and chats with one of her friends via skype. Checks her to do list and starts to clear up the room, it is then she comes across a box with some of her deceased grandma belongings and finds a letter addressed to her. She reads the letter and discovers her Fluxus identity and mission as well as her cat special powers and secret identity. Sassy and Cat bond and her pet sends her a message. Cat is intrigued and goes online to google the message.

QUEST 1 -"*Seek and you shall find*"
Synopsis
Cat picks up her mobile and reads the message in her mobile screen. She opens her laptop and googles the message. She finds the location where she might find the message. Pins down the location on google maps and buys a ticket to London. A Couple days later she flies down to London and gets to the location. There she follows a trail of clues that ultimately lead her to the portal piece. She then returns home.

QUEST - "*AWOL*"
Augmented reality / QR Codes → (which works best?)
Synopsis
CCTV across the city reveal vital clues and story details that unravel the mystery of what happened to one of the guardians of the portal pieces. The participants help Cat as hackers in the mission to find the keeper and discover why he went missing. Starting from one location, players need to locate a number of CCTV cameras and possible witnesses scattered across the city. Each CCTV camera and witness found gives access to a code via an aura. Using this code, participants will trigger video footage of what happened from the perspective of that camera in the past 48 hours. Accessing a witness code will provide either a phone call to listen to past conversations or a warning that the hacking intrusion has been detected. Completion of the quest will lead to the finding of the missing keeper and the retrieve of one of the portal pieces.

INTERACTIVE COMIC BOOK - *FLUXUS FLOW*

The Fluxus Flow comic book is aimed at exploring the Fluxus tribe activities and is also a secondary story that complements the main one. Each panel sequence will on one hand present relevant information about the Fluxus culture and members and, on the other hand, provide valuable information or clues that will have an impact in the development of the main story. In every sequence, there will be panels that the user can explore and access different information, clues or puzzles to solve.

SEQUENCE 1
- Sassy's routine: eating, sleeping, jumping and levitating while playing around;

- Sassy's mental connection with the Fluxus;
- Sassy morphs into Shakid and appears in the Fluxus World;
- Dawn Sparkle in her space;
- Shakid meets Dawn Sparkle and receives a message;
- Shakid is called to solve an ordeal – cyber-gardener tangled in a tree affected by earth's media charged communication
- Shakid morphs back into Sassy and reappears in Cat's bedroom;
- Sassy plays around and messes with Cat's mobile - leaving a clue on the screen.

CAT'S FACEBOOK PROFILE

This platform is aimed at developing the interaction between users and the main character. Syncing with the release of each webisode, Cat will launch calls to action and puzzles to challenge the users. It is expected to be a sharing space for the community in which users can express themselves and interact with Cat.

CAT'S TWITTER DOMAIN

Cat's feeds will work as another access point to the story world and a way to reinforce the interaction between the main character and the audience. Through challenges or triggers to access different elements of the story world launched via Twitter, the users will be able to define their own experience of exploration of the story world.

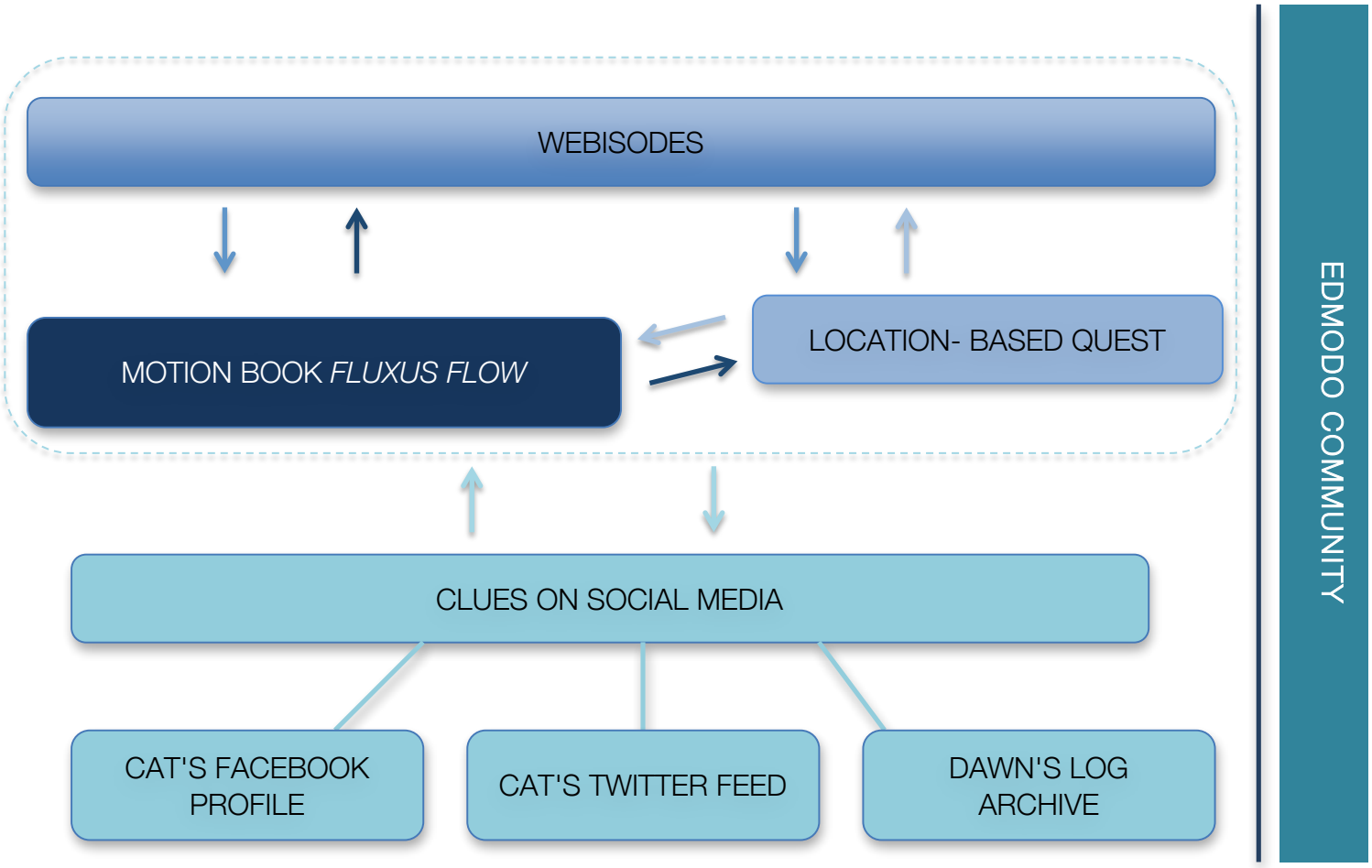
DAWN'S LOG ARCHIVE - TUMBLR BLOG

This platform is aimed at exploring the relationship between Dawn/ Cat's grandmother and Cat as well as providing a deeper insight into the Fluxus culture. Dawn's log archive will integrate relevant documents and information about the Fluxus, engaging the users/ learners in the . Through this platform, users are invited to share artefacts and express their opinions hence completing Dawn's archive.

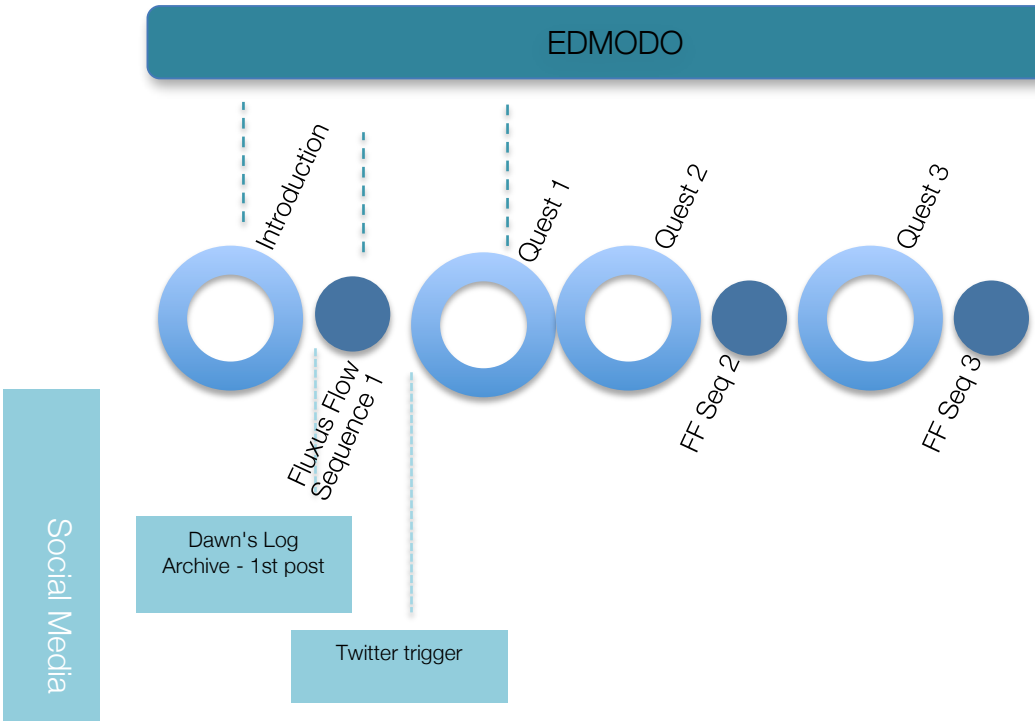
EDMODO

This social learning platform will provide a space for the community of learners and teachers to share resources and content related to Cat's story world. In this way, one intends to bring the project to life in the classroom connecting Cat's adventures to the learner's environment and learning needs. For educators, this space can be used as a dynamic learning ecosystem in which different learning models can be implemented, and diverse topics can be explored in order to align with different curriculum goals.

USER'S JOURNEY



CONTENT RELEASE



webisodes

WEBISODE 1 INTRODUCTION -"*Who am I?*"

Synopsis

Cat goes for a walk and sees a sign in the sky. While walking to school, she receives a call from her friend Peter. She notices the same sign on the wall. While doing her chores, she comes across a message from her deceased grandmother revealing her Fluxus identity and her mission. Leaving her place to meet Peter, she encounters Sassy and finds the same sign. Cat and Sassy bond and the cat greets her via telepathy. She meets Peter and starts to tell him what happened to her.

SCENE 1

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- beach view	Wide shot (WS)	Location: beach (clear sky)
- Cat walks	WS	Props: casual clothing, backpack
- Cat sits	Medium close up (MCU)	Effects: glowing sign in the sky
- Sign in the sky	WS	* black out (end)
- Cat sees the sign in the sky	Close up (CU)	

SCENE 2

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- Cat walks	WS	Location: on the way to school / street
- Cat checks her backpack	Mid Shot (MS)	Props: casual clothing, backpack, books, mobile
- mobile rings	MCU	Effects: glowing sign on the wall
- Cat answers the call	Cut-in (CI)	
- sign on the wall	Cutaway (CA)	
- Cat notices the sign	WS	

SCENE 3

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
call (Cat + Peter) - Peter talking on the mobile - Cat talking on the mobile	MCU (both characters)	Location: 2 streets view Props: casual clothing, backpack, mobile Effects: ---- * split screen

SCRIPT

Chat (Peter / Cat)
Dialog
C- Hey wassup?
P- Not much.
C- Have you done the report?
P- No ... my brain is so drained.
C- ...feel ur pain. I think we need to relax. Any ideas?
P- After school, we could hang out...
C- Sounds like a plan. Have to do some stuff though...
P- No worries, buzz me when you're done!
C- TTYL
P- XO

SCENE 4

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- time reference	---	Location: street
- Cat checks her to do list on her mobile (to do list call out)	MCU	Props: casual clothing, backpack, mobile Effects: to do list app, time reference, highlight find grandma's, call out
- Cat returns home	WS	

Cat thinking out loud (audio)

- clear bedroom... checked
- wash the dishes ... ok
- buy biscuits
- find grandma's box

... this can take a while

SCENE 5

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- Cat opens a drawer	CU	Location: at home
- Cat picks up a box	CI	Props: casual clothing, drawer, grandma's box, letter, table, chair Effects: glowing sign on the letter
- Cat explores the content	Bird's eye view	
- Cat picks up the letter (sign glowing)	CI	
- Cat reads the letter	MS	
- Cat takes stock	WS	

Cat reads the letter (audio)

You found me Cat!
This means it is time for you to learn about your legacy.
My dear tomboy, you carry a bright spark inside you, the fluxus flow runs in you.
I hope you always hold within you the pride of your special heritage - you are, in fact, a connector of beings.
You may wonder why I am telling you this.
Cat you have a mission, and this is the time for you to awaken your gifts and play your part.
The Elders left scattered throughout the planet pieces of our civilization... primal elements that you need to find to assemble a portal to connect fluxus and humans.
We are living challenging times; fluxus and humans need once more to gather and finally fulfil a long awaited destiny.
You must know that you are not alone - look deep into Sassy's eyes. He has always looked after you and he will guide you on your mission.
I never left you and never will; the right words will meet you at the right time when you look for them in my archive log.

Always trust yourself my great warrior.
Love,
Grandma

SCENE 6

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- Cat receives a text message from Peter (ready?) - call out	CI	Location: leaving the house, door
- Cat replies (coming!) - call out	CI	Props: casual clothing, backpack, mobile
- Cat heads to the door	MS	Effects: glowing sign on Sassy's body
- Cat finds Sassy near the door	MS	* mobile audio - text message
- Cat pets and looks into Sassy (symbol glowing/ Sassy via telepathy "I am with you"	CU	Sassy's voice - I am with you...
- Cat shuts the door	WS	

SCENE 7

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- View of the park, Peter in sight	WS	Location: at the park
- Cat heads towards Peter	WS (opposite view)	Props: casual clothing, backpack, mobile
- Cat meets Peter and start talking	over the shoulder view	Effects: fade out (end)
- Cat and Peter walk away	WS	

SCRIPT

Chat (Peter / Cat)
Dialog
P- Hey! It's about time...
C- Sorry... You'll never guess what happened to me.
P (curious look)
(keep chatting while walking away)

PROJECT

The Fluxus Flow comic book is aimed at exploring the Fluxus tribe activities and is also a secondary story that complements the main one. Each panel sequence will on one hand present relevant information about the Fluxus culture and members and, on the other hand, provide valuable information or clues that will have an impact in the development of the main story. In every sequence, there will be panels that the user can explore and access different information, clues or puzzles to solve.

SEQUENCE 1 SYNOPSIS

- Sassy's routine: sleeping, jumping and levitating while playing around;
- Sassy morphs into Shakid and appears in the Fluxus World;
- Shakid meets Dawn Sparkle and receives a message;

- Shakid senses a tribe member is in danger;
- Shakid rides his flash beamer to meet him;
- Clotho Weaver is suffocated by the Bab-lil tree;
- Shakid combines letters on the tree and saves Clotho Weaver;

- Shakid morphs back into Sassy and reappears in Cat's bedroom;
- Sassy/Shakid leaves a message for Cat.

CHARACTERS

FLUXUS TRIBE

The Fluxus are an ancient alien tribe living in cyberspace. The Fluxus are ingenious, intelligent beings that seek the union of all beings across the universe. They are skilled and brave warriors engaged in the building of the collective knowledge across the universe. They believe in interdependence and that humans and Fluxus alike will be able to thrive and develop if they can gather forces.

SASSY / SHAKID

SASSY

SPECIES: siamese cat
GENDER: male
AGE: 11 years old

LOCATION: Cat's[1] apartment and surrounding area
ACTIVITIES: fleeing to wonder around the neighbourhood; demanding Cat's attention through clawing and scratching
SPECIAL ATTRIBUTES: empathic and morphing abilities

SHAKID

AGE: undetermined for the Fluxus/ estimated to be more than 100 years old according to earth years
GENDER: male
MISSION: help Cat to collect the portal pieces on planet Earth by gathering intel and briefing it to her/ Warrior - Defend the Fluxus
SPECIAL ATTRIBUTES: morphing and empathic abilities; "forgetfulness power"- erase the memory of any living being; "unbabel power"- fluent in any given language

GRANDMOTHER / DAWN SPARKLE

DAWN (Cat's grandmother)

STATE: deceased (helped to raise Cat upon her mother's death)
SPECIAL ATTRIBUTES: empathic abilities; storyteller; visions

DAWN SPARKLE

AGE: undetermined for the Fluxus/ estimated to be more than 100 years old according to earth years
GENDER: female
MISSION: Priestess - guide and awaken the gifts of tribe members
SPECIAL ATTRIBUTES: "Light shed" power" - ability to provide glimpses of the future

CLOTHO WEAVER

AGE: undetermined for the Fluxus/ estimated to be more than 100 years old according to earth years
GENDER: male
MISSION: Forest caretaker / decipher communications/ messenger for the Fluxus
SPECIAL ATTRIBUTES: "Communicat" power"

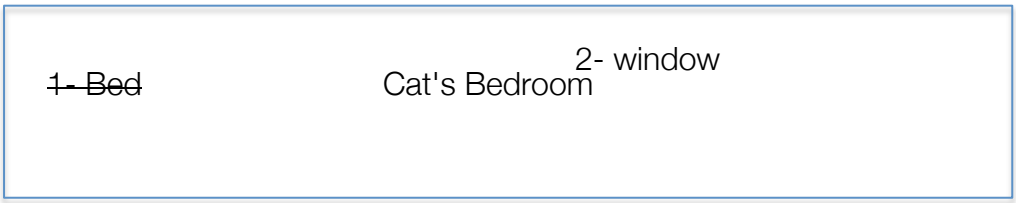
[1] Cat is the main character of the project

CONNECTING CAT

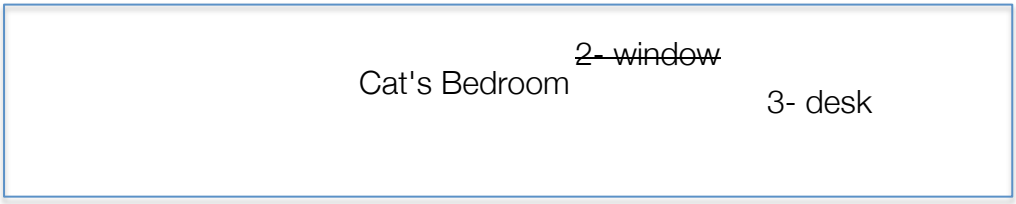
PANEL 1
SETTING: Cat's bedroom -an active teenager haven, not too girly (window, bed, desk, pictures, laptop, mobile, other items related to the character)
CHARACTER: Sassy
ACTION: Sassy sleeps on the bed
TEXT: ------
AUDIO:
(close up -Sassy ----> full view of Cat's bedroom)



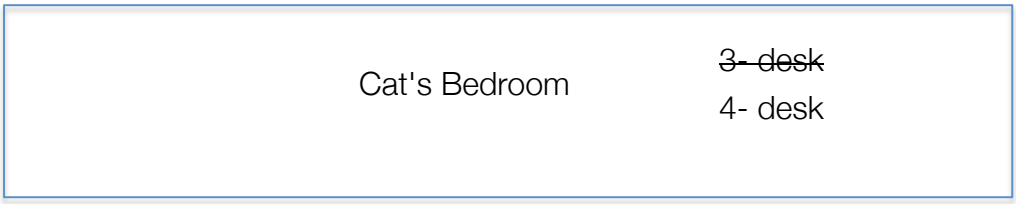
PANEL 2
SETTING: Cat's bedroom
CHARACTER: Sassy
ACTION: Sassy looks outside the window
TEXT: ------
AUDIO:
(action 1 fades)



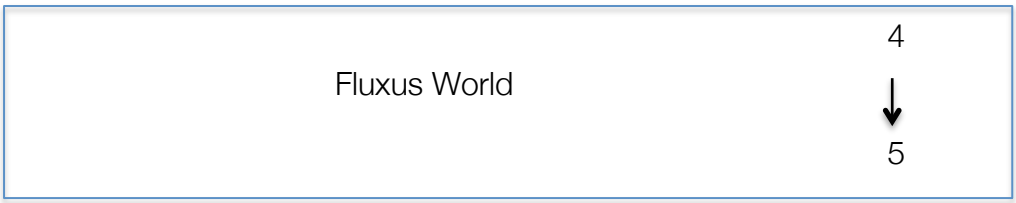
PANEL 3
SETTING: Cat's bedroom
CHARACTER: Sassy
ACTION: Sassy plays with a post it
TEXT: ------
AUDIO:
(action 2 fades)



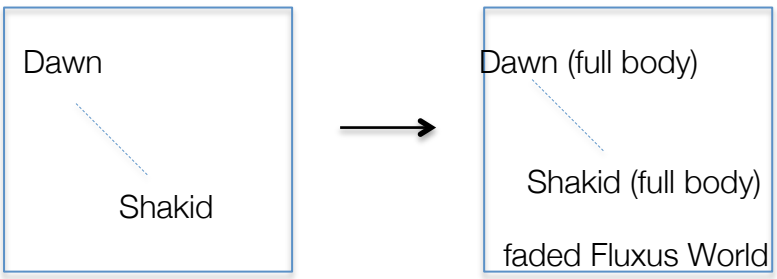
PANEL 4
SETTING: Cat's bedroom
CHARACTER: Sassy
ACTION: Sassy levitates
TEXT: ------
AUDIO:
(action 3 fades, freeze action 4, Cat's bedroom fades)



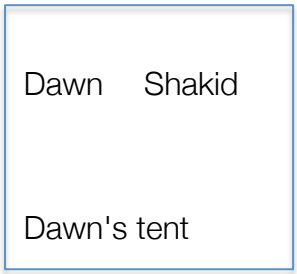
PANEL 5
SETTING: Fluxus World (an Indian tribe feel in an alien forest, tech/organic artefacts,)
CHARACTER: Sassy/Shakid
ACTION: Sassy morphs into Shakid; different elements of the landscape appear
TEXT:
AUDIO:
(action 4 ---> action 5; unveiling the Fluxus world)



PANEL 6
SETTING: Fluxus World
CHARACTER: Shakid / Dawn Sparkle
ACTION: Shakid meets Dawn Sparkle; she greets him
TEXT: Dawn "At last, you heard the call"/ Shakid "I never left."
AUDIO:
(fade - fluxus world; close up Dawn Sparkle/ Shakid face to face (over the shoulder view ---> both characters (wide view, faded background)



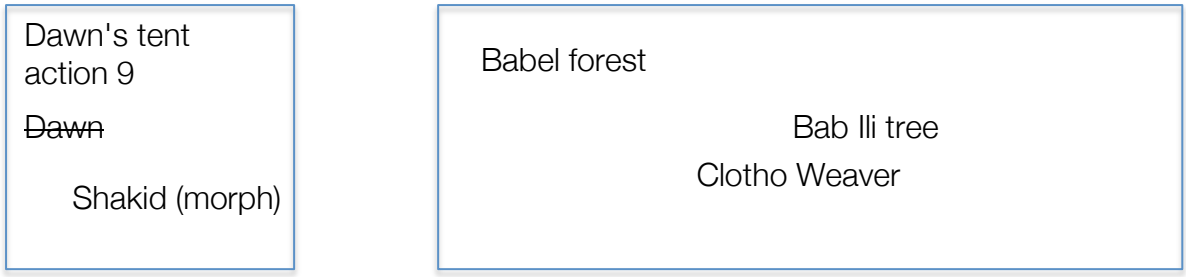
PANEL 7
SETTING: Fluxus World (oracle, ancient scripts, Dawn's tent)
CHARACTER: Shakid / Dawn Sparkle
ACTION: Dawn stares at the glowing oracle and talks with Shakid
TEXT: Dawn "A new era is rising...our ancestors smile down upon you "/ Shakid (smiling)"I feel it."
AUDIO:



PANEL 8
SETTING: Fluxus World (Dawn's tent, ancient guardian log archive)
CHARACTER: Shakid / Dawn Sparkle
ACTION: Talk (continued)
TEXT: Dawn "We've walked the earth since the beginning of times, the guardians paths need to be revived "/ Shakid (inquisitive)"How can I track them down?"
AUDIO:
(different angle on Dawn's tent, Dawn fade in ----> Shakid fade in)

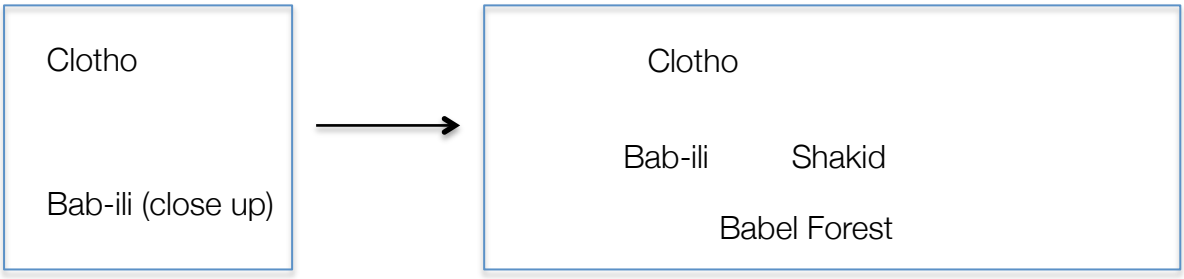
PANEL 9
SETTING: Fluxus World (Dawn's tent, ancient guardian log archive)
CHARACTER: Shakid / Dawn Sparkle
ACTION: Talk (continued) / Shakid bows down to Dawn
TEXT: Dawn "Look for human word wizards... the flow within you will be stronger."
AUDIO:
(different angle on Dawn's tent, Dawn fade in ----> Shakid fade in)

PANEL 10
SETTING: Fluxus World (Babel Forest, alien trees, Bab ili - tree with words from all idioms)
CHARACTER: Clotho Weaver
ACTION: Shakid senses danger and side glances (frozen panel 9), Clotho weaver is entangled in an alien tree - Bab-ili
TEXT: caption - In the meantime, in Babel ...
AUDIO:
(freeze panel 9 background, Dawn- fade out; Shakid morph- bow position to glance position ----> cutway - panel 10)



PANEL 11
SETTING: Fluxus World (sky)
CHARACTER: Shakid
ACTION: Shakid rides his flash beamer
TEXT: -----
AUDIO:
(no frame panel, movement indication, flash beamer control panel set to Babel - indication)

PANEL 12
SETTING: Fluxus World (Babel Forest)
CHARACTER: Clotho Weaver/ Shakid
ACTION: Clotho is entrapped in Bab-ili branches made out of words that make no sense. Clotho asks for Shakid's help.
TEXT: Clotho (suffocated)- "Sha kid release your flow. Hurry!"
AUDIO:
(closeup Clotho entrapped in Bab-ili branches ----> wide view Bab-ili in Babel forest and Shakid raising his hand towards Clotho)



PANEL 13
SETTING: Fluxus World (Babel Forest)
CHARACTER: Clotho Weaver/ Shakid
ACTION: Shakid releases Clotho by selecting letters from the words in Bab-ili branches and making them glow
TEXT: Shakid "Almost..." Clotho (whispering) "Align the letters" (shaky font)
AUDIO:
(Bab-ili full view, Babel forest background faded,/Letters C - O - N - N - E - C -T glowing in different branches (glow in random order)/ Shakid climbing some branches to touch one of the letters / Clotho moves slightly into a different position)



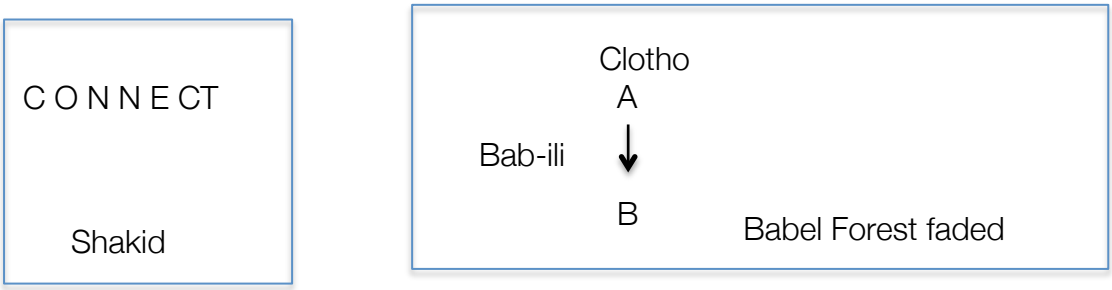
PANEL 14
SETTING: Fluxus World (Babel Forest)
CHARACTER: Shakid
ACTION: Shakid aligns the letters, collected from Bab-ili branches, in the air
TEXT: ----
AUDIO: whispered connect
(over the shoulder view, letters in the air glowing: C-O- N- N- E-)



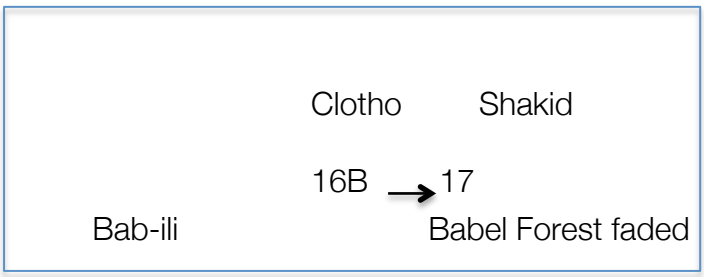
PANEL 15
SETTING: Fluxus World (Babel Forest)
CHARACTER: Shakid
ACTION: Shakid is able to align all the letters.
TEXT: ---
AUDIO:
(Shakid over the shoulder view, word completed in the air and glowing a different colour - no frame)



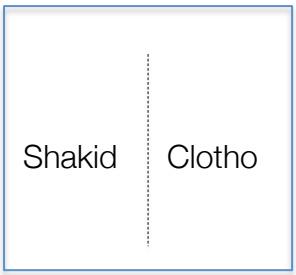
PANEL 16
SETTING: Fluxus World (Babel Forest)
CHARACTER: Clotho Weaver/ Shakid
ACTION: Clotho is released from Bab-ili's branches and falls down to the ground.
TEXT: ---
AUDIO: falling to the ground sound
(Panel 15- letters frozen, Shakid head turned to the right / Clotho morph: A-trapped position ---> B-ground position)



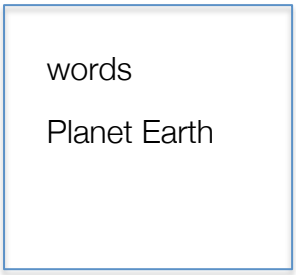
PANEL 17
SETTING: Fluxus World (Babel Forest)
CHARACTER: Clotho Weaver/ Shakid
ACTION: Shakid talks with Clotho while he rests, away from Bab-ili.
TEXT: Caption: After a while/ Shakid "What happened Clotho?" Clotho "Never thought it would be this bad... "
AUDIO:
(Clotho morph: 16B position - to siiting down position/ Shakid fade in---> speech bubble)



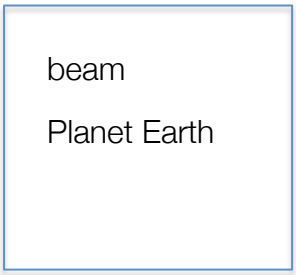
PANEL 18
SETTING: Fluxus World (Babel Forest)
CHARACTER: Shakid/ Clotho
ACTION: Clotho contacts Shakid via telepathy
TEXT: Clotho "Here"
AUDIO:
(Clotho and Shakid facing each other -mid shot/ Shakid eyes shut - glow surrounding is body - no frame)



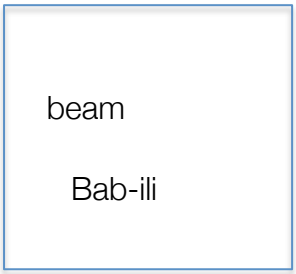
PANEL 19
SETTING: Planet earth space view
CHARACTER: -----
ACTION: telepathic flashes from Clotho to Shakid
TEXT: different words: Russian - война сейчас (war now), arabic - الموت (death), english - negotiations fail, spanish - la inflación (inflation) scattered around planet earth
AUDIO: cacophony of idioms
(below the panel - translation- * War now, death, inflation)



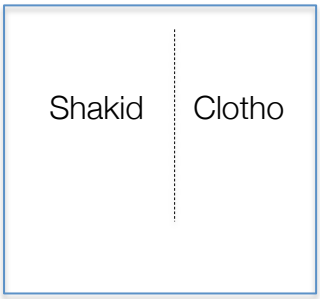
PANEL 20
SETTING: Planet earth space view
CHARACTER: -----
ACTION: telepathic flashes from Clotho to Shakid (continued). Beam coming from planet earth (surrounded by words) going upwards
TEXT: ----
*(below the panel) * War now, death, inflation
AUDIO: cacophony of idioms



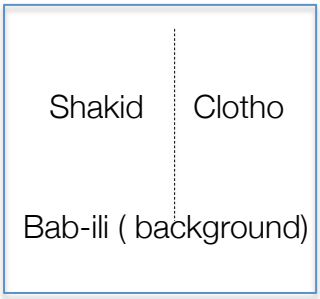
PANEL 21
SETTING: Fluxus World (Babel Forest)
CHARACTER: -----
ACTION: telepathic flashes from Clotho to Shakid (continued). Beam surrounding Bab-ili and words/branches flashing in a chaotic manner.
TEXT: ----
AUDIO: cacophony of idioms
(Bab-ili full view)



PANEL 22
SETTING: Fluxus World (Babel Forest)
CHARACTER: Shakid/ Clotho
ACTION: Clotho ends telepathic contact with Shakid.
TEXT: Clotho " Humans just can't understand each other..."
AUDIO:
(Clotho and Shakid facing each other -mid shot/ Shakid's eyes morph: closed - open/ glow surrounding is body dimmed- no frame)

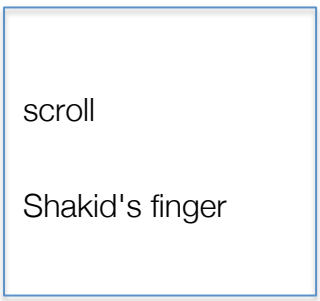


PANEL 23
SETTING: Fluxus World (Babel Forest)
CHARACTER: Shakid/ Clotho
ACTION: Clotho ends telepathic contact with Shakid (continued)
TEXT: Shakid " ...and Bab-ili caught the human flow and turned against you."
Clotho "True"
AUDIO:
(Clotho and Shakid facing each other -full view/ Bab-ili fade in/ Shakid's head morph: looking at Clotho - turned towards Bab-ili/ no frame - black out)



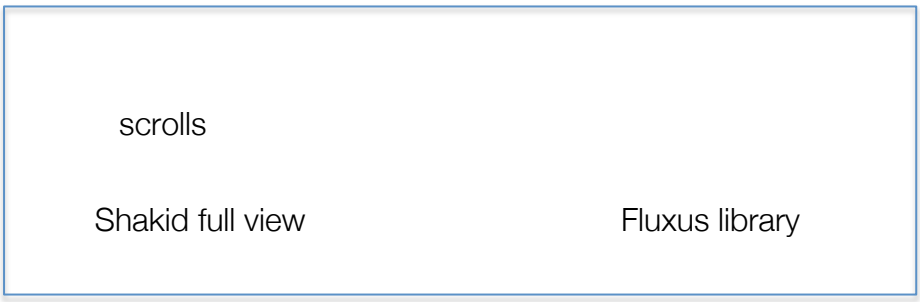
PANEL 24
SETTING: Fluxus World/ Planet Earth/ Space
CHARACTER: ----
ACTION: simulation of time going by in both worlds through a flow of data emerging randomly- scattered words, dots connected into a network, dates
TEXT: **再見** (goodbye Chinese), /#Guten Tag
01001000011001010110110001101100011011110010000 1 (hello- binary code)/ Ciao/ september 20/ august 9
AUDIO: Cacophony news broadcast - Good Morning/ Good Evening/ Bonjour/ mobile ring
(part of planet earth fade in, faded background of Fluxus tribe, random data fading in and out)

PANEL 25
SETTING: Fluxus World (Fluxus library, scroll)
CHARACTER: Shakid
ACTION: Shakid looks at the scroll: Enchanting word wizards
TEXT: Scroll (Title - Enchanting Word Wizards list: Confucius, George Orwell, Fernando Pessoa, Jane Austen, William Shakespeare, J.R. Tolkien, Virgil, Leo Tolstoy, J. K. Rowling, Franz Kafka)
AUDIO:
(close up scroll, Shakid's finger)

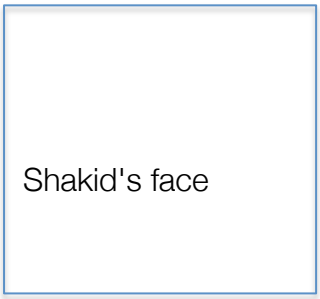


PANEL 26
SETTING: Fluxus World (Fluxus library, scrolls)
CHARACTER: Shakid
ACTION: Shakid takes special attention when he reads the name Shakespeare.

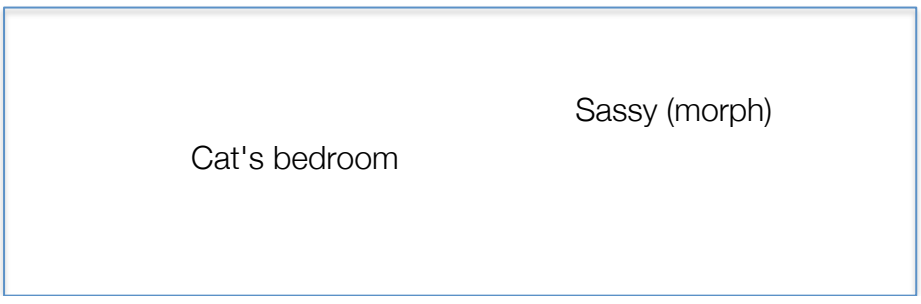
TEXT: thinking caption "Shakespeare..."
AUDIO:
(wide view of the setting, piled scrolls and other artefacts belonging to a fluxus library/ Shakid reading the scroll)



PANEL 27
SETTING: Fluxus World
CHARACTER: Shakid
ACTION: Shakid decides to return to planet Earth.
TEXT: thinking caption " I must return"
AUDIO:
(Close up Shakid's face / Black out)



PANEL 28
SETTING: Cat's Bedroom
CHARACTER: Shakid/ Sassy
ACTION: Shakid morphs into Sassy and returns to Cat's bedroom
TEXT: ---
AUDIO:
(Sassy in the same position before morphing - panel 4/ beam towards Sassy and glow around Sassy's body)



PANEL 29
SETTING: Cat's Bedroom
CHARACTER: Sassy
ACTION: Sassy is sitting over a post it, Shakid left a message for Cat in it.
TEXT:
AUDIO:
(Bird's eye view - Sassy sitting on top of the post it)



PANEL 30
SETTING: Cat's Bedroom
CHARACTER: Sassy
ACTION: Sassy leaves the desk and it is possible to read the post it.
TEXT: message on post it "There is no darkness but ignorance. W. S."
AUDIO:
(Closeup on post it, Sassy's tail visible ---> black out)



PANEL 31
CREDITS

WEBISODE 2 INTERACTIVE VIDEO -"*Seek and you shall find*"

Synopsis

While clearing her desk, Cat finds a post it with a clue. After googling the message , she finds the next location - London. Cat briefs Peter on her dilemma. Together they delineate a plan so that Cat can go to London and investigate the clue. With Peter helps Cat walks the city and encounters different citizens that help her find the portal piece.

SCENE 1

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- Sassy moves and reveals a post it on the desk	Bird eye's view	Location: home Props: desk, books, post it, stationery, chair Effects: glowing sign in the post it

SCENE 2

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- Cat puts her backpack on the desk - Cat takes books and note book out of backpack - Cat picks post it - message: there is no darkness but ignorance	Bird's eye view Mid Shot (MS) Cut-in (CI) Close up (CU)	Location: home Props: backpack, books, post it, desk, chair Effects: glowing sign - post-it

SCENE 3

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- Cat googles the phrase - Cat's laptop - google results - Cat feels curious about the result	MS (screen capture - captivate) CU	Location: home Props: laptop, desk, chair Effects: highlight shakespeare statue/ leicester square result

SCENE 4

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- Peter walks in and sits - Cat is waiting for Peter drinking a juice - Cat and Peter talk about the message and figure out a plan	Wide Shot (WS) MS	Location: coffee shop Props: casual clothes, backpack, skateboard, table, chairs. post it, mobile Effects: ----

Talk (Cat + Peter)	FOOTAGE/ EFFECTS
C- Where were you? (upset)	C- over the shoulder view
P- Sorry... You know how it goes when I'm trying out new tricks (pointing to the skate board and smiling)	P- MS
C- Will you help me? (concerned/ restless)	C- CU
P- (nods)	P- CU
C- Good! (assertive) I've got more details. So I found this post it on my desk... remember, I told you about the finding the Fluxus portal pieces ... (hands it to Peter)	C / P - MS (characters profile view)
P- listens	
(Cat and Peter pretend to be having a long chat ---->fade to black)	(give the idea that time goes by, while cat explains the whole story)

C- ... then I decided to google it and I got a location (hands her mobile to Peter) P- Where is this? C- L - O - N ... (spells so Peter can guess) P- ...DON! (scratches his head overwhelmed with the information) (pause) P- There's one way to pull this off... (enlightened and smiling) C- How? London isn't just next door you know... besides there's the dad issue... P- Low cost! there's plenty of cheap flights to London. (smiling, sure of his solution) C- Peter I just can't tell my father - "hey, I need your credit card to book a flight to London! " (worried and realistic) P- No worries, I have the money problem covered. Here's what you are going to do...	split screen with screen shot of Cat's mobile - leicester square statue P - MS (Peter holding mobile) C/ P - MS (profile view) * letters show up while Cat spells them and Peter completes the word P - CU C- over the shoulder view P- over the shoulder view (opposite view) C + P - MS (both characters)
Peter audio 1- We'll use my prize money from the skateboarding competition to book the flight 2- tell your father you are spending the night at my place to finish the history report. This will give you a full day in the city. 3- When you get to London, I will help you online.	* image money/ prize / book flight screen shot * anime Cat talking to dad / dad issue gone * laptop/ mobile connection
C- (smiles and interested in Peter's solution) P- Am I smart or am I smart? (smiling in a spunky attitude)	C- CU P- over the shoulder view (fade to black, sign glows to split scene)

SCENE 5

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- flight shots - overall shots london ?	----	Location: flight airport Props: ------- Effects: ------

SCENE 6

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- liverpool station shoot - Cat sends text message to Peter "@liverpool station-" how do I get to leicester square?" - Peter replies and gives underground directions "check your email"	CU/ Cut in (mobile) split screen MS/ Cut in - (mobile)	Location: Props: mobile, backpack Effects: * animation tube map

SCENE 7

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- leicester square shoots - Cat finds someone that greets her testemunho inexistente - Cat connects with Peter via skype	 split screen CU characters	Location: Props: mobile, backpack, envelope, items Effects: * animation connect skype

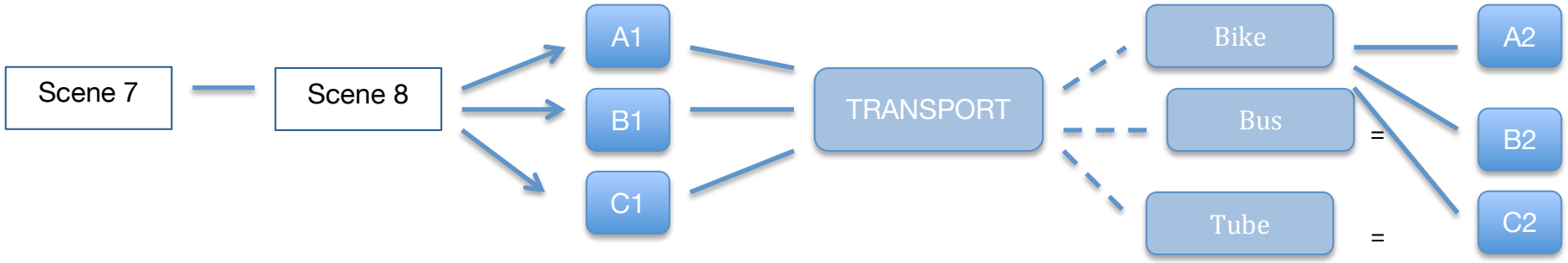
Skype Chat

C - Thanks for the the tube tips! I got to the square without a problem
P - So what happened?
C- At first nothing, but then I met this man. This encounter plus the one I had before just makes this whole thing sound fishy
P- what other encounter?
C- before heading to the tube, I was asking for directions and this young man and he told me - (footage seek you shall find) and

gave me an envelope. (shows envelope)
P- what's in it?
C- map, pictures, flyers, newspaper (spreads things around)
P- well, you have to start somewhere...

SCENE 8

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- screenshot envelope with 3 items showing selection menu) - route A : British history museum flyer - route B: Natural history museum flyer - route C: Camden road polaroid	bird's eye view	Location: --- Props: Effects: anime tube, anime map bike



SCENE 8 Route A

DESCRIPTION	FOOTAGE	LOCATION + PROPS + EFFECTS
- - route A : British history museum flyer - route B: Natural history museum flyer - route C: Camden road polaroid		Location: --- Props: Effects: anime tube, anime map bike

Appendix II

Who am I? Exploration Guide

Interactive version – http://bit.ly/cc_who_am_i_guide

WHO AM I?

3xpl017



PART OF THE PROJECT CONNECTING CAT

#1 HACK ME IF YOU CAN

#2 SHADOW ME

#3 CONNECT



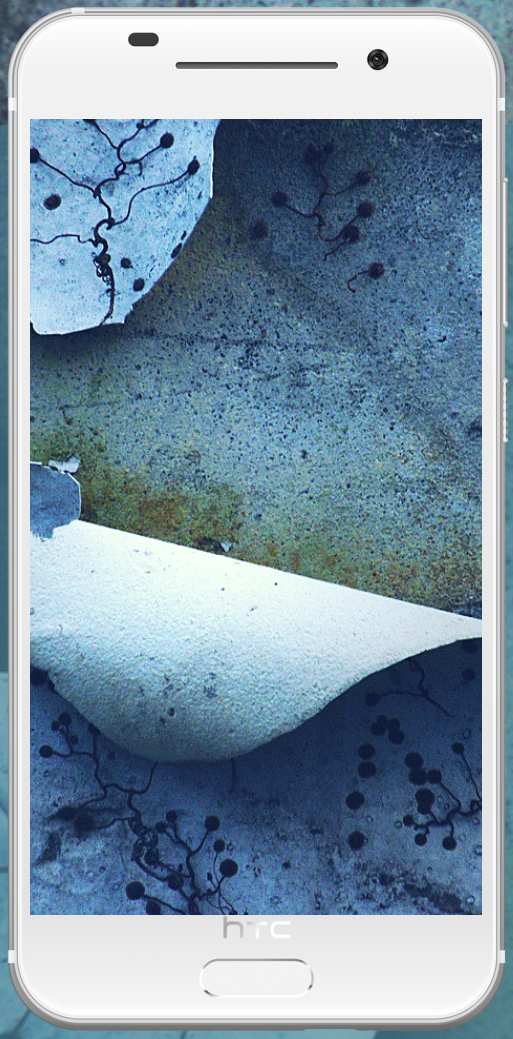
Your mission, should you choose to accept it, is to **hack Cat's phone**.
You need to:
* **change the wallpaper;**
* **add 3 songs to her playlist;**
* **add a picture to her gallery;**

On your **report**, be sure to **explain your reasoning** as to why your options would appeal to Cat.

Use her **social media activity** and the **webisode** you had access to.

http://ccat.site

Whenever you search for online media, do your best to avoid inappropriate material.
Avoid offensive words and pictures, but if they do show up as part of your search results or in the comments navigate or move way from them and concentrate on finding material you can use.



Wallpaper

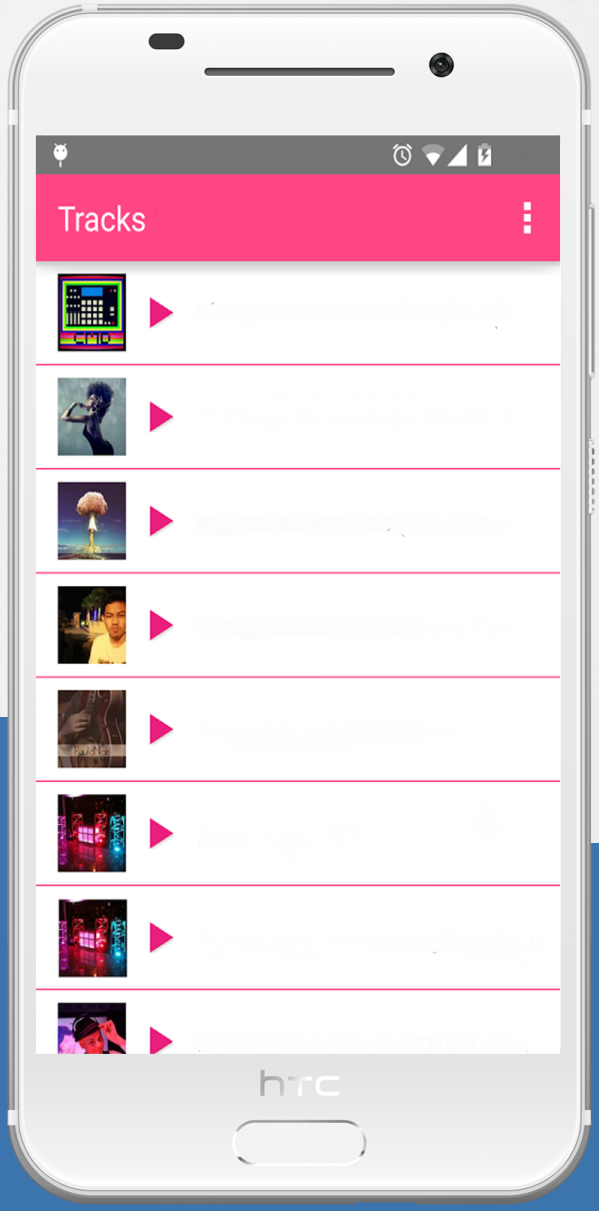
Find an image to replace her wallpaper.
Save it, you will need it later on.

🔗 **https://ccsearch.creativecommons.org**

⚠ Search for openly licensed material.
Not sure what this means?
Learn more about it **here** and **here**.

Explain why this image choice would appeal to Cat.





Playlist

Search for **three songs**, on **Soundcloud**, that would likely be on Cat's playlist.
Save the information and links to the songs for your report.

https://soundcloud.com/

Soundcloud:online community for sharing music under copyright and open licenses

What kinds of connections to Cat or themes did you have in mind?

Gallery

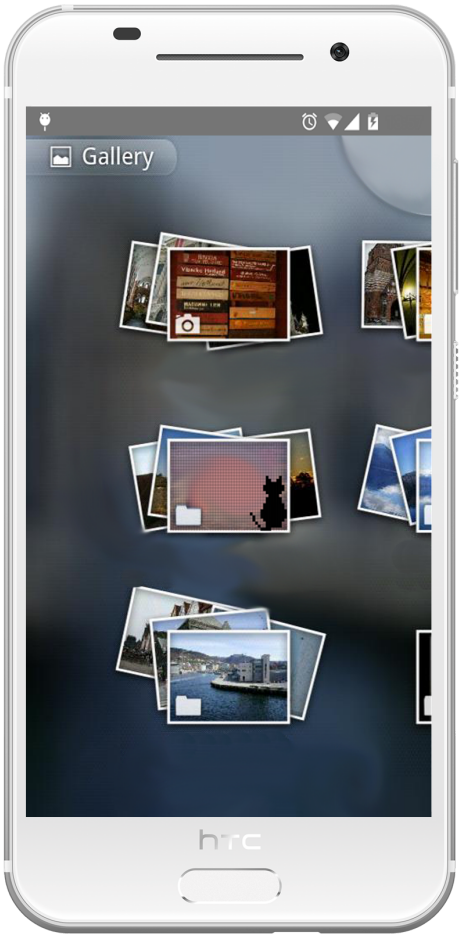
Add a new creative work to the gallery. Select and **export** your artwork to a **png file**.

* you can use other creative tools

🔗 **https://make8bitart.com/**

make 8-bit art:pixel-art maker that exports handy.png images.These can have transparent backgrounds to match web pages and are editable in other programs

Explain why the artwork would appeal to Cat.



Your mission, should you choose to accept it, is to **track and follow Cat's digital footprints**.

Digital Footprint

dig·i·tal foot·print

(dĭj'ĭ-tl fo͝ot'prĭnt')

The information about a particular person that exists on the Internet as a result of their online activity.

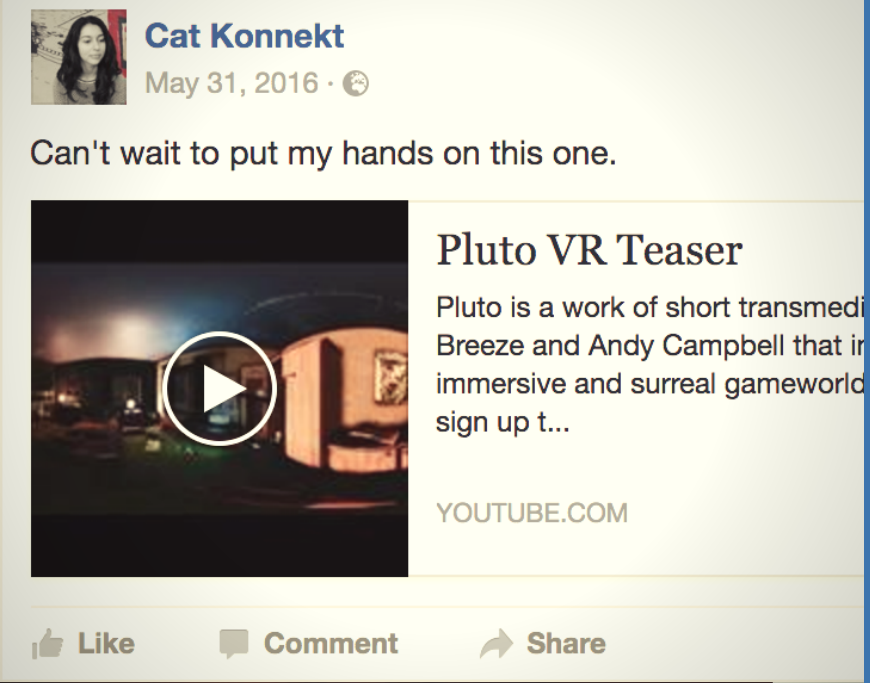
*'If it's a case of hacking, he says, they'll trace the **digital footprint** to IP addresses databases with the information to see if they've been compromised.'*

See more **here**

* * *









Analyze Cat's social media activity and the **webisode** you had access to.

- What did she do?
- When did it happen?
- Who might notice online?
- What can you find out about her online habits?
- What can you find about where she is in the real world?

🔗 **http://ccat.site**

We hacked into her mobile. We weren't 100% successful but we managed to retrieve some files.
Look into her phone's system dump and using all the data you've gathered, **present Cat's data trail**.

https://tinyurl.com/cat-droid

Compile all the data and **present it** through an **infographic**, a **timeline**, a **mind map** or in **any other way you prefer**. Don't forget to **save a link** of all your intel work to **share on your report**.

FOOD FOR THOUGHT

* Think about your data trail, if you were asked to share it with the person next to you, how comfortable would you be with the sensitivity of the data that is revealed?

* Would you ever accept a free app in return for sharing personal information with the company that made it? Why or why not?

* In your opinion what kinds of information seems useful to share with companies?/ Should we allow law –enforcement to collect data from citizens?

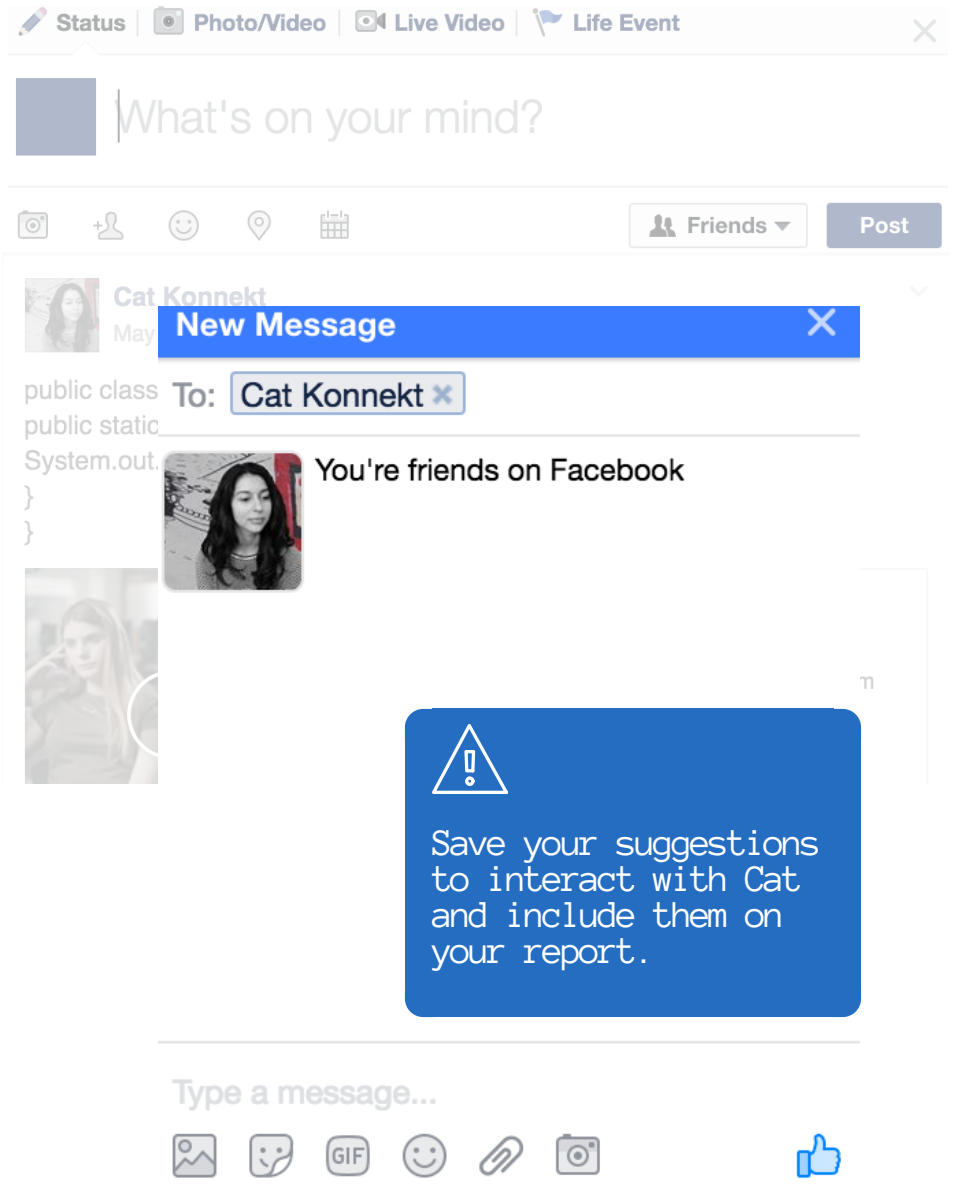
* Do companies that sell apps and ads have the right to track what you do on your devices? Why or Why not?



Mission

+ CONNECT

+ Suggest **a comment to one of Cat's posts**
+ Cat received two messages. Thinking back over your findings, explain **which other friends just sent her messages? What is the content of each message?**





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Ic9+8IwQcEzwcMO+0W1VumPsTTglNWEXu5JQ1OZC2Oa+6laa5XxbmV0b059P25O+
gKpfQUgVNUF0IicVYCEzH+cZjZ8+JtL+WilO7gsQAyYa4w/eP/nRQXKVgA==
=ZZ4U
-----END PGP MESSAGE-----

SEND YOUR REPORT

→ **Collect all the information**, pictures and links and assemble your report.

→ **Go to pageOrama** and **create a webpage**. Use the title of your report as the Page Title.

→ **Publish** the page online and **post** your **link** on the **WHO AM I Padlet**.

🔗 **http://www.pageorama.com/**

🔗 **https://padlet.com/ccatproj/who_am_i**

RESOURCES



#1 HACK ME IF YOU CAN

"Connecting Cat" by Connecting Cat released under CC-BY-NC-ND 4.0

"Fair use Free-for-All" by Mozilla released under CC-BY-SA 4.0

"Creative Commons 101-Infographic" by Connecting Cat released under CC-BY-SA 4.0

CC Search - https://ccsearch.creativecommons.org

SoundCloud - https://soundcloud.com/

make 8-bit art - https://make8bitart.com/

#2 SHADOW ME

Cat's droid data pack - https://tinyurl.com/cat-droid

- REPORT -

pageOrama - http://www.pageorama.com/

Who am I | Padlet - https://padlet.com/ccatproj/who_am_i

"Who am I? - Exploit" by Connecting Cat released under CC-BY-SA 4.0

Appendix III

Allure Exploration Guide

Interactive version – http://bit.ly/cc_allure_guide

ALLURE

The Fluxus FLOW



Exploration Guide

Part of the project Connecting Cat • Artwork by Delfim Ruas



01 Cat's CRIB

02 Meet the fluxus

05 A tree of many languages

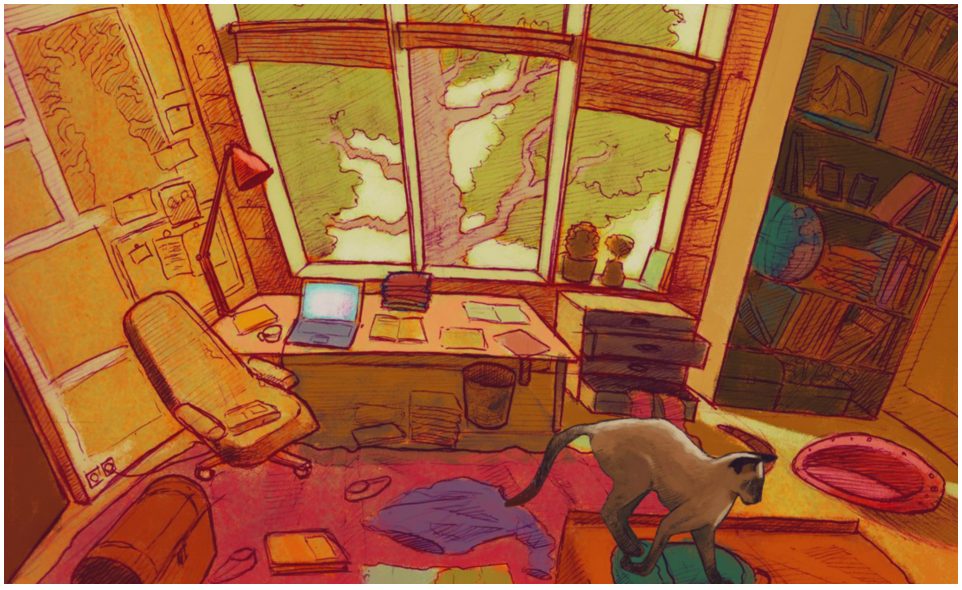
06 overload

08 Konnekti

09 visions of floanda

10 share with the world

11 Resources



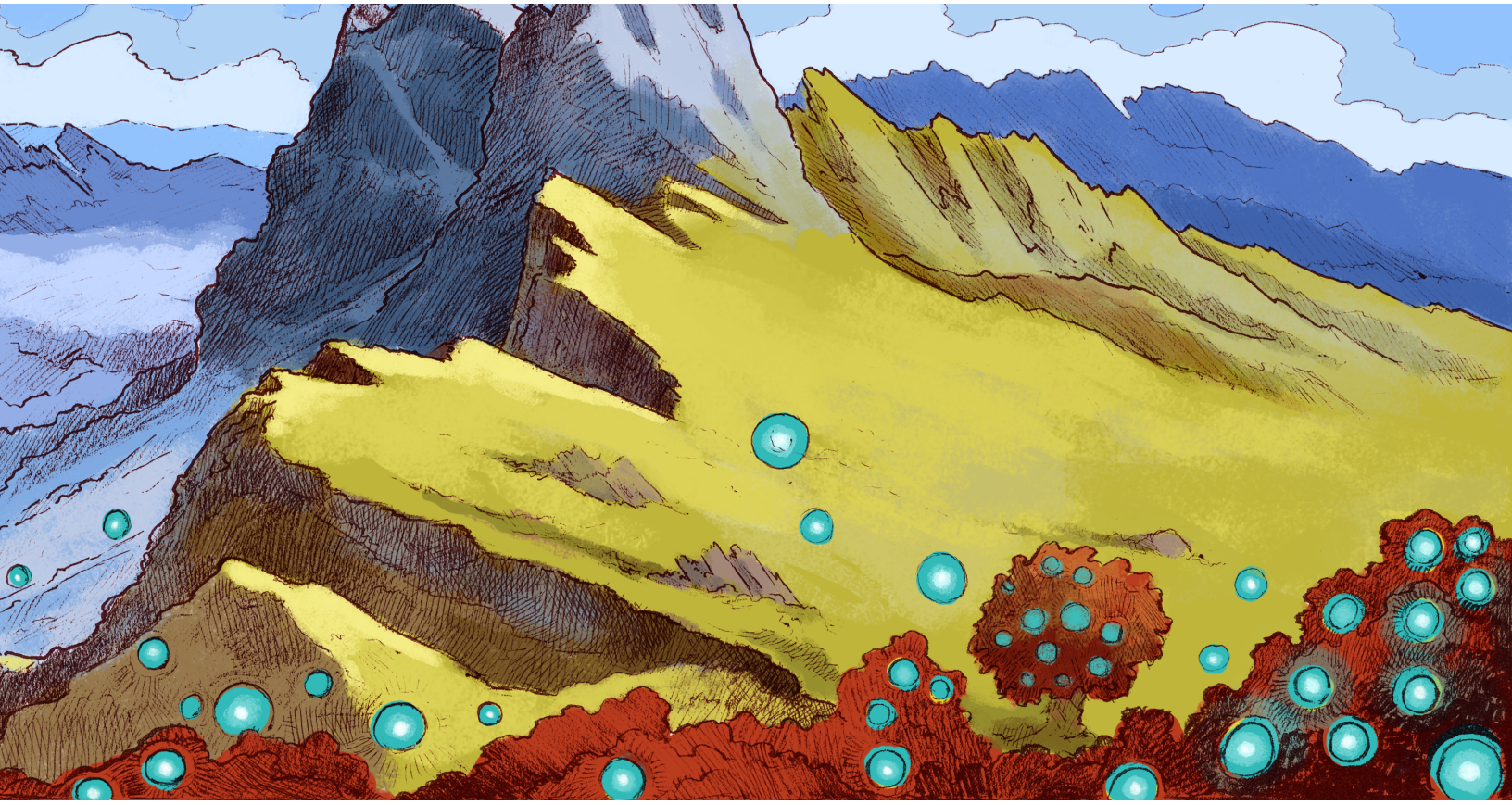




> A man's house is his castle.
>
> James Otis

You can tell a lot about a person just by looking into her home.
What does Cat's bedroom say about her?
Gather your thoughts and **create** a **word cloud.**

https://tagul.com/create



IS THERE ANYBODY OUT THERE?

"The discovery of planets where other lifeforms might flourish makes the universe look more interesting – even if we never reach them."

Since the mid-20th century, there has been a significant surge in the search for signs of alien intelligence by researchers. But not everybody agrees that we should be so keen to connect with extraterrestrials.

Physicist Stephen Hawking supports listening for them, but he's warned against making contact. The Professor said, *If aliens ever visit us, I think the outcome would be much as when Christopher Columbus first landed in America, which didn't turn out very well for the American Indians.*

Arguing in favor of reaching out into the universe is the journalist and UFO expert Nick Pope. He thinks extraterrestrial beings are waiting for us to do something interesting – *I think reaching out in hope, in friendship is a good thing. And imagine the potential knowledge that we might acquire by tapping into a sort of hypothetical Encyclopedia Galactica. But if we took that view that we should be careful of what's out there, what might be out there, humanity would have probably never gone out of its first few villages, climbed the mountain ridge to see what's on the other side, sailed the oceans.*

What about you? What do you think? Should countries invest more in the SETI (a.k.a. the search for extraterrestrial intelligence)? Read and discuss some facts of the following infographics.

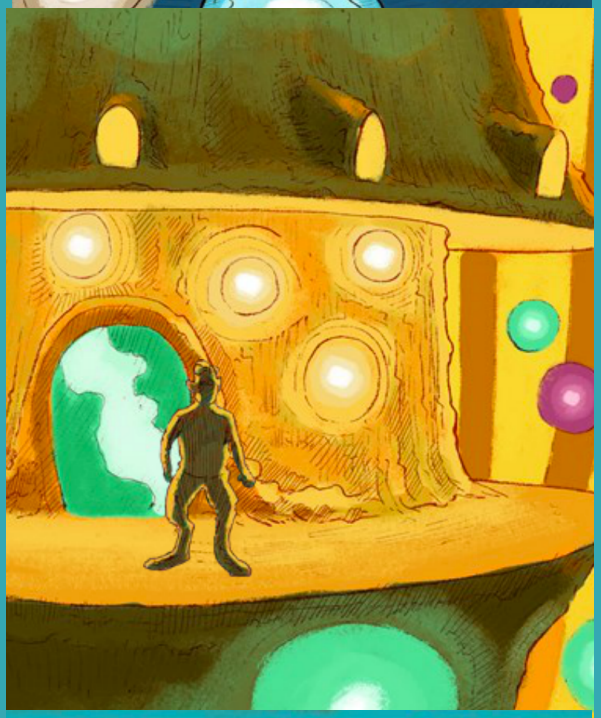
- A Tour of the Solar Neighborhood
- The Search for Intelligent Life
- Other Earths
- Top 8 confirmed exoplanets that could host alien life

ANGEL INVESTOR WANTED

Imagine you are an astro-archaeologist studying the Fluxus. You are in the process of finding an angel investor to keep conducting your research.
Write an email giving a brief account of your findings and pinpoint the reasons why your research work is relevant for mankind.
Before that, **gather some of your research data** with the help of a **mind map**.

https://tinyurl.com/fluxus-tribe





COSMIC CALL

If the Fluxus tried to contact humans, what message would you like to send them about our planet and its inhabitants? What questions would you like them to answer?
Record a podcast to be sent to the Fluxus.

https://audioboom.com/

IN LOVE WITH AN ALIEN

Write about a man or woman who virtually chats with a member of the Fluxus tribe. Imagine the messages they exchanged. He or she starts to **fall in love** with this mysterious stranger. **What happens next?**

http://www.classtools.net/SMS/index.php



Out of this World

Many people have written movies, books and television shows off of the idea of aliens. **Pick one of these creative writing prompts to write about the Fluxus or any other Alien species.**

1. Think of a few of your personal favorite alien movies. Write a poem that incorporates quotes, images, and themes of the movie.

2. Write a poem dedicated to an alien you hope you never meet.

3. Write a poem about yourself from the perspective of a Fluxus.

4. Write a poem that incorporates your three favorite qualities about aliens (i.e., traveling in space, mysterious, differences in intelligence).

5. Write a poem about discovering a different culture that practices a tradition/ritual similar to the Fluxus.

6. Write a story from the perspective of a Fluxus who landed on Earth, but has no idea why he's there or what to do next.

7. It is the future and Earth is now populated with Fluxus and Humans alike. A human decides he/she wants to become a chef, even though humans have been known not to succeed at making Fluxus foods. What happens next?

8. Write a story about a man who thinks his neighbors are Fluxus. However, nobody believes him. What happens next?

9. Write a story about a woman who wakes up from a three year coma. The first thing she reports is that aliens had abducted her.

10. Write a story about a human waking up on Floanda.

11. Write a story that is based in an area where war is happening between a few alien races.

12. Write a story about a human trying to steal resources from Floanda to score a profit.





A language is not just words. It's a culture, a tradition, a unification of a community, a whole history that creates what a community is. It's all embodied in a language. – Noam Chomsky

Become a special journalist investigator and use research and the creative power of both digital and non-digital media to explore Bab-ili's trees secrets.
Which languages has Bab-ili captured? Who are the speakers of those languages? What can we learn from their culture?
Collect images, eyewitness accounts, and other media. Structure interviews with some fictitious characters played by your fellow students. Exercise your imagination and create a 3 to 5-minute documentary-style project of your report on a foreign language. The following infographic might help you get started.

A World of Languages

"We assume that more information is a good thing, that the problem is simply how to manage it – mine it, filter it. But information is not the same thing as knowledge. . . . Knowledge, wisdom, creativity are aided by information, but they require the slow composting of information and experience in our minds."

Fake news and the proliferation of raw opinion that passes for news is creating confusion, punching holes in what is true, causing a kind of fun-house effect that leaves the reader doubting everything, including real news.
Are we choosing how we use information and communication technologies, based on our needs and values? Or **are we allowing the technologies to set new social norms and to make our choices for us?**
The fluxus Bab-ili tree was clearly affected by the overload and noise created by human communication. In the **post-truth era**, do **fake news,** for instance, affect the way humans perceive their peers and tackle their challenges? Why does it matter if we can't tell real news from fake news?

Real or fake? Challenge

Have a look at the following examples and decide whether or not they are real.

#1
http://www.nytimes.com/2016/12/29/world/middleeast/syria-cease-fire.html
Syrian Government Announces Truce Backed by Russia and Turkey
By Ben Hubbard and Neil MacFarquhar, Dec. 29, 2016
BEIRUT, Lebanon – A cease-fire agreement between Syria's government and weakened rebel forces that have been trying to topple it is scheduled to start on Friday, a potential turning point in a nearly six-year conflict that has claimed hundreds of thousands of lives and shredded every hope of resolution.

#2
http://www.cnn.com.co
Syrian Government Announces Truce – Plans Attack On U.S.
The Syrian government announced plans to stop its country's civil war on Friday and attack the United States to take revenge against the U.S because it has supported Syrian rebels for many years.

Which do you think is the real story? Why? What specifically raised red flags for you in the fake story? What more could you do to verify which is fake and which is real?
Here are some guidelines to help you decide.

10 questions for fake news detection

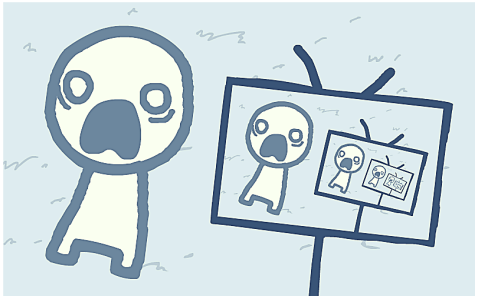




We shape our tools and then our tools shape us

Father John Culkin

While we gain valuable information from the content spread through social media platforms, we're simultaneously being subjected to gradual shifts in public perception because of our relationship with the medium.
Everyone who works in the media also hates the media. Journalists are painfully aware of how the media feeds into vicious cycles of distrust and political polarisation. The reason so much of the media is vicious, echo-chamber sensationalism is because that's exactly what we, the audience, want. We don't want to watch people getting along - that's boring. We don't want to read arguments from the other side - that's uncomfortable.
What about you? **Are you skeptical to what you read and see?** Can you break out of the echo-chambers created by the media? Put yourself to the test.



Click the picture to play - **We Become What We Behold**. How will you influence the lives of the people in this unusual simulation game?

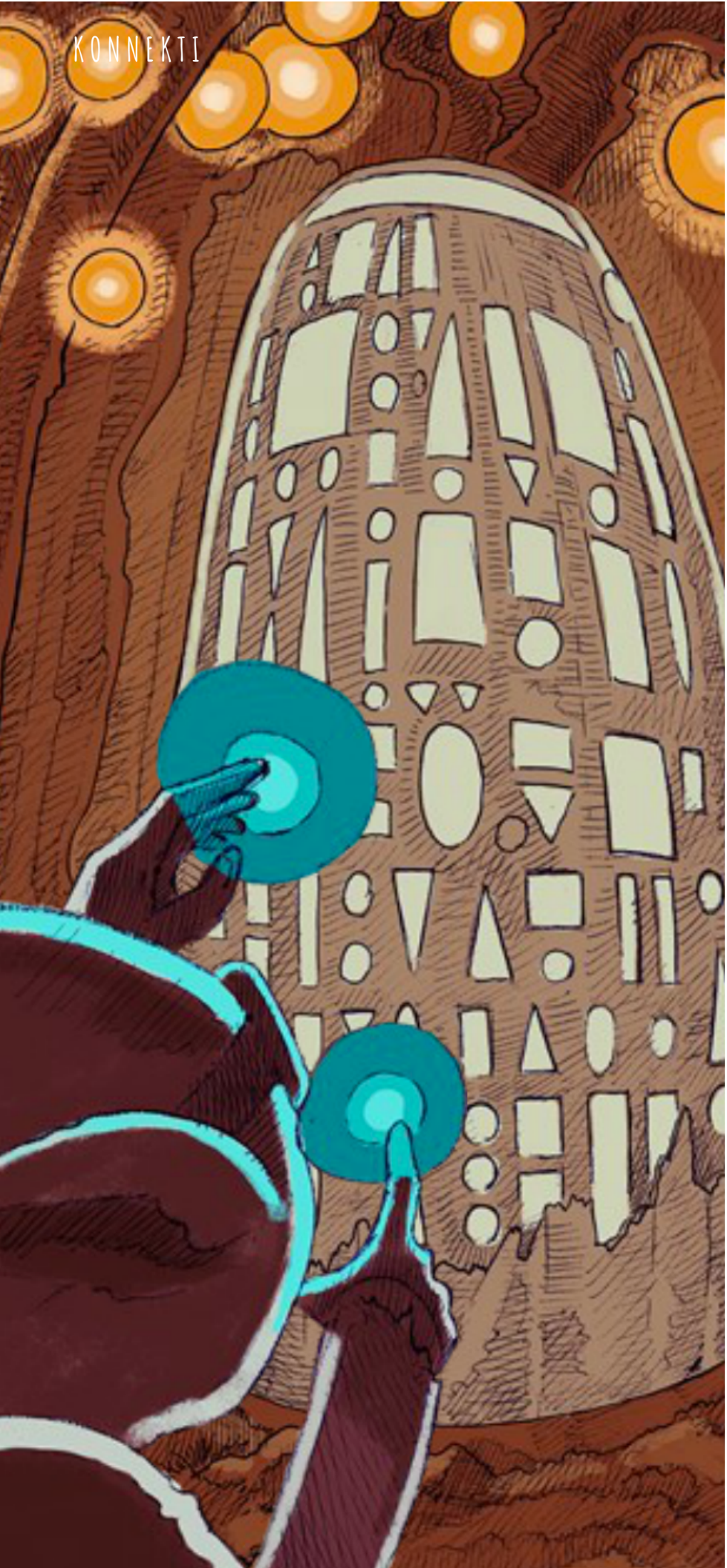
We Become What We Behold raises a lot of questions concerning the ethics of news networks and mainstream media.

Discuss the following questions with your peers:
- How do they choose what stories to show?
- Are they really committed to informing the public, or are they chasing higher ratings?
- Should they claim responsibility for how much influence they have over their audience?

Collect evidence to support your case. Find examples of situations in which is imperative to be mindful of the media that we consume or events in which the media created a positive impact.

Share your findings with the class by writing an article. You can start by thinking about an eye-catching headline.

Newspaper Generator



Among other references, **Konnekti**, selected Orwell as one of the most prominent **Human Word Wizards**. First published in 1949, **George Orwell's** novel "**1984**" has become a prophecy and a warning to human beings by depicting a dystopian future where critical thought is suppressed under a totalitarian regime. Nowadays this masterpiece is still relevant to understanding communication among humans. A dystopian world in which war is peace, freedom is slavery, and ignorance is strength doesn't seem all that far-fetched to readers of "1984."

Learn more about it here.

Why '1984' Is a 2017 Must-Read

In pairs or small groups create a list of **parallels** you find between "1984" and the world around you. You can use the following as reference.

"1984" vs. Today

Use your notes from the chart, add quotes, pictures and your observations to **create an infographic** to present to your class.

Canva Infographic Maker

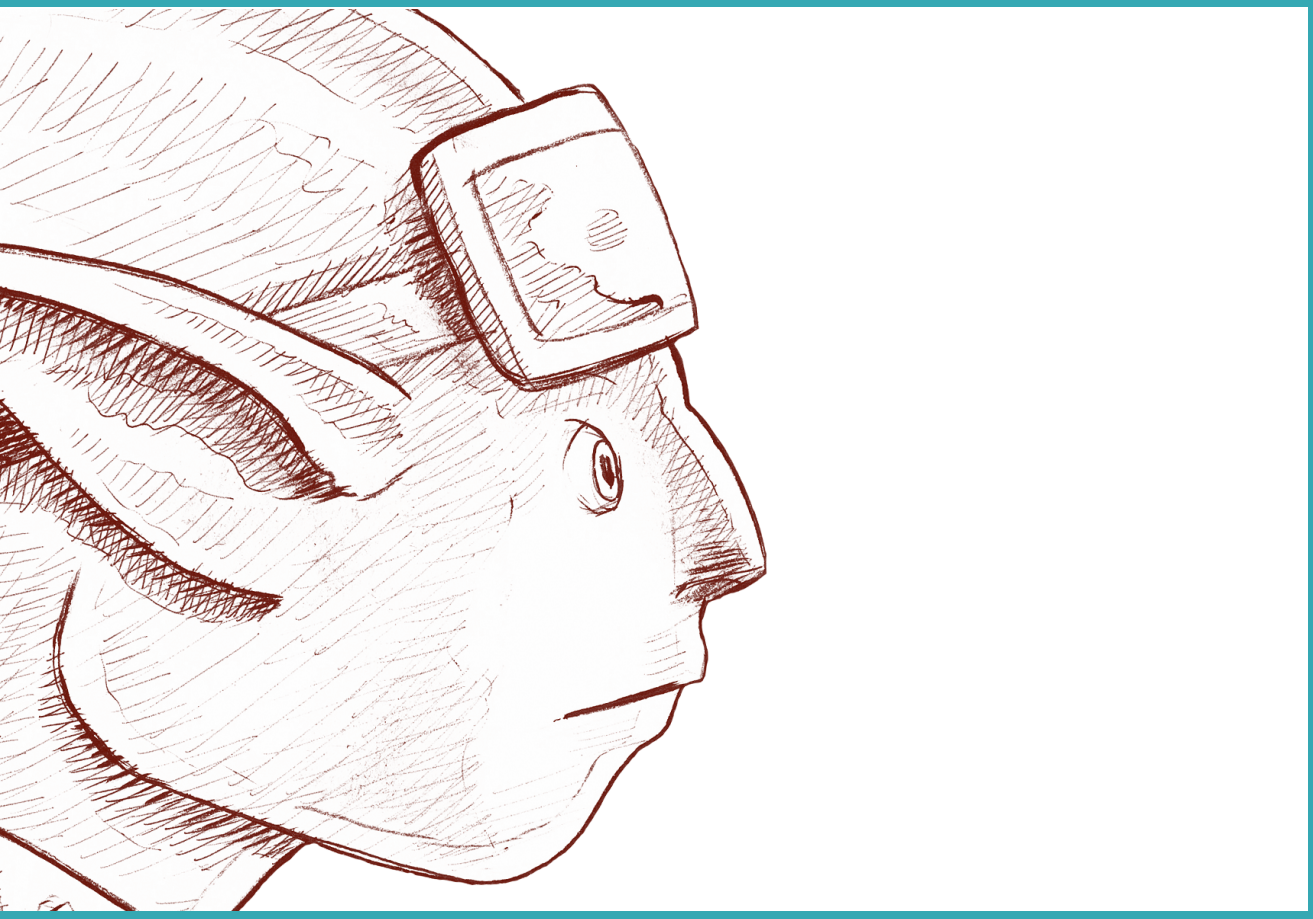
* you can use other infographic creation tools

ESSENTIAL QUESTIONS

Discuss, debate or write about them as they apply to the novel and to your own lives.

What is power, and how is it gained and used?

* Can individuals change a society?
* What are the dangers of government-controlled media?
* What can citizens do if power is abused by a ruling group or government?
* How is technology changing our understanding of privacy?
* What Is more important: our privacy or national security?
* How do governments balance the rights of individuals with the common good?
* Why do some individuals take a stand against oppression while others choose to participate in it?

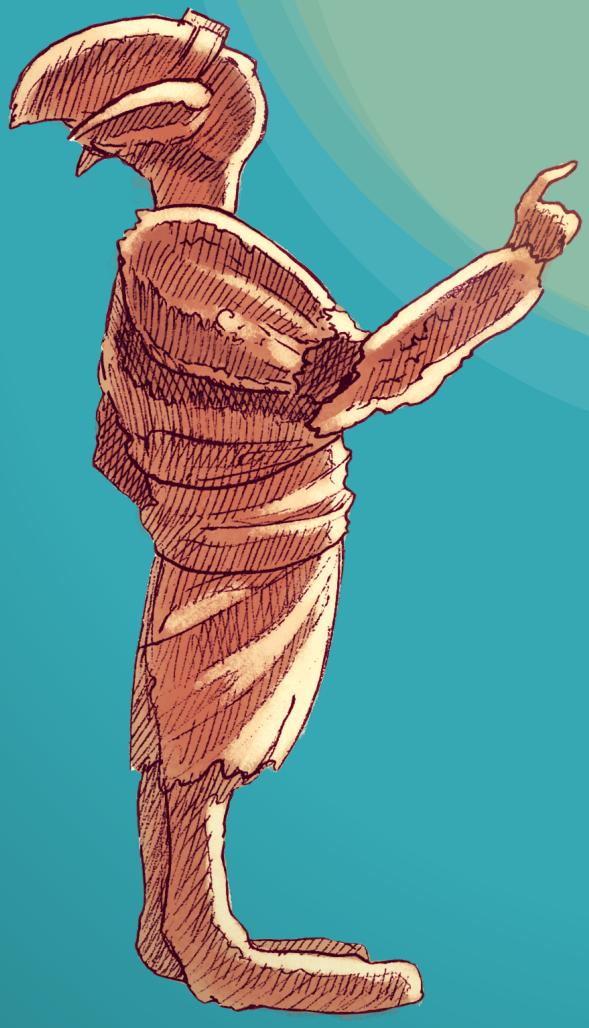


Comics, storyboards, and graphic novels are examples of how pictures are used to tell a story.
Now it's time for you to make pages from a story come alive! **Create your story in Floanda.** Pick a topic you would like to explore within the Fluxus culture. Use art, imagery, text references to draw the characters and put them into action. Show your comprehension and creativity together and tell your story with visual flair.
Here are some tips to get you on the creative path:

8 Steps to Great Digital Storytelling

Allure Artwork you can remix

WHAT YOU SHARE WITH THE WORLD IS WHAT IT KEEPS OF YOU



Collect all the **information** you've gathered so far.
Go to **pageOrama** . Use the **title** of your document as the **Page Title.**

Publish your page online and **Post** your **link** on the **Allure padlet**.

http://www.pageorama.com/

https://padlet.com/ccatproj/allure

RESOURCES

Tagul - Word Cloud Art	https://tagul.com/create
The Guardian view on alien life: dark star, bright prospects	https://www.theguardian.com/commentisfree/2017/feb/24/the-guardian-view-on-alien-life-dark-star-bright-prospects
A Tour of the Solar Neighborhood	https://futurism.com/images/a-tour-of-the-solar-neighborhood-infographic/
The Search for Intelligent Life	https://futurism.com/images/search-extraterrestrial-intelligence/
Other Earths	https://futurism.com/images/other-earths-the-best-exoplanet-candidates-for-life-infographic/
Top 8 confirmed exoplanets that could host alien life	https://futurism.com/images/top-8-confirmed-exoplanets-that-could-host-alien-life/
Fluxus Mind Map	https://tinyurl.com/fluxus-tribe
audioBoom	https://audioboom.com
SMS Generator	http://www.classtools.net/SMS/index.php
A world of languages infographic	http://www.coolinfographics.com/blog/2015/6/1/a-world-of-languages.html
Notes and quotes for "Communication Overload" platform	http://ethicalstl.org/blogs/leader/notes-and-quotes-for-communication-overload-platform/
As Fake News Spreads Lies, More Readers Shrug at the Truth	https://www.nytimes.com/2016/12/06/us/fake-news-partisan-republican-democrat.html
10 questions for fake news detection	http://www.thenewsliteracyproject.org/sites/default/files/GO-TenQuestionsForFakeNewsFINAL.pdf
We Become What We Behold - Game	https://ncase.itch.io/wbwwb
Newspaper Generator	http://newspaper.jaguarpaw.co.uk/
Why '1984' Is a 2017 Must-Read	https://www.nytimes.com/2017/01/26/books/why-1984-is-a-2017-must-read.html
"1984" vs. Today	https://static01.nyt.com/images/blogs/learning/pdf/2010/20101021_1984.pdf
Canva infographic creator	https://www.canva.com/create/infographics/
8 Steps to Great Digital Storytelling	http://edtechteacher.org/8-steps-to-great-digital-storytelling-from-samantha-on-edudemic/
Allure Artwork zip file	https://tinyurl.com/allure-artwork
PageOrama	http://www.pageorama.com/
Padlet Allure	https://padlet.com/ccatproj/allure

Allure

The Fluxus Flow

https://tinyurl.com/allure-cc

http://bit.ly/ccat_site

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Appendix IV

Seek and you shall find Exploration Guide

Interactive version – http://bit.ly/cc_seekguide

SEEK AND YOU SHALL FIND

EXPLORATION GUIDE



PART OF THE PROJECT
CONNECTING CAT

htttp://ccat.site

SEEK AND YOU SHALL FIND
INTERACTIVE VIDEO

https://tinyurl.com/cc-seek-video



ABOUT

Targeted to **English Language Learners**, **level B1**, this guide supports the exploration of the interactive video Seek and You Shall Find. Part of a transmedia learning project, it aims to provide an **immersive exploration of multicultural London** while tracking the adventures of a teenage girl. It provides a stimulating and varied body of cultural content, specifically chosen to appeal to today's teenagers. The content is conveyed via personal accounts as much as factual texts. It also includes a selection of texts reflecting an authentic variety of sources taken from the English-speaking world.

Images and videos contained in this resource pack can be the starting point of speaking activities such as pair and group discussion; role plays and interviews. It also includes a wide variety of suggestions to develop writing skills.
Both reading and listening texts are exploited through exercises such as gap-filling; sequencing; matching; multiple choice; true or false questions as well as straight forward questions. Written genres include emails or websites among others. Data is presented through infographics and maps. You can also find a selection of podcasts and videos featuring dialogues and interviews.



#CONTENTS

#04 HACK THE STORY

#05 BARD OF AVON 101

#11 WORD ON THE STREET

#20 CHOW DOWN

#24 ON THE MOVE

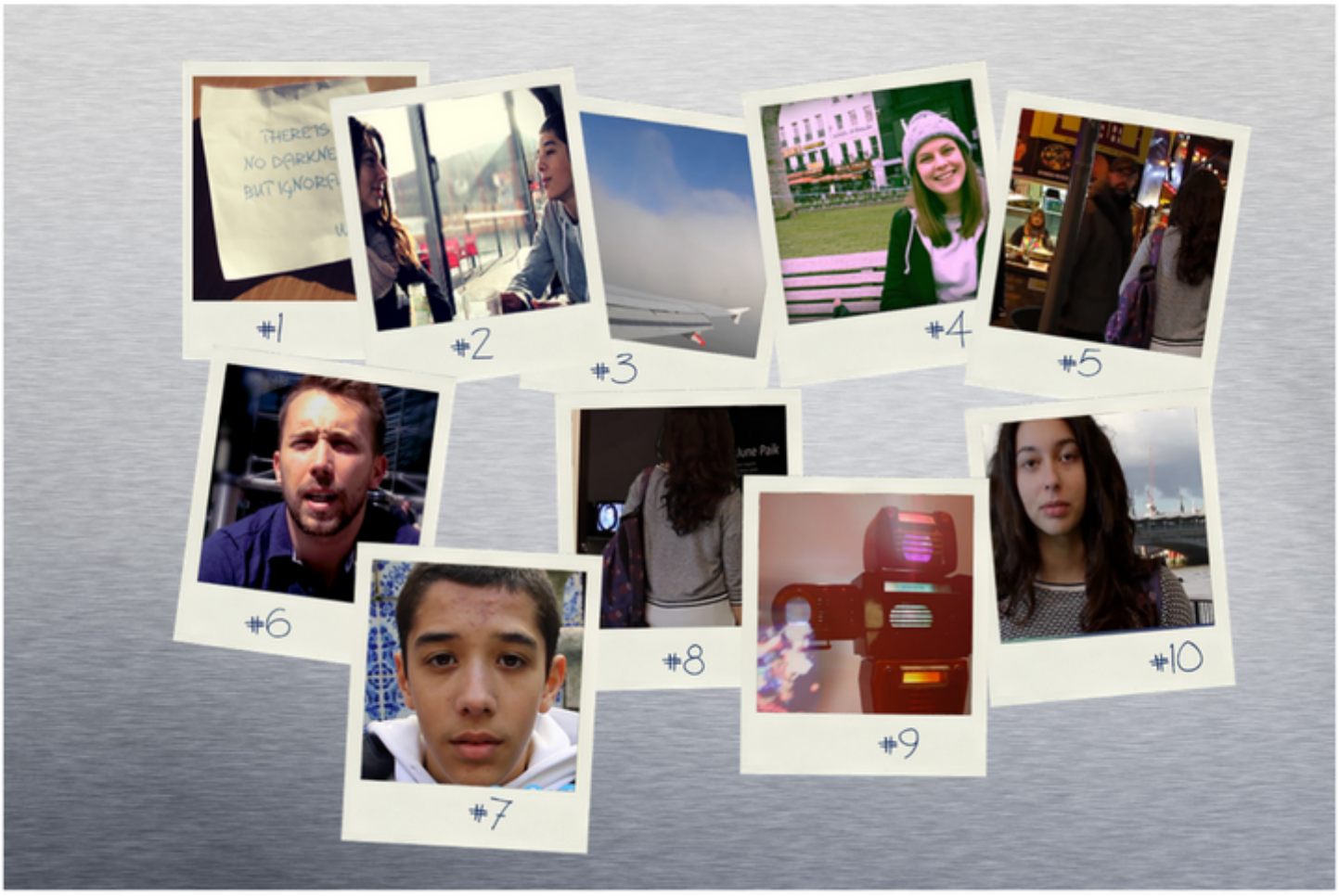
#28 LOST WORLDS

#36 ART POWER STATION

#37 BOT POW WOW

#39 BE A SEEKER

#41 SOURCE CODE



HACK THE STORY

> The storyboard for me is the way to visualise the entire movie in advance.
>
> Martin Scorsese

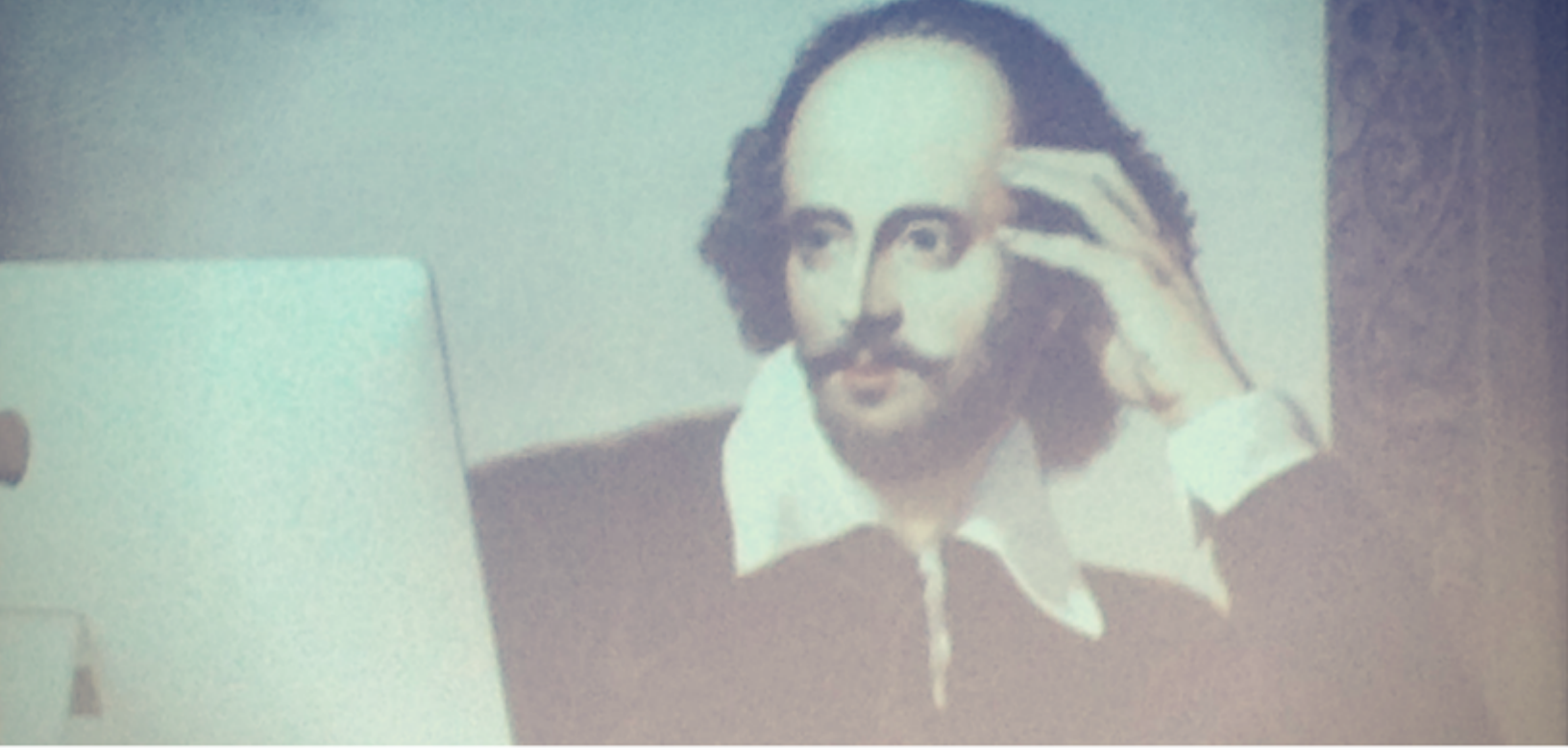
Recall the story and **develop the storyboard.**

Storyboard Widget

Post a review of the video. Here are some guidelines to help you.

Post a Review Widget

Review Example



How much do you know about the Bard of Avon?

Cat starts her adventure in Leicester Square. It is here; she finally stands before the statue that has intrigued her for quite some time.
The scroll held by the Bard of Avon is inscribed with the quotation **THERE IS NO DARKNESS BUT IGNORANCE** from Twelfth Night (Act IV, Scene II).
What about you? **Are you in the dark about the world's greatest English-language playwright?** His works have been admired by people for hundred years. He has written some of the most beautiful lines of poetry with a soaring imagination and humour. Shakespeare still moves audiences with the courage of heroes, the passion of lovers and the foolishness of clowns. To read his words is a way to gain a deeper understanding of humans.

Check your knowledge about the Bard with this quiz:

William Shakespeare Trivia Quiz

If you are still eager to **learn more** and get a brilliant score, watch these videos.

Shakespeare's Life

Shakespeare: The History of English

If Shakespeare were alive today, he would be...

Discuss with your partner who might the Bard be in the 21st Century.

----------§§§----------

Here are some **phrases** to help you:
* There's no way of knowing for sure, but I (don't) think...
I*It's quite feasible that he would...
* He would most likely be living/ working...
* If he had been born in this Century, my guess is that he would...

----------§§§----------

Help the 21st Century Shakespeare get a new job by **writing a recommendation**. Use the following to help you.

Recommendation Generator

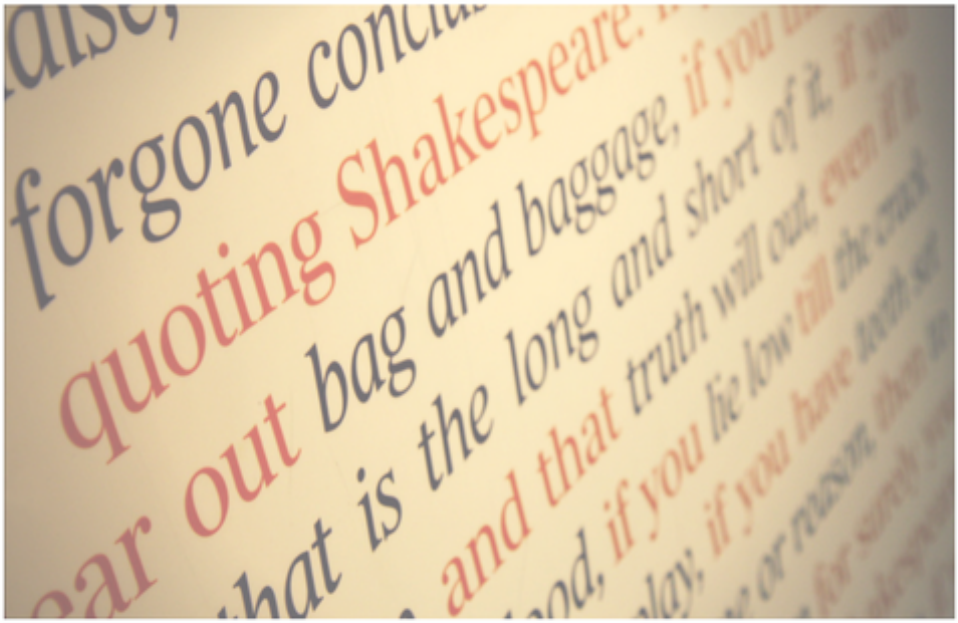
Present your version of his life to the class and explain your options.

⚠ Taking into account the tool you used to write the recommendation, how much of the information you come across on social networks is true?

We know what we are now, but not what we may become. - Hamlet, Act 4, Scene 5



Shakespeare, thy meaning is unclear



While Shakespeare's plays are timeless, the language of the Bard seems certainly anything but it. Sometimes his words seem foreign or incomprehensible. Nevertheless, you would be surprised to know that the language spoken by Shakespeare (also known as Elizabethan English) is, in fact, modern English.
Shakespeare introduced 1,700 original words, many of which we still use today like **generous** or **lonely**. Moreover, **we use many phrases in our daily speech from his work**. Don't you wish worries would simply **vanish into thin air**? Or that it can be difficult to **break the ice** and start a conversation with a stranger? When using these, we are in fact using Shakespeare's language.

Find out if you are familiar with some of these words and phrases.

Everyday Words and Phrases

Pick one of the list and use the meme generator to **depict its meaning.**

Shakespeare Meme Generator

Present and explain your **artwork** to the class. Save it to **post it** later or use the padlet to share it with the world.

Padlet Bard of Avon 101

Are you ready to test your knowledge? **Spot the real shakespearean words and the fakes.**

Real or Fake Words Quiz

Without the Bard, our vocabulary wouldn't be the same. Shakespeare presented the world unique ways to express love and lust, hope and despair, sorrow and rage. But if there's one thing we admire the playwright more than anything else, it's the way he masters the art of the great insult. **Behold this list of Shakespearean insolent words**.

Shakespearean Insults Infographic

Give it a try. Use the Shakespearean Insult-O-Meter to **create a genuine Shakespearean insult.**

Insult-O-Meter

Craft your own Elizabethan-era insult or sweet talk.
Use the Insults & Flattery sheet to start and the translator to help you refine your style.

Insults & Flattery Sheet

Shakespearean Translator

Now that you are armed and ready, it's **time to compete**. Battle your friends in a winner takes all contest using Shakespeare's eloquent phrases. Two at a time go to the front of the room. **With dramatic flair attack your opponent with a convincing compliment or insult.** The most spirited is the winner of the round. The winners of each round compete against each other until you only have 2 victors. The final battle will determine the ultimate champion of the tournament. Bring in a guest judge to make things more interesting.

It's all Greek to me

Shakespeare's plays have been translated into almost every language and performed all over the world. Even if you've never read or seen a play - even if you've never so much as watched a movie version - you're likely to have quoted him accidentally.

Things are rarely a **foregone conclusion** - a result that you can be certain about before it happens - but it is **high time** to recognize that his contribution to the English language and culture was **monumental**. His plays are as relevant today as they were during his lifetime.

If the Bard of Avon were alive, he would probably be working in Hollywood, **writing scripts or directing films**. Imagine he had decided to update his plays for the big screen. **Help him rewrite some of his dialogues to make them more contemporary.**

Are you the right person for the job? **How well do you know his plays?**

Shakespeare's Plays Quiz

Brush up your knowledge and **read an excerpt** from one of his masterpieces.

My Shakespeare Plays

You must ace this mission if you want to help the Bard. Can you **match the lines taken from some of his plays with the modern meaning**s?

It's Greek to me!

Many expressions used today come from his plays. Are you familiar with them? Is it **meat and drink to you** (very easy to do) or finding the right words **sets your teeth on edge** (is unpleasant or annoying)? Put yourself in his shoes and **imagine what the Bard would say in everyday situations.**

What would Shakespeare say?



> All the world's a stage,
> And all the men and women merely players;
>
> – As You Like It, Act II, Scene VII

Shakespeare's current international reputation suggests that there is something in the Bard's work that is in tune with our time. His style of mixing and remaking genres, fusing fine art and popular entertainment might be one of the reasons. However, perhaps it is his role as a dramatic playwright who addressed political and public issues that might resonate the most with the citizens of the 21st Century. In short, he could well be an activist blogging and texting promoting social and cultural change.

Read the post published by the Bard. To please him, **write a comment**. Read the questions to help you get started:

* Does this quote make sense in today's society? Why or why not?
* Do you have any real-life incident that this quote brings to mind? – Write a quick narrative about it.



A Post by the Bard

Running on a tight deadline, the playwright is editing his scenes for publishing. It's an all hands on deck situation. **Take a look at one of the teasers** for his latest version of Romeo and Juliet.

Romeo and Juliet Teaser

Present the Bard of Avon with a Twitter short story based on one of his masterpieces. **Rewrite a scene of one of his plays**. You can also **draw inspiration from the main plot points** of a play and **retell it in bite-sized chunks** (140 characters Tweets). Make William proud!

If you still aren't sure which play you should focus on, try this infographic.

Shakespeare's Plays Infographic

Tweet Generator

Considered "the Briton of the Millenium," Shakespeare is still the most produced playwright in England and America. In fact, the Bard is regarded as a "world genius" with a "cross-cultural appeal." You can find replicas of the Globe Theatre in countries as diverse as England, Germany, Italy and the United States. **Peep inside the Globe Theatre in London and learn more about it.**

Shakespeare's Globe 360

About the Globe Theatre

Imagine that **you got two free tickets** for Romeo and Juliet opening night at the Globe Theatre. You would really like to go to see this performance but your partner isn't so keen on the idea. Try to **persuade him/ her not to miss this opportunity**.

Breaking News

Choose a play to focus on. **Brainstorm some of the dramatic parts**, for instance when Mercutio (Romeo's friend) and Tybalt (Juliet's cousin) are killed. Imagine that these events took place in modern days. Would you hear about it on online, on TV or in newspapers?
Break the news to the world. You can **write a newspaper report**, **record a podcast** for your local radio station or **create a TV/online news story**. Use the guidelines to help you.

Breaking News Guidelines



Collect ALL your findings, artwork and files.
Go to pageOrama and **create a page**. Use the title of your document as the page title.
Publish your page online and **post** your **link** on **the Bard 101 padlet**.

http://www.pageorama.com/

https://padlet.com/ccatproj/bard101



> My Dad says that being a Londoner has nothing to do with where you're born. He says that there are people who get off a jumbo jet at Heathrow, go through immigration waving any kind of passport, hop on the tube and by the time the train's pulled into Piccadilly Circus they've become a Londoner.
>
> Ben Aaoronovitch in Moon over Soho

Cat was given a warm welcome to the city by Londoners. **What defines and makes a Londoner?** Do you know?

Use these links to dig deeper into this subject.

- London Explorers Video
- Londoners Widget

London Skyline

More and more skyscrapers are appearing on the London skyline. While some love them, many people are worried by the new trend of building in the capital. Listen to this podcast to find out more about this trend.

London Skyline Podcast

Flash Trivia Quiz

When was St Paul's Cathedral completed?

In 1508 - 1608 - 1708

What about you? Do you live in a city with a lot of skyscrapers?

In pairs, **identify the buildings in the picture**. Pick 3 and find out more information about them. **Describe them to your partner** and check if he or she can identify the buildings.

Here are some words to help you:

quirky - modest -pyramid roof - stainless steel - bulky - curving shape - glass - smart building- blinds - dominant

The 95-storey Shard is the tallest building not only in London but in the whole European Union. If you're brave, there's an observation deck on the 72nd floor! Public opinion has been fairly divided, with some admiring its thrusting futurism, while other resent the way it dominates the skyline. **Learn more** about it here:

The Shard Widget





LONDON'S IMMIGRANT POPULATION WILL HIT 5 MILLION IN 2031 WHEN IT WILL OVERTAKE BRITISH-BORN RESIDENTS FOR THE FIRST TIME

http://www.dailymail.co.uk/news/article-2950401/How-one-three-Londoners-born-abroad-areas-live-in.html

The World in One City

Did you ever move to another country? Has anyone in your family ever emigrated? Where did they go? Why? **Share your experiences and interview your partner.**

In pairs or groups, discuss...

Which of the following factors might decide a person's ethnic group?
* religion
* political opinions
* skin colour
* language
* country of origin
* sex

Name as many former British colonies as you can. Why are the colonies important in understanding the UK today?

Think of two possible reasons for ethnic groups to change country.

Where did most immigrants in the UK decide to live?



Think about your country. **Describe the different ethnic groups that make up your country.**

Do you know the numbers for each group? Which are the main minority groups?
Where did they originate?
When and why did they move to your country?
How do they contribute to the life of your nation?

Collect information on the topic and create an infographic with your findings to present to the class.

Hipster cereal café divides diverse London over poverty, immigration

Angry crowds gathered at London's Cereal Killer Café protesting poverty, diversity. An East End cafe that serves 120 varieties of breakfast cereal — along with 30 kinds of milk — has become a surprising flashpoint for protest in a city increasingly polarized between rich and poor

By JILL LAWLESS Associated Press

he Cereal Killer Cafe has drawn both mockery and big crowds since it opened nine months ago, offering an abundant supply of flakes, pops and puffs from about £3 a bowl.
On the weekend, it attracted the ire of anti-**gentrification** protesters, who surrounded the business with flaming torches and **scrawled** "scum" on its windows as customers sheltered in the basement.

"It is a bit weird," said Gary Keery, who runs the cafe with his brother, Alan. "I don't see us as hateful people — but a lot of people seem to."

Fashionably bearded 33-year-old twins from Belfast, Northern Ireland, the Keery brothers are among the latest wave of migrants to this diverse part of east London. Over the decades European Jews, Bangladeshi Muslims and hipsters from around the world have brought bagel shops and curry restaurants, espresso bars and independent fashion boutiques to Brick Lane.

It's that diversity that made the Keery brothers choose the area for their breakfast business.

"There's a lot of creative things happening," said Gary Keery. "A cat cafe just opened up around the corner. We just knew that if it was going to work, it would work in Brick Lane."

On Saturday, anti-poverty protesters targeted the cafe as a symbol of all that's wrong with London's development. Footage filmed from inside showed a group, some in pig masks and carrying torches, shouting outside as staff told customers to go downstairs.

Police say one officer was injured by a flying bottle during the protest, organized by militant anarchist group Class War.

Tony Travers, an expert on Britain's capital city at the London School of Economics, says the cereal storm is "a war by proxy about something much, much bigger": the squeeze on space in a booming city whose population, already 8.6 million, is growing by 120,000 people a year.

Developers are building just 20,000 to 25,000 new homes each year, so rents and property prices climb ever higher.

In the East End, a long-established working-class population has been joined — and sometimes displaced — by thousands of wealthy young professionals in renovated buildings and shiny new developments.

The result is an area where organic food shops sit alongside everything-for-a-pound stores. One-bedroom apartments sell for 500,000 pounds and up, but almost half of children in the local borough, Tower Hamlets, live in poverty.

Travers said the cereal cafe is "an innocent casualty of a wider struggle for territory in the city."

Class War says it is delighted with the publicity and plans more protests outside independent businesses.

"The fight against gentrification has basically been lost and it's speeding up all the time," Class War founder Ian Bone told The Guardian newspaper.

"So our philosophy is to go back to areas which have already been gentrified and start taking the fight back to them."

The Keery brothers are not intimidated. They recently opened a second branch in Camden Town, and have a cereal cookbook coming out next month. And the attack has brought new customers to the cafe.

"There are worse things in the world than people eating cereal," said Tess Hoey who came to show her support.

She said those concerned about London's property crisis should "talk about Russian oligarchs — not boys from Belfast."

Abridged and adapted from https://www.thestar.com/life/2015/10/01/quirky-london-cereal-caf-spurs-angry-protests-in-booming-city.html

gentrification
renovation and improvement to a house or a district so that it conforms to middle-class taste;

scrawl
write in a hurry careless way;



#16 WORD ON THE STREET

Taking into account what you've learned about the current situation of immigrants, how do you picture life in London, in 2031?

Take stock and share your point of view.

The World in One City Widget

London Loves You

The UK is generally a welcoming and friendly place for lesbian, gay, bisexual and transgender (LGBT) people. In the UK, it is illegal to discriminate against someone because of their sexual orientation or sex, and many international LGBT students study in the UK on the understanding that their rights will be respected and that they can live life as they want.

Watch a film made in a UK secondary school. It shows a mixed group of 14-17-year-olds discussing how LGBT issues affect them and others in their school.

London loves you video

Share and exchange opinions with the class.
- Do the young people in the film seem similar or different to young people in your country?
- What, if anything, surprised you about the views of the young people in the film?
- What value does diversity bring to society?
- How can schools help students feel safe and build mutual respect?
- Why are diversity issues hard to talk about sometimes?
- In your country do you think that different generations look at things differently?





Break the Silence

There is always something that we are not comfortable talking about. How would you express yourself and get people to listen using more than just normal speech?
Are you an artist or a poet? Time to let it shine! Join forces and create a team. Draw on special talents and abilities you have to express yourself and get people to listen to you.

Start a campaign.
You'll need a slogan - a target audience - 3 key messages- artwork & visuals.
Pitch your campaign and present a poster to the class.
Judge or vote on your favorite campaign.



I Care

How could you use a public event to create awareness and express your appreciation of the people in your community? How could you use a public event to create awareness and express your appreciation of the people in your community?

Take a moment and think about the people who work to make the community strong through the services they provide to its economy. If you had one day to create a celebration to show these people how you and your community appreciate them, what would you come up with?

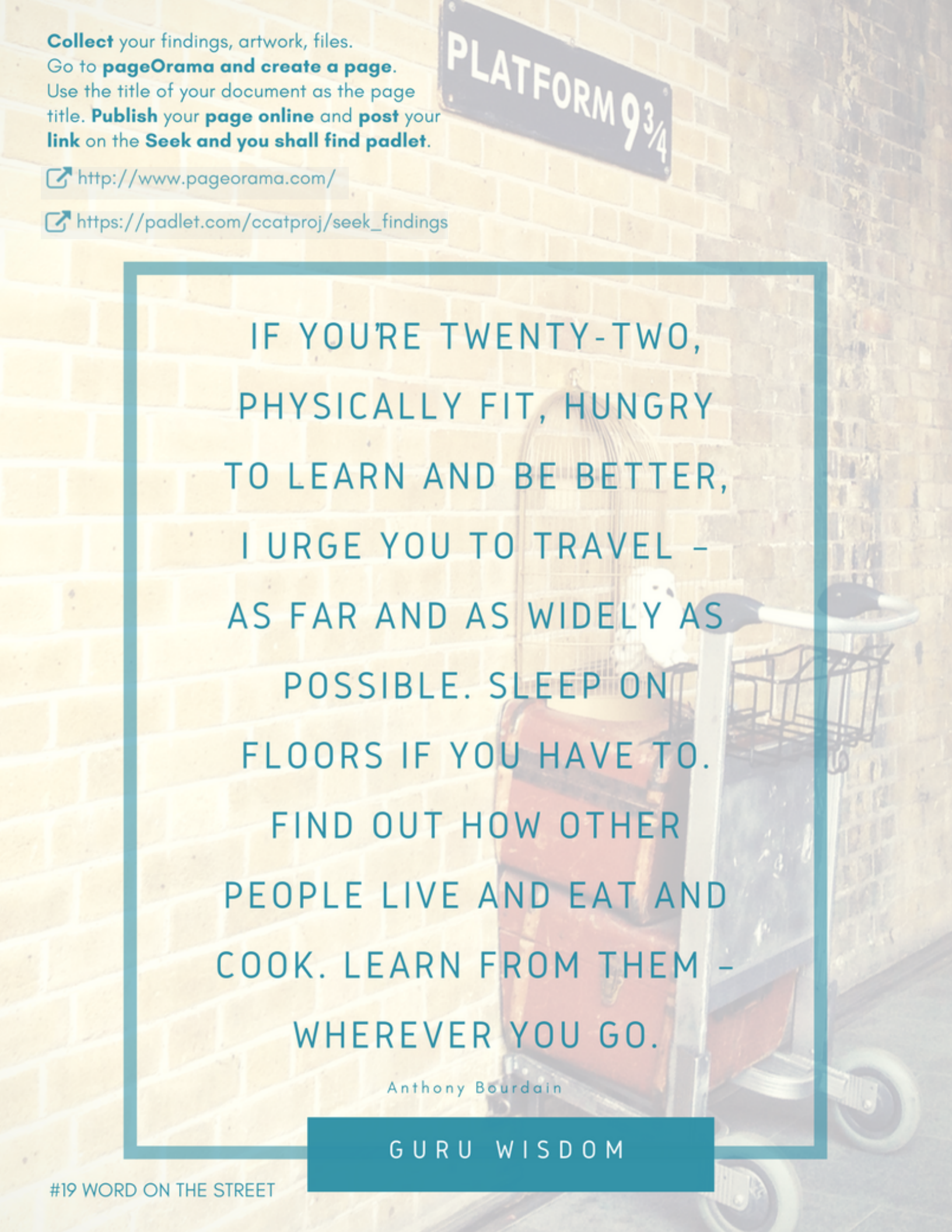
Create a unique celebration showing appreciation for your community leaders and their day-to-day efforts.

Use research about expressing thanks in cultures around the world, and make something to show your community how much it matters!

Collect your findings, artwork, files.
Go to **pageOrama and create a page**.
Use the title of your document as the page title. **Publish** your **page online** and **post** your **link** on the **Seek and you shall find padlet**.

http://www.pageorama.com/

https://padlet.com/ccatproj/seek_findings



IF YOU'RE TWENTY-TWO, PHYSICALLY FIT, HUNGRY TO LEARN AND BE BETTER, I URGE YOU TO TRAVEL – AS FAR AND AS WIDELY AS POSSIBLE. SLEEP ON FLOORS IF YOU HAVE TO. FIND OUT HOW OTHER PEOPLE LIVE AND EAT AND COOK. LEARN FROM THEM – WHEREVER YOU GO.

Anthony Bourdain

GURU WISDOM

#19 WORD ON THE STREET

@CAMDEN



In the backyard of Dingwalls, **Camden Market** is one of London's bustling retail destinations, open seven days a week. The market is home to numerous small businesses such as antiques, jewellery or arts and crafts and brings forth a multicultural diverse community loved by local people and tourists alike.

The market's cultural heritage goes far beyond retail. Although it started off as a small arts and crafts niche, its popularity soon grew. In the early 70s, the site became the **playground for emerging artists** that set up their rehearsal studios there and performed live at **Dingwalls Dance Hall**, an iconic landmark inside the market. At the time, the site was popular not only because it was open until 2am but also for the gigs of the soon to become legendary artists such as **The Sex Pistols, The Ramones, The Clash** and the brit top punk band The Stranglers. The venue is still popular in present times hosting gigs of the Foo Fighters, The Strokes or the founder of Oasis - Noel Gallagher among other music idols.

Camden Town became **the heart of London's music scene** and with it came the alternative fashion. The market stalls were filled with new looks created by young designers to please bohemians, **rockers** and **punks** that gathered around to hang out and shop. By the mid-80s Camden Lock acted as a **launch pad for fashion designers** and was the capital's trendiest Sunday hang-out.

The 21st Century Camden Market is an eclectic mix of stores and stalls selling vintage, original fashion, hand-crafted accessories and everything in between and the place to go if you are looking for something "alternative". The market is literally a melting pot, **a cluster of street food stalls**, cult cafes and terrace bars. In other words a **foodie's paradise**.



FOODIE

someone who's obsessed with food - not just eating it, but shopping for it, cooking it, trying new kinds and talking about it

Would you describe yourself as a bit of a foodie?
Why/ Why not?
If you had the chance, like Cat, to visit this foodie Mecca (a place that people who love food will go to), what kind of food would you most like to try?
Meet Camden Market's newest food traders and discuss with your partner and **decide which place you would choose if you got the munchies**.

Camden Food Traders

How important is food for you when you travel?
Bring out the foodie inside of you and **check how many typical dishes and ingredients you can identify in this short film** based on Andrew Lees' epic trip of 11 countries in 44 days.

EAT

The clip is very fast, take notes and watch the film at least twice.

Check your foodie level of knowledge by comparing your notes with the rest of the class here.

Eat AnswerGarden

You can submit an unlimited number of answers, however you can only submit each answer once.

If you could travel to 11 countries in 44 days, which countries would you visit?
Write a short paragraph about where and what you would eat and drink during your own epic journey.





> It takes some skill to spoil a breakfast - even the English can't do it
>
> John Kenneth Galbraith

British people are world renowned for the English breakfast. Dating back to the early 1300's, it is truly a national dish, one that is hugely popular to this day and regularly enjoyed by millions of English breakfast lovers from all over the world.

Do you know what makes the perfect full English Breakfast?

English Breakfast Quiz

This British institution (aka **The Fry Up**) is regarded as a symbol of English cultural domination. Actually the English have imposed their food on other cultures for centuries. Nevertheless, there are plenty of places for power breakfasts in London that stir away from the traditional English Breakfast and that celebrate cultural diversity. Among other sites in the city, you'll see that **Camden Market's cafes live up to the expectations of finding alternatives to the most important meal of the day**.

Have a look what's on offer.

Breakfast at Camden Market

What about you? What do you usually have for breakfast?

Have you ever tried…?

- *Huevos Rancheros*
- *Dosa*
- *Moin Moin*
- *Gallo Pinto*
- *Tabrizi*

If you haven't, you can learn more about these dishes and ingredients that people from different parts of the globe have for breakfast.

Breakfast around the world

Pretty cool, right? Dig deeper into the facts with this quiz.

Breakfast around the world Quiz

Now, check what others think about these dishes. **Ask your partner**:

Which breakfast is most like your own?
Which breakfast would you most like to try?
Which breakfast would you least like to try?
Which breakfast do you think is most healthy?



Think of a food or dish eaten in your country that is as popular as Fish and Chips among the Brits. Make notes on the themes below.

- The history of the food/dish
- Ingredients and how to cook it
- Different styles or regional variations
- The part it plays in your life

Use your notes to structure and **write an article for an online food magazine**.

Here you can find some instructions.

Article for online food magazine

FISH AND CHIPS

Besides the English Breakfast, deep-fried fish in a crispy batter with fat golden chips is still one of Britain and Ireland's favourite meals. With 11,000 fish and chips shops throughout the UK and Ireland, finding a chippie is usually easy.

Have you ever tried fish and chips?

Can you buy fish and chips in your country?

Did you know that battered fried fish was a legacy of the Portuguese Marranos (crypto-Jews)who came to England in the 16th century. Learn more about this English National Dish here.

Fish & Chips Widget







So whereabouts are you, then?

Without Peter's help, Cat would have a hard time making the most of her 24-hour quest and getting around the city. To explore all the clues, she had **to dash off** from one site **to rush** into another location. **The Tube** was just the right option to save time.

How much do you know about the Tube?
London is a vibrant and exciting place to visit, work and to live in, and its **underground** is an iconic part of the capital's culture.
About four million of the city resident's use the Tube every day. Traveling by Tube to and from work, some **commuters** fall asleep on the train ride while others read the latest news or check their social networks. When one enters the subterranean depths, the eyes seem compelled to capture the human diversity and strangeness of the city that mixes people from all corners of the planet.

Linguistic diversity is part of the capital's DNA. If you step inside a tube carriage on the underground, you are likely to hear a variety of languages rioting to get into your ears.
Using a map of Tube lines and stations and having analyzed Census data, Oliver O'Brien (geo-visualization and web mapping researcher) managed to create a map that shows the most common second languages spoken in the city. Use this interactive map and **find out the following**:
- Where are you most likely to hear only English?
- Where on the tube are you most likely to hear Portuguese, for instance? (You can pick any other language)
- Which station wins the prize for most linguistic diversity?
Create you own clues so that others can guess which Tube line or stop you are thinking about.

Tube Tongues Interactive Map



WHAT IF LONDON'S UNDERGROUND LINES

WERE PEOPLE

Mind the Gap is a phrase you will hear plenty of times while you are waiting for your ride to your destination.
Learn more about it here:

Mind the Gap

What if London's Underground lines were people? And what if they all hung out at a party? Watch a sketch that took Facebook by storm, with more than 500,000 views, and **get to know the Tube riders** a little bit better.

If Tube Lines Were People

Imagine you were at the party and you had to write a post for a gossip blog.
Don't forget to give a description of who was there and mention the highlights of this vibrant event.
This infographic can help you to describe the enthusiastic revelers.

Tube Riders

“I haven’t been everywhere, but it’s on my list.

Susan Sontag



What if you had the chance to spend 24 hours in London like Cat? Where would you go?
Pick at least **one attraction**; **somewhere to rest and grab a bite** and **a location to do some last minute shopping**.

40 things to do in London

If you still have no clue where you would like to go, get inspired with this **360 virtual tour of the city**.

London 360

Plan your day and **put your travel plan in motion** using this handy tube map. **Find the nearest tube station to the places you want to visit** and don't forget that you have a tight budget that only covers the maximum of £14.00 for traveling expenses.

Tuber Map

Convince your friends that your plan is the best. The least expensive and the less time-consuming will be the one you will stick to.



You wait ages for one – and then two come along at the same time!

In London, it is common to find yourself waiting ages for a bus only to find two or three all arriving at the same time. Buses can stay due in three minutes for ten minutes or more. **What's the public transport like where you live? How punctual are trains and buses?** Think of anything you waited a long time for and then suddenly found more than one of.

For many, many people, London has become the last stop, the final destination on a long journey, the Holy Grail of the Western dream.
– George Georgiou

George Georgiou is a native Londoner photographer that explored the increasing diversity of London behind the windows of iconic double-decker buses of the city. Watch how George Georgiou made the project **Last Stop** – a work shot across the whole of London.

Last Stop

Georgiou views his photographs as micro-dramas – "tiny scenes that could have been taken from a soap opera."
Pick a shot from his gallery and **write a short story** (around 100-120 words) about the people he captured on the streets. **What was happening at that moment? What were they talking about or thinking of?**

Last Stop Gallery

Share your stories on the padlet.

Seek and you shall find Padlet

The **British Museum** holds in trust for the world a collection of art and antiquities from ancient and living cultures. The primary goal of the museum is to put the collection to public use. More than a stunning "storage place," the British Museum is the perfect starting point to understand human cultures. **By tapping into the artifacts, you can learn about the cultures and places they represent; the stories that can be told through them, the diversity of truths that they can unlock and their meaning to the world today.**

Visit one the most famous galleries of the museum.

British Museum - Gallery

Societies and cultures of the past can have an enormous influence on their future generations. Traditions, beliefs, mindsets carry forward as cultures evolve. Have you ever thought about how similar can old and new versions of the same culture be?
Use the different collections of the museum to explore the evolution of a culture. Compare the ancient and modern versions of it.
Collect information and create an engaging presentation that honors and celebrates the culture. Start your journey here.

Museum of the World

Defining and expressing identity is part of the human experience. What makes each one of us unique is the set of different identities that we combine and embrace - social, political, national, religious, linguistic, etc. **Objects from the present or the past represent and project identities and allow us to deepen our understanding of who we are. Dive into the museum's online collection and find information about an object of your preference.**

British Museum Online Collection

Consider origin; materials; function and meaning. Once you have the context, try to analyze the form and decoration of the object. **Use these questions as your guidelines.**

- What is the object called?
- Where does the object come from?
- How old is the object?
- How was it made?
- What was it used for?
- What does it mean?
- Who brought the object to the museum?
- Why is the object interesting for you?

Share your findings with the class.









The **Rosetta Stone** is one of the most famous objects in the British Museum. It is one of the most notorious archaeological finds in history, and it was the key to cracking Egyptian hieroglyphics.

Find out the importance of the Rosetta Stone to our understanding of Ancient Egyptian objects.

Rosetta Stone

The Rosetta Stone is a stele (upright stone slab decorated with figures or inscriptions) inscribed with three versions of a decree issued on behalf of King Ptolemy V.

Discuss with your partner what achievements you would like to have written on an inscription about yourself.

From ancient Egyptian hieroglyphs to modern day emoji, cultures are always finding new ways to communicate.

Do you dare to design and code your own language? What will you say?

From hieroglyphs to emojis

Share your thoughts about the British Museum

Write a magazine article about the value of the British Museum and how it can be used to educate people. Discuss whether people should have to pay to enter a museum or not.

> I go to the Natural History Museum and look at the cage of stuffed starlings there. But my favorite thing is the big blue whale. The scale of it is unbelievable, and makes you feel how insignificant you are as a human being.
>
> – Arthur Darvill

The Natural History Museum is a both a research center and a fabulous museum that exhibits a vast range of specimens from various segments of natural history.







History is full of the footprints of great creatures who ruled the world before us. Understanding of the past can in many ways create a better way of life for the future.
Take on the role of a paleontologist and bring the past alive by displaying fossils in your own museum tour. Look into fossils and discoveries made by scientists all around the globe. Study and create your own exhibit from documented dig sites. Use your creative and fun fact-finding skills to develop fact sheets on the fossils particular stories. To show off your artifacts, set up your museum tour on site or through a photo album you can share through social sites.

Create a photo story

As you walk through the galleries of the museum, you become aware of the diversity of life on the planet; you can track evolution and learn about threats of extinction.
Explore biodiversity. Find the Latin name for an animal that you like and find out how it is classified. After collecting all the information label some of its features. Delve down into a zoomable Tree of Life. Its branches link to sites that allow you to find out more about your animal.

OneZoom Tree of Life



“If you had an idea that was going to outrage society, would you keep it to yourself?

Ch. Darwin

Darwin's theory of evolution has transformed the way we think about what it means to be human. His ideas challenged religious beliefs and defied the way we look at the origins of the human race. The publication, in 1859, "**On The Origin of Species**" made available to the public an understanding of the development of humankind without the need of a creator - an idea that seemed dangerous to religious and political leaders at the time.

Explore Charles Darwin's theory of life and evolution.

David Attenborough on Darwin

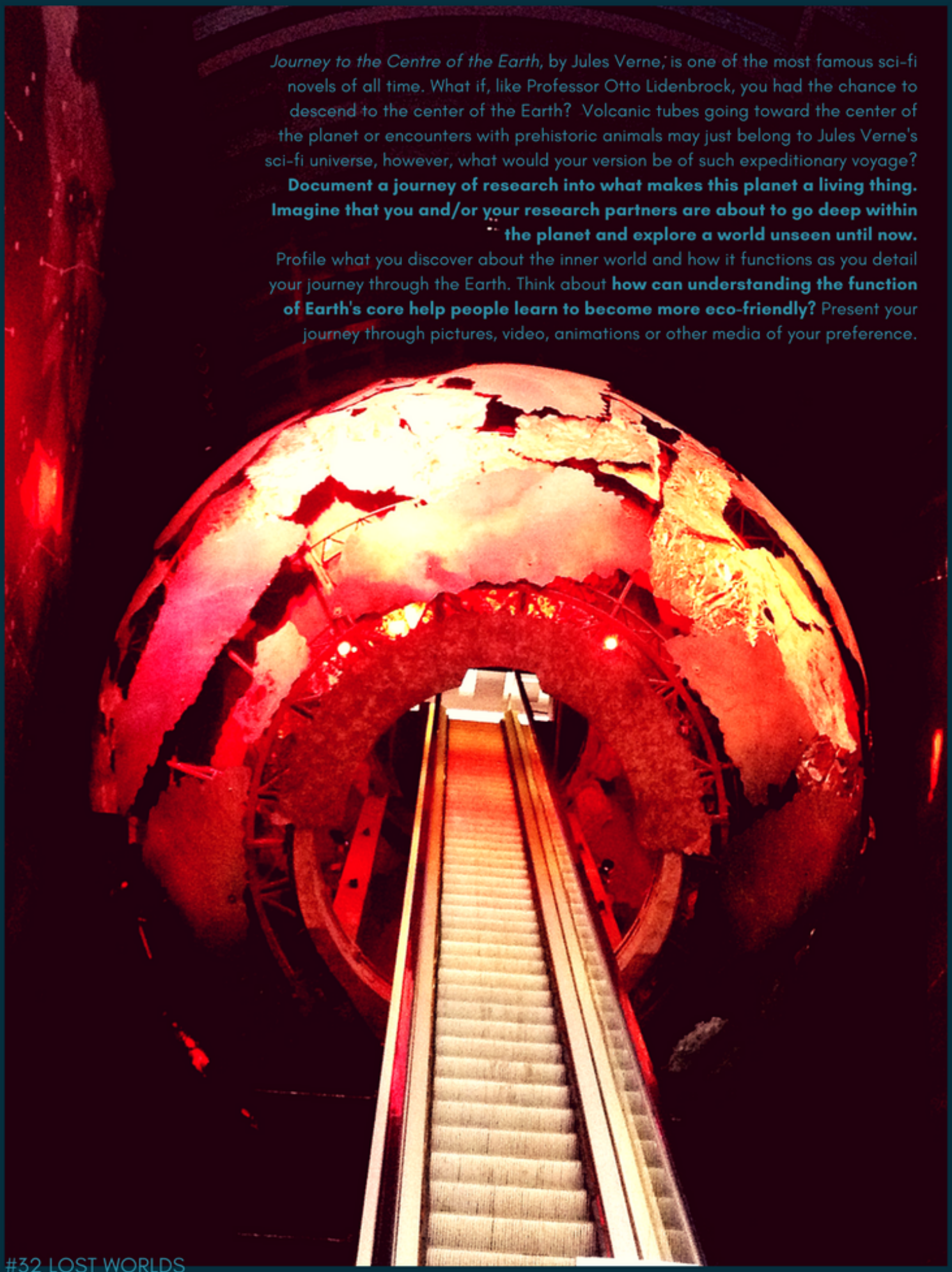
How would it be if you could interview Darwin and see him demonstrate his theory personally?
Put your presentation and writing skills to good work. Dig into his life and research his work. Find out about his life as well as accomplishments. **Write or record your interview with the "British naturalist who had a dangerous idea."**

While for many Darwin's findings were considered to be a huge step forward, his work also drew much opposition. Months after the publication of "On the Origin of Species", several British scientists and philosophers, including Thomas Henry Huxley (nicknamed Darwin's Bulldog) and Bishop Samuel Wilberforce, participated in a landmark debate regarded not only as one of the great stories of the history of science but also as an iconic story in the history of the conflict between science and religion. Only in the 1930s would natural selection become a widely accepted principle. Scientific knowledge develops over time, and contemporary scientific issues are often discussed through a process of understanding evidence and peer review. One of the most controversial issues today is climate change. In recent years, the reliability and the interpretation of the evidence for climate change and future predictions has been questioned by a number of scientists. However as time has passed, more and more evidence has emerged that supports climate change theories. As a result only a very few scientists still doubt climate as a genuine phenomenon, though there is still uncertainty as to how severe the effects of it will be.

Take a stand. Find evidence for climate change and global warming by researching scientific papers. Use your research to create a poster showing important climate change predictions which might affect you personally.

Journey to the Centre of the Earth, by Jules Verne, is one of the most famous sci-fi novels of all time. What if, like Professor Otto Lidenbrock, you had the chance to descend to the center of the Earth? Volcanic tubes going toward the center of the planet or encounters with prehistoric animals may just belong to Jules Verne's sci-fi universe, however, what would your version be of such expeditionary voyage? **Document a journey of research into what makes this planet a living thing. Imagine that you and/or your research partners are about to go deep within the planet and explore a world unseen until now.**

Profile what you discover about the inner world and how it functions as you detail your journey through the Earth. Think about **how can understanding the function of Earth's core help people learn to become more eco-friendly?** Present your journey through pictures, video, animations or other media of your preference.



THE TIMES

WEDNESDAY, MAY 1, 1912 1 PENNY

"There is a surprise in store for the children who go to Kensington Gardens to feed the ducks in the Serpentine this morning. Down by the little bay on the south-western side of the tail of the Serpentine, they will find a May-day gift by Mr. J.M. Barrie, a figure of Peter Pan blowing his pipe on the stump of a tree, with fairies and mice and squirrels all around. It is the work of Sir George Frampton, and the bronze figure of the boy who would never grow up is delightfully conceived."







London's real beauty can be found in its many green spaces. **J.M. Barrie** lived near Kensington Gardens and used the park as inspiration for his Peter Pan tales. The little brat still fascinates both young and old.
There's a bronze statue (erected in secret during a night in 1912), that allegedly marks the spot where Peter Pan first landed in Kensington Gardens. Why was it kept a secret? Aside from the fact that J. M. Barrie hadn't asked permission to install the statue, the author of the novel **Peter Pan in Kensington Gardens** wanted the children of London to believe it had appeared by magic.
To hear what's on his mind scan the QR Code and get a call back from Peter. Across London, there are other statues that are talking as well. See more here

Talking Statues in London

If statues could talk, what stories would they tell? Give a statue that you like a voice! Write and/or record a monologue to get your words heard on the street. Once you have your monologue recorded or posted, you can link it to a QR Code and use it anywhere you want!

Podcast Tool QR Code Generator

Who would have imagined that Cat would find a talking statue in a park in the middle of the city?
Every city has its secrets. If you are not a native, you may not know where the best places are. Think about what makes the community around your school or home unique.
- What is the community most famous for or what should it be famous for?
- Where do people go to feel good?
- What sounds/smells/tastes do you associate with the community?
- Why do people live here?

Design a guide or a tour to show just how special the place you live in is. Include attractions, landmarks of interest, shopping sites, restaurants for visiting travelers. Compile the information, pictures, and files and share it online. If you prefer, create/record a travel route. Pick a mapping tool and lead users on a special journey. Share your creative work on the Padlet.

Mapping Tools

PageOrame

Seek and you shall find Padlet



> Give me the liberty to know, to utter, and to argue freely according to conscience, above all liberties.
>
> – John Milton, 1606-1664, British poet

There are plenty of good reasons to visit London's Parks – live music concerts; have a picnic or just sunbathing. What perhaps you may not know is that **you can exercise your freedom of speech and share your opinions with the world just by mounting up on a soapbox in the park.**
Learn more about Speakers' Corner in Hyde Park here.

Speakers' Corner

Mount up on a soapbox and have your say.

If you had the chance, which issues would you like to bring to the spotlight? Would you like to take action on a particular problem at your school or community?

Create your "Speakers' Corner session" and have a go at sharing your opinions/ concerns with the public.







@TATE

Explore art histories and practices from around the world at Tate Modern. Meet artists who are challenging norms, bridging societies, and working and thinking globally.

At Tate Modern

Art has the power to bring meaning and purpose to humanity by serving as a mirror to culture.

What does art mean to you?

What makes art important, and **why?**

Share your thoughts.

Art Padlet

Cat encounters a relevant clue to solve her quest when she comes across the Bakelite Robot at the Tate Modern. Learn more about this intriguing sculpture and the artist who created it.

The **Bakelite Robot** is made of bakelite radios, video screens, and footage. **Nam June Paik**'s sculpture recalls a specific moment in 20th-century history - a time when radios and general access to national and international broadcasting were key factors in the social transformation of American and Western European households. By using film, radio and television references, this artwork also points to the historical moment at which technology started to be integrated and incorporated into the everyday lives of ordinary people.

Nam June Paik, the creator of the Bakelite Robot, was a visionary artist who paved a way to combine **art and technology**. He developed a unique style of video art based on technological innovation and creative experimentation.Paik was closely involved in the Fluxus, an informal international community of experimental artists.

Listen to Ken Hakuta, the artist's nephew, **talking about Paik's influence on popular culture. Find out what Nam June Paik was able to foresee.**

About Nam June Paik

Who was Nam June Paik?

Find out as much as you can about Nam June Paik. **Using your research as a basis, write five questions inspired by what you have discovered.**
Go beyond questions that require simple yes or no answers. The questions must be open enough to need a fuller answer.
Swap your questions with a partner and answer or talk about each other's questions.

Paik worked closely with other artists of the **Fluxus** community. Ballet dancers, composers, architects and even chefs were part of a community that shared the belief that people should embark on an artwork without a conception of its end. For them, the artwork was instead a site of interaction between the artist and the audience.
The Fluxus artists were focused on experimentation. They produced **performance "events,"** which included time-based works, as well as literature, concrete poetry, visual art, architecture, and design.

Learn more about **Performance Art** here.

Performance Art





The Bakelite Robot, as a guardian of the portal pieces, apparently showed to have artificial intelligence. How else would he be able to communicate with Cat?
Her encounter with the robot seems to be a scene taken from a sci-fi movie. What do you think?

Do you think it's plausible for a robot to talk to a human nowadays? Would you like to have a conversation with a bot?

Explore the potential and possible dangers of the use of artificial intelligence by reading Professor Stephen Hawking's opinion on the subject.

The future of AI Widget

How is your vision of the future affected by the world today?
Look 20 years into the future from now. What do you see? How would you describe it?

Present and share your vision of tomorrow. Tell about everything that you see and do for one day is this future world. Bring your idea to life as a digital media creation of your choice.

> We are all cogs in the machine.



> "The essence of the beautiful is unity in variety. - W. Somerset Maugham

Created by Helen Marshall, "**The People's Monarch**" develops a sense British pride at the London Gatwick airport. This piece of artwork, not only depicts **Elizabeth II**, the Queen of the United Kingdom and the other Commonwealth realms at the time of her coronation and her Diamond Jubilee but it also represents **a proud multicultural Britain**.

The artwork is the size of a double-decker bus and combines **thousands of photographs** (5,500) of different BBC South East Today viewers **to create a single image that tells a story**. Helen Marshall says "this project proves that the photograph has a unique and simple ability to speak directly to all of us, no matter of our differences." It brings a sense connection to the people while portraying cultural diversity. One of the project's contributor highlights the fact that **no matter how much people adapt to another culture, people never lose their cultural roots.**

If you look up close, diversity may, in fact, be the true trace the contributors share in common. The same can be said about Londoners that bring their unique lifestyles and traditions into the city to create an ever changing and evolving **hybrid culture**. **Zoom in to get a close-up view of this artwork.**

The People's Monarch



Thank you for taking part in this journey with Cat.

By sharing your experiences and knowledge, by mapping this adventurous mission, by weaving connections and meeting up with others that are traveling the same learning path, you transformed this quest into a truly unique and wondrous experience.

Feel free to forge ahead with this empowering pursuit.

If you prefer, you can collect your findings and share a link on the Padlet.

PageOrama

Seek and you shall find Padlet

#40 BE A SEEKER

#SOURCE CODE

Storyboard Widget (Students)	http://tinyurl.com/seek-storyboard-s
Storyboard Widget (Teacher)	http://tinyurl.com/seek-storyboard-t
Post a Review Widget (Students)	http://tinyurl.com/seek-review-s
Post a Review Widget (Teacher)	http://tinyurl.com/seek-review-t
Review Example	https://tinyurl.com/review-ex
William Shakespeare Trivia Quiz	https://tinyurl.com/ws-trivia
Shakespeare's Life	https://tinyurl.com/life-ws
Shakespeare: The History of English	https://tinyurl.com/ws-htry-english
Recommendation Generator	https://tinyurl.com/Linkedin-rec-generator
Everyday Words and Phrases	https://tinyurl.com/ws-everyday-words
Shakespeare Meme Generator	https://imgflip.com/memegenerator/2013134/Shakespeare
Padlet Bard of Avon 101	https://padlet.com/ccatproj/bard101
Real or Fake Words Quiz	https://tinyurl.com/ws-lingo-quiz
Shakespearean Insults Infographic	https://tinyurl.com/ws-insults-infographic
Shakespeare Insult-O-Meter	https://tinyurl.com/ws-insultometer
Insults & Flattery Sheet	https://tinyurl.com/insult-flattery-battle
Shakespearean Translator	http://www.shmoop.com/shakespeare-translator/
Shakespeare's Plays Quiz	https://tinyurl.com/ws-plays-quiz

My Shakespeare Plays	https://myshakespeare.com/
It's Greek to me	https://www.purposegames.com/game/its-all-greek-to-me
What would Shakespeare say?	https://www.purposegames.com/game/what-would-shakespeare-say
A Post by the Bard	https://tinyurl.com/bard-fb-post
Romeo and Juliet - Teaser	https://tinyurl.com/romeo-juliet-teaser
Shakespeare's Plays Infographic	https://tinyurl.com/ws-plays
Tweet Generator	http://www.prankmenot.com/?twitter_message
Shakespeare's Globe 360	http://www.shakespearesglobe.com/discovery-space/globe-360
About the Globe Theatre	https://www.goconqr.com/en-US/p/8904180-About-the-Globe-Theatre-quizzes
Breaking News Guidelines	https://tinyurl.com/guidelinesBreakingNew
PageOrama	http://www.pageorama.com/
Londoners Widget (Students)	http://tinyurl.com/seek-londoners-s
Londoners Widget (Teacher)	http://tinyurl.com/seek-londoners-t
London Explorers Video	https://vimeo.com/170643306/bfd6b0a4ef
London Skyline Podcast	https://tinyurl.com/london-skyline-podcast
The Shard Widget (Students)	http://tinyurl.com/seek-shard-s
The Shard Widget (Teacher)	http://tinyurl.com/seek-shard-t
The World in One City Widget (Students)	http://tinyurl.com/seek-world-city-s
The World in One City Widget (Teacher)	http://tinyurl.com/seek-world-city-t
London Loves You Video	https://vimeo.com/158625035
Seek and You Shall Find Padlet	https://padlet.com/ccatproj/seek_findings

Camden Food Traders	https://tinyurl.com/camden-food-traders
EAT	https://vimeo.com/27243869
Eat Answer Garden	https://answergarden.ch/490899
English Breakfast Quiz	https://tinyurl.com/the-fry-up
Breakfast at Camden (Students)	https://tinyurl.com/breakfast-camden-widget-S
Breakfast at Camden (Teacher)	https://tinyurl.com/breakfast-camden-widget-T
Breakfast around the World	https://tinyurl.com/breakfast-infographic
Breakfast around the World Quiz	https://tinyurl.com/quiz-breakfast
Fish & Chips Widget (Students)	https://tinyurl.com/fish-chips-widget-S
Fish & Chips Widget (Teacher)	https://tinyurl.com/fish-chips-widget-T
Article for online food magazine	https://tinyurl.com/food-article-instructions
Tube Tongues Interactive Map	https://tinyurl.com/tube-tongues
Mind the Gap	https://tinyurl.com/about-mind-the-gap
If Tube Lines were People	https://tinyurl.com/tube-lines-ppl
Tube Riders	https://tinyurl.com/tube-lines-infographic
40 Things to do in London	https://tinyurl.com/40things-london
London 360	https://tinyurl.com/360-london
Tuber Map	https://tubermap.com/
Last Stop	https://tinyurl.com/last-stop-video
Last Stop Gallery	https://tinyurl.com/last-stop-gallery
Seek and You Shall Find Padlet	https://padlet.com/ccatproj/seek_findings

British Museum Gallery	http://vr.britishmuseum.org/
Museum of the World	https://britishmuseum.withgoogle.com/
British Museum Online Collection	http://www.britishmuseum.org/research/collection_online/search.aspx
Rosetta Stone	https://www.youtube.com/watch?v=yeQ-6eyMQ_o
From Hieroglyphs to Emojis	https://microbit0.blob.core.windows.net/pub/rydpygjs/British-Museum-Emojis-and-Hieroglyphs.pdf
Create a Photo Story	https://spark.adobe.com/
OneZoom Tree of Life	https://tinyurl.com/1zoom-treeoflife
David Attenborough on Darwin	https://vimeo.com/25978453
Talking Statues London	http://www.talkingstatueslondon.co.uk/statues.php
Podcast Tool	https://djpod.com/
QR Code Generator	https://www.unitag.io/qrcode
Pageorama	http://www.pageorama.com/
Mapping Tools	https://digitalstory.tools/category/mapping/
Speakers' Corner	https://tinyurl.com/about-speakers-corner
@TATE	http://slides.com/blaucloud/at_tate?token=9LV03oYj
Art Padlet	https://padlet.com/ccatproj/whyisartimportant
About Nam June Paik	https://tinyurl.com/paik-podcast
Performance Art	https://tinyurl.com/unlock-art

The Future of AI Widget (Students)	https://tinyurl.com/AIwidget-S
The Future of AI Widget (Teacher)	https://tinyurl.com/AIwidget-T
The People's Monarch	http://www.thepeoplespicture.com/zoom/
PageOrama	http://www.pageorama.com/
Seek and You Shall Find Padlet	https://padlet.com/ccatproj/seek_findings



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EXCEPT

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"_Poppies Fish & Chips" is a derivative of "Poppies Fish & Chips" by Vincent Li, used under CC BY 2.0

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Bus https://unsplash.com/search/bus?photo=yZ2-jK5ALTo

Coffee https://unsplash.com/search/drink-coffee?photo=NT3qP7WbmzE

Coffee_Camden https://unsplash.com/search/drink-coffee?photo=IPWSIC2OjUs

Fake News https://unsplash.com/search/fake-news?photo=6Xjl5-Xq4g4

Food https://unsplash.com/search/food?photo=5nkHbhrDbqc

Foodie https://unsplash.com/search/foodie?photo=i_xVfNtQjwI

Meal https://unsplash.com/search/breakfast?photo=y3aP9oo9Pjc

Notes https://unsplash.com/search/journalism?photo=CxYHfBkC0vs

Plan https://unsplash.com/search/plan?photo=RLw-UC03Gwc

South Bank https://unsplash.com/search/backpacker?photo=LHsESgNMJdE

Tube https://unsplash.com/search/tube?photo=Hz_9gPM24z4

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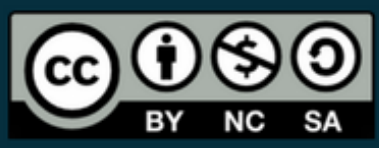


Appendix V

Communication Note to Participants of the 1st Cycle of Implemementation of CC

Hi Everyone,

My name is Patrícia. I teach English, but I'm also a Ph.D. student in Digital Media Arts. I am developing research on transmedia learning.
"What is transmedia learning?" you may ask. Well, think about different pieces of a story spread through many media platforms such as Vimeo, Facebook or Tumblr. Now, imagine that you can take part in the story, explore and expand it while learning about the topics you study in English. That's transmedia learning! It's about creating an engaging learning experience through a story that you can explore in multiple media.
To investigate if this is a valid idea, I designed a transmedia learning experience for 10th-grade students learning English like you. At this point, it is still a prototype project, and I want to improve it. That's when you come in. I am interested in your perspective on the project. Your feedback and your experience will help to understand how transmedia storyworlds can be used for learning and more importantly how the experience can be adjusted to suit your needs as a learner.

All the recorded data, for research, will be kept confidential. Your name will not appear on any document. The only identifying information that will be connected to your answers will be your age, gender, and class number (to keep track of your experience).

Now that you know a little about me, I would like to know you a bit better. Who are you online? Please, take this survey at **http://tinyurl.com/whoruonline**. I thank you in advance for your time and patience.

I hope you accept this challenge, and I look forward to meeting you.

May the force be with you young Jedis!



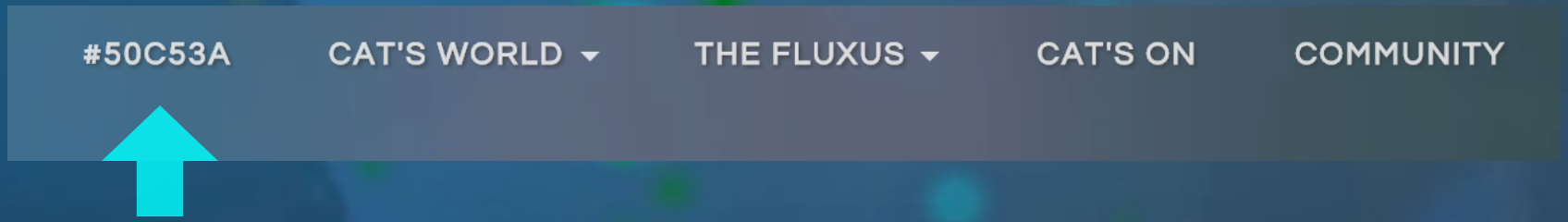
Appendix VI

Resources and guidelines provided to participants of the 1st implementation cycle

Connecting Cat

site http://tinyurl.com/ccatproj

Tracking --> check your site ID



* if you change browser, refresh the page and write down your new site ID

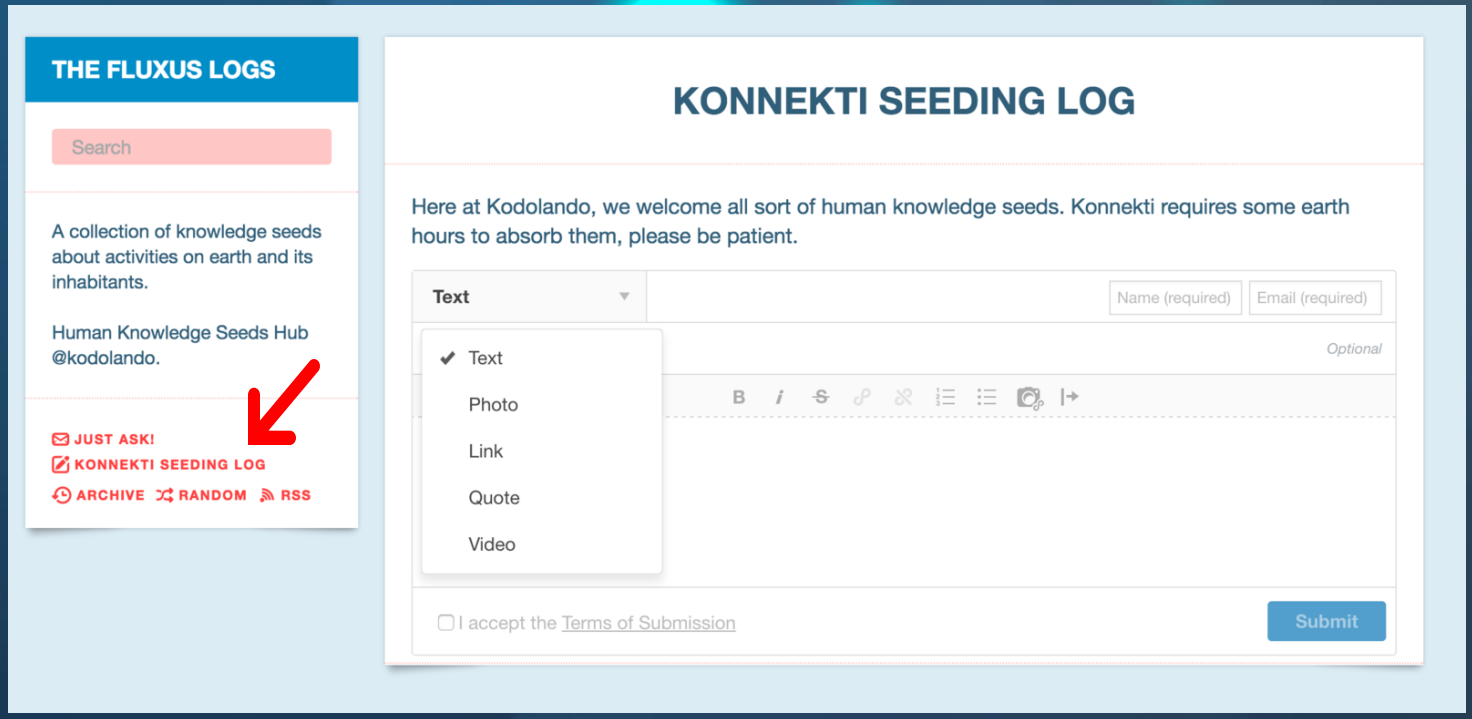
survey tracking

DEMO TRIAL @AERBP

Connecting Cat

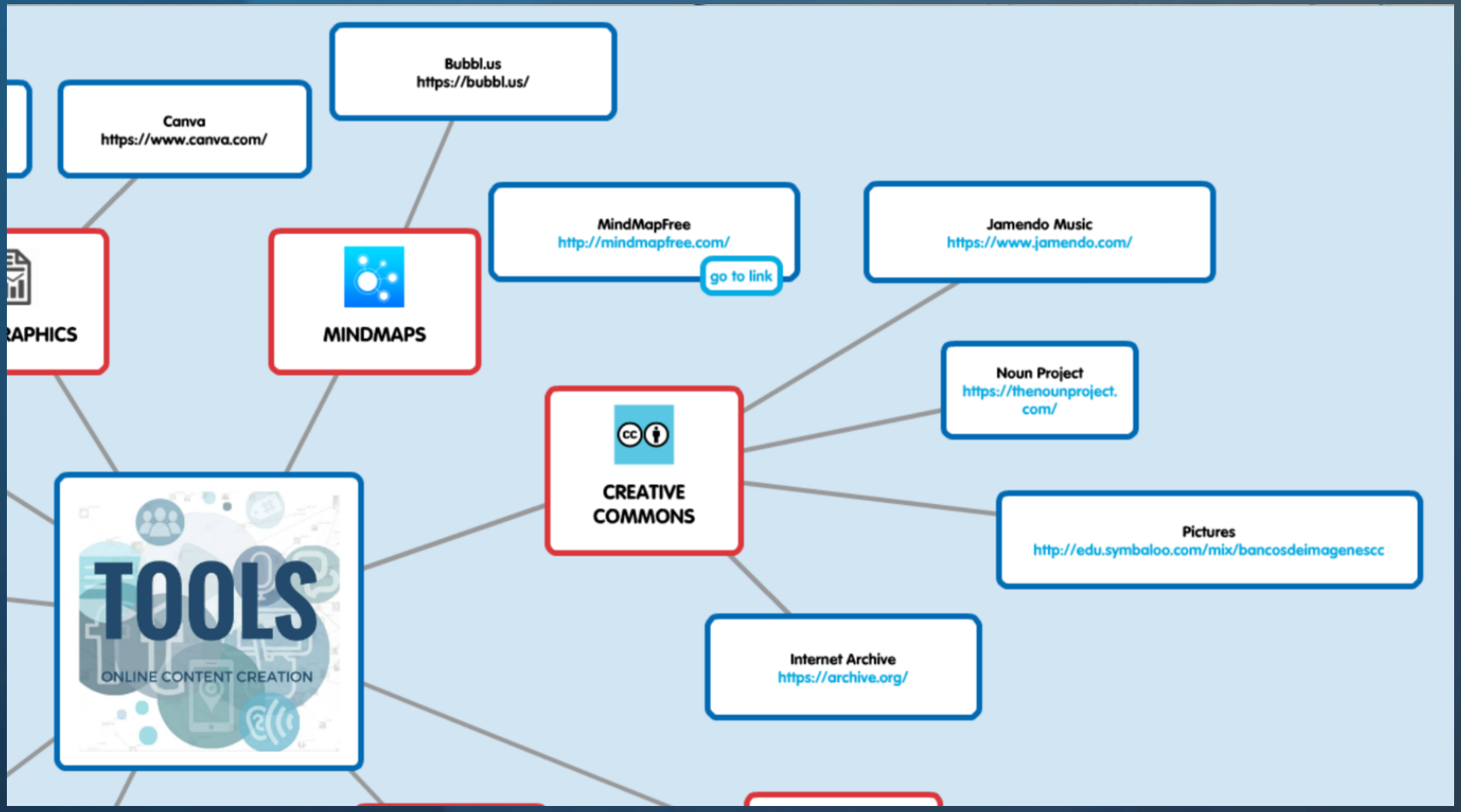
Fluxus logs
https://fluxuslogs.tumblr.com/

tag your posts with your user ID --> #CC00

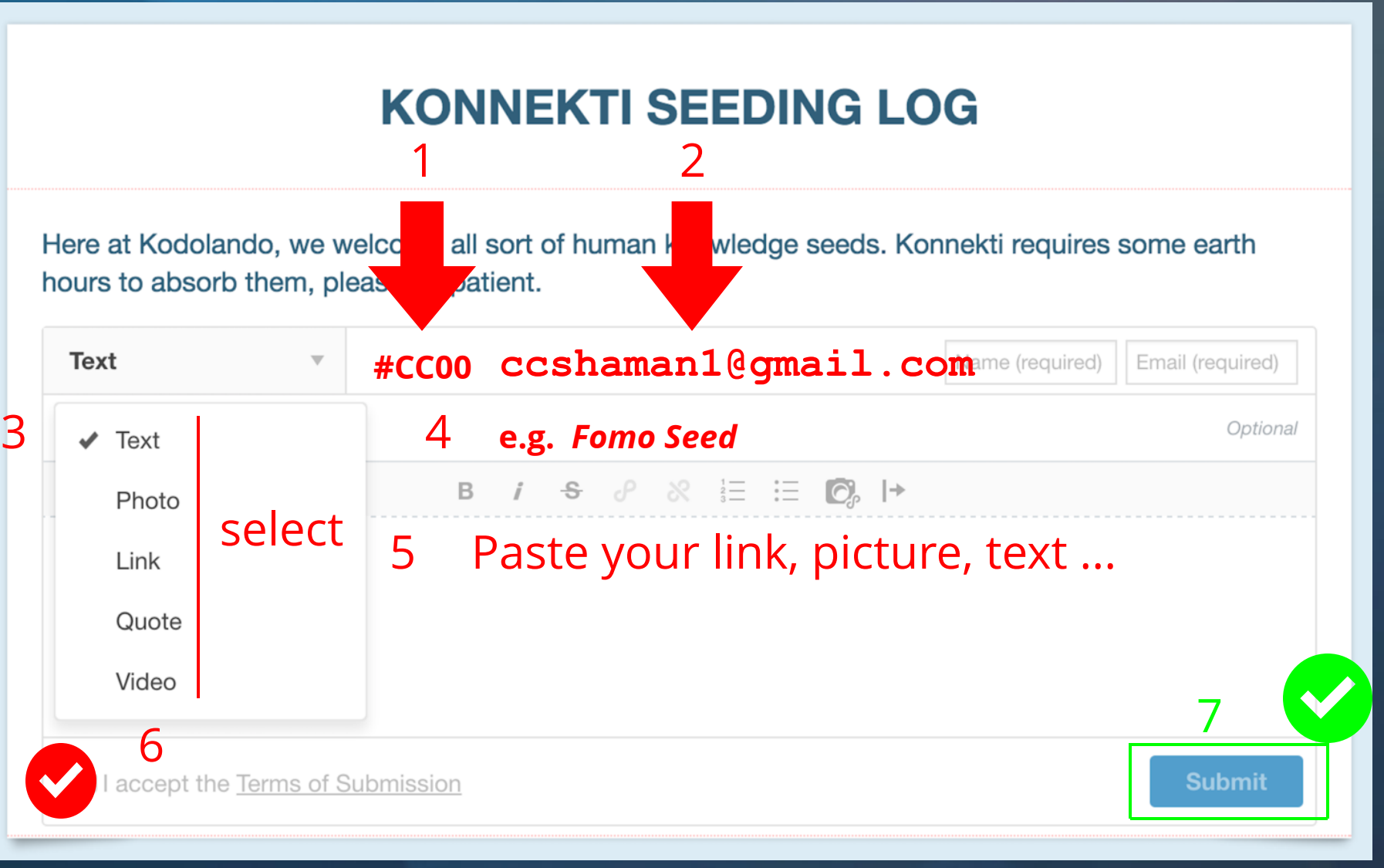


Connecting Cat

Content creation tools
http://tinyurl.com/create-ed-cc



Connecting Cat



Connecting Cat

Quest

AURASMA APP



QR CODE READER



CONNECTING CAT SITE http://tinyurl.com/ccatproj

WHO AM I ? http://tinyurl.com/cc-who-m-i

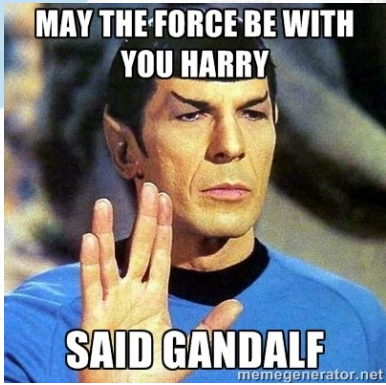
FLUXUS FLOW http://tinyurl.com/fluxusflow

FLUXUS LOGS https://fluxuslogs.tumblr.com/

SEEK AND YOU SHALL FIND http://tinyurl.com/seek-nu-find

FB CAT https://www.facebook.com/cat.konekt

EDMODO https://www.edmodo.com/connectingcat



Appendix VII

Feedback on activities provided to participants of the 1st cycle of implementation



JUST CLICK THE MESSAGE

ACCESS CODE 161705

THIS MESSAGE WILL SELF-DESTRUCT IN 06.03.2016

* use the right arrow key for the links

Connecting Cat

site http://tinyurl.com/ccatproj

Who are you online Form http://tinyurl.com/whoruonline

Feedback Form http://tinyurl.com/cc-feed

Cat's Facebook page https://www.facebook.com/cat.konekt

Edmodo link https://edmo.do/g/erxn4z Code erxn4z

Create the account as a student and follow the instructions given

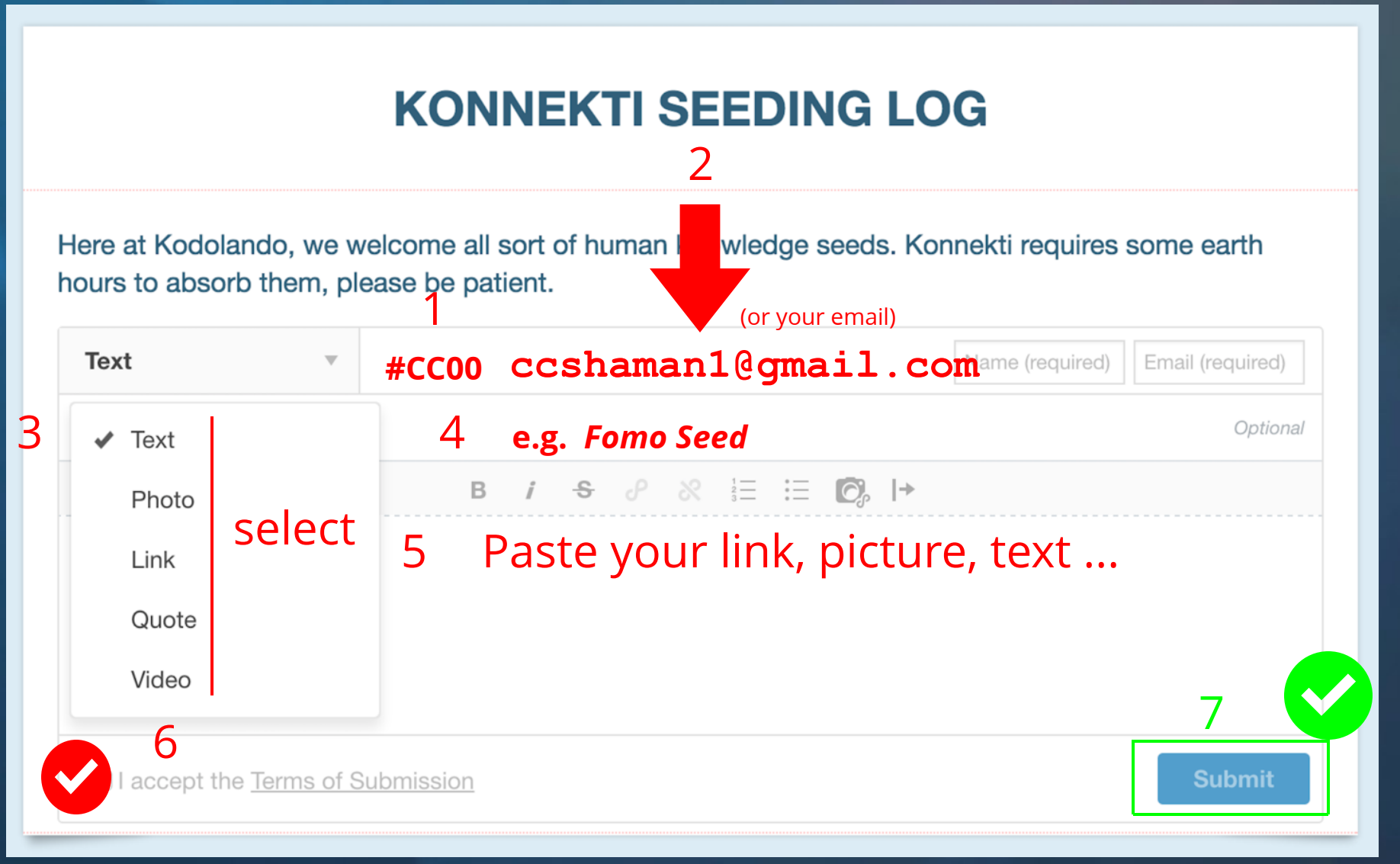
The Fluxus logs

Instructions to post next slide
Content creation tools http://tinyurl.com/create-ed-cc
Check the Issues & Typos slide

CC#

ccatproj@gmail.com

The Fluxus Logs https://fluxuslogs.tumblr.com/

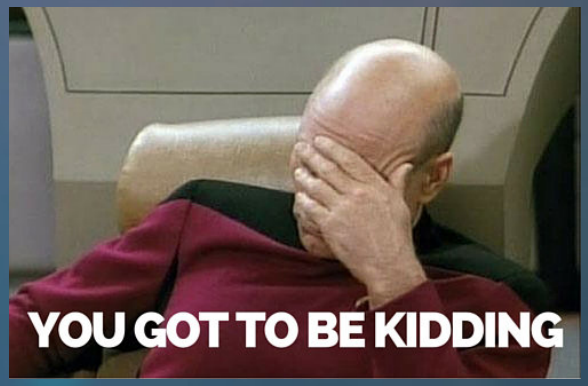


POSTS ISSUES & TYPOS

* minor flaws you can correct or issues you can solve (if you want to try it)

Click the pencil next to your CC#

- CC#03 & CC#04
- CC#10
- CC#13
- CC#20



True story. Really **PROUD** of your seeds.



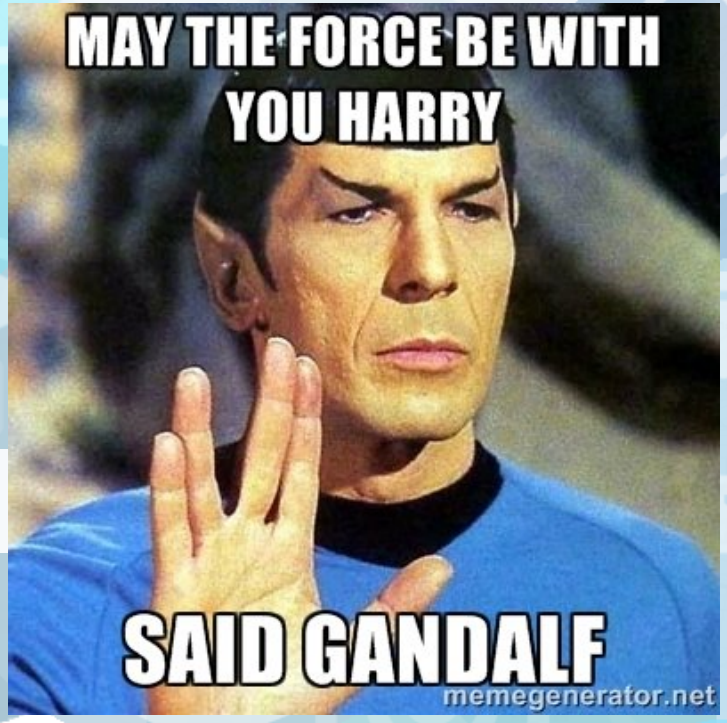
NEXT TIME YOU BLOG

#1 QUOTE YOUR SOURCES - AVOID PLAGIARISM!

There's no problem in sharing information you think it is interesting BUT you have to put the source reference.

#2 USE TAGS

Tags are useful to group related posts and tell the readers what the post is about


MAY THE FORCE BE WITH YOU HARRY
SAID GANDALF
memegenerator.net

Appendix VIII

Activities Plan – 2nd cycle of implementation

CONNECTING CAT

ACTIVITIES PLAN



FOCUS ON

CC 101 GET SAVVY
WEBISODE WHO AM I
CAT'S FACEBOOK PROFILE
CAT'S INSTAGRAM ACCOUNT

EXPLORATION GUIDE
https://tinyurl.com/whoami-cc

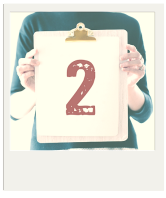




RESEARCH GOALS + DATA COLLECTION REQUIREMENTS

- a brief introduction to the storyworld and research goals
- attribution of users' identification number
- students answer an online profile survey
- overview of the project's resources

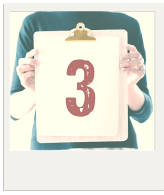
+/-15



CC 101 GET SAVVY

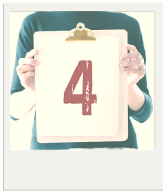
- presentation of basic information about creative commons licenses usage
- quiz/game about creative commons licenses

+/-15



WHO AM I?

.- students watch the webisode Who am I?
- reconstruction of the story plot through a brainstorm exercise **+/-15**



CAT'S DIGITAL FOOTPRINT

- students explore Cat's social media accounts
- based on activities suggested on the exploration guide, students create an intelligence report tracking the main character's activity online;

+/-30

_____

EXPLORATION GUIDE

SECTION 1 Students can select 1 activity from the 3 suggested
SECTION 2 Students are asked to create a digital artifact (infographic/mindmap/presentation) based on collected information -> Mandatory
SECTION 3 Students recreate a possible interaction with Cat through her Facebook page -> Mandatory



TAKING STOCK

+/-15

- students provide feedback on their learning experience through the padlet
https://padlet.com/ccatproj/feedback_activities
- discussion with peers and teacher/researcher participant about the activities and overall experience of the session

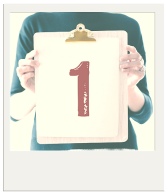


FOCUS ON

Motion Book Sequence ALLURE
Blog - FLUXUS LOGS
Interactive Video - SEEK AND YOU SHALL FIND

EXPLORATION GUIDE
https://tinyurl.com/cc-allure

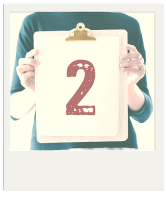




RECAP

+/-10

- recollecting the story through a brainstorming exercise
- overview of the planned activities for the session #2



MEETING THE FLUXUS

+/-30

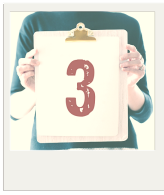
- students interact with the motion book sequence Allure
- based on activities suggested on the exploration guide, students gather information about the alien tribe

---

- EXPLORATION GUIDE

Suggested activities taking into account the topics "world of work" and "media"

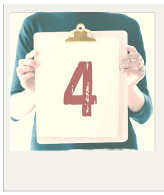
- page #3 "Angel Investor Wanted"
- page #7 "We shape our tools and then our tools shape us"



BLOGGING IN THE NAME OF HUMANS

.- students explore the blog Fluxus Logs
- presentation of guidelines on how to write and publish a blog post
- students select and reply to one of the Fluxus posts

+/- 20



TRACKING A QUEST IN LONDON

- students create their experience of the video "Seek and you shall Find" to be explored in session #3

+/- 15



TAKING STOCK

- students provide feedback on their learning experience through the padlet
https://padlet.com/ccatproj/feedback_activities
- discussion with peers and teacher/researcher participant about the activities and overall experience of the session

+/-20

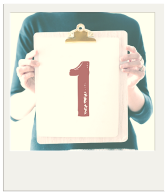


FOCUS ON

Interactive Video - SEEK AND YOU SHALL FIND
QR codes and augmented reality triggers QUEST AWOL

EXPLORATION GUIDE
https://tinyurl.com/cc-seek-guide

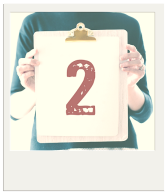




RECAP

+/-10

- recollecting the story through a storytelling exercise with a focus on the use of reported speech
- overview of the planned activities for the session #3



LONDON THROUGH CAT'S EYES

+/-30

- based on activities suggested on the exploration guide, students gather information about Cat's mission in London

---

- EXPLORATION GUIDE

Each group of students is assigned a different section of the guide. Each group must explore a given mandatory activity of the section and choose another from the remaining ones.

Alternative:

Suggested activities taking into account the topics "environment" and "consumerism" as replacement for the mandatory activity

- page #31 "Lost Worlds" - Take a stand (...) activity
- page #36 "At Tate Modern" (activity described on the Branding slide)



MISSING IN ACTION

.- students explore the triggers of the quest AWOL
- Students are invited to continue the story by creating three different clues that others can explore to solve the mystery (depending on the course of activities, students explore their peers' clues)

+/- 35



TAKING STOCK

- students provide feedback on their learning experience through the padlet
https://padlet.com/ccatproj/feedback_activities
- discussion with peers and teacher/researcher participant about the activities and overall experience of the project

+/-15



TOOLBOX

CONTENT CREATION TOOLS MAP
http://tinyurl.com/create-ed-cc

ESL LEARNING APPS + TOOLS
https://tinyurl.com/cc-eng-tools

CC 101 Infographic
https://tinyurl.com/creative-commons101

Connecting Cat is a prototype. Please help improve it by reporting bugs or typos that you come across. Thank you in advance.

ISSUES & QUESTIONS
ccatproj@gmail.com



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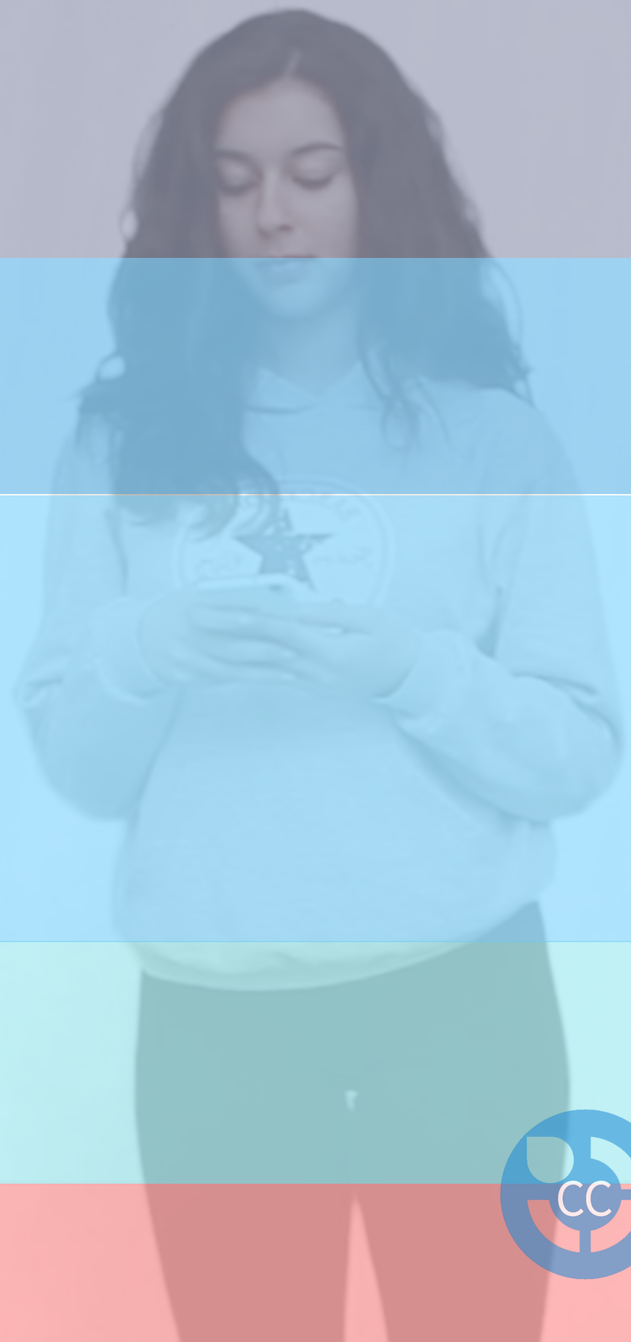
Photo by Annie Spratt
Photo by Brooke Lark
Photo by Damien Kuhn
Photo by Lukas Blazek
Photo by Morvanic Lee
Photo by Markus Spiske
Photo by Morvanic Lee

on Unsplash

Appendix IX

Resources and guidelines provided to participants of the 2nd cycle of implementation

ROUND 1





+/- 15 mins

UR CC ID https://tinyurl.com/ccat-proj-id

THE HUB http://ccat.site

WHO R U ONLINE https://tinyurl.com/cc-student-profile

RESOURCES https://tinyurl.com/links-cc



+/- 15 mins

CC 101

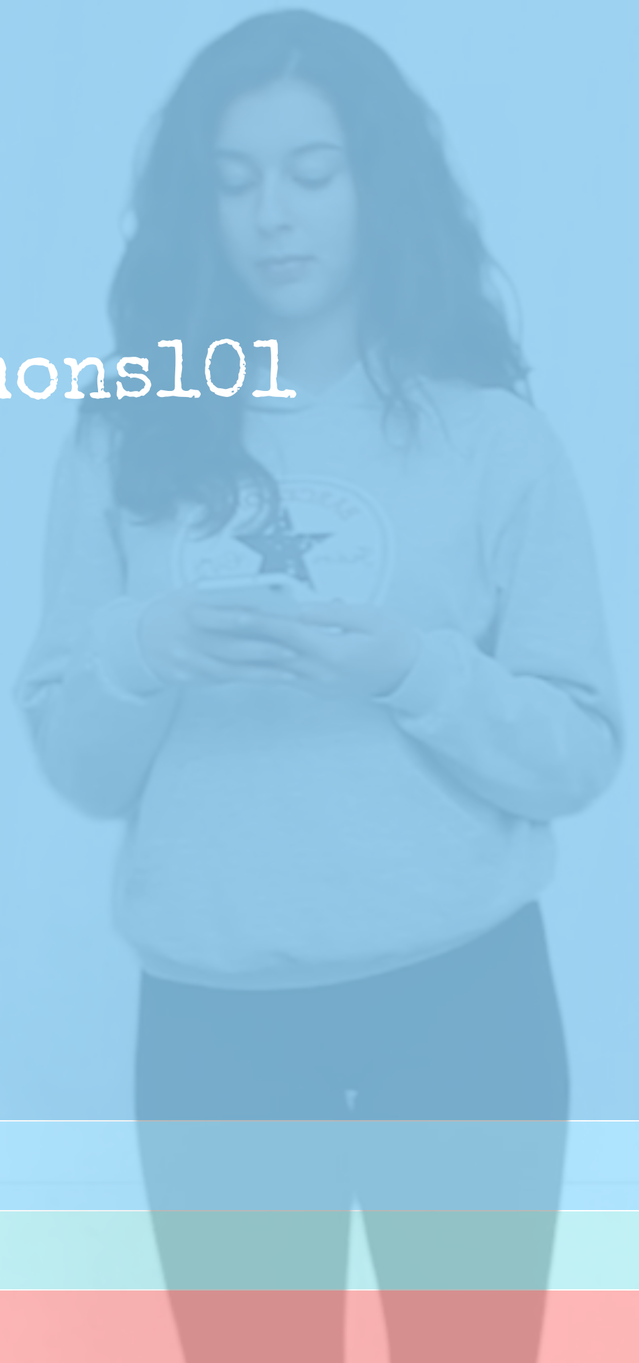
https://tinyurl.com/creative-commons101

CC 101 CHALLENGE

https://kahoot.it/

GAME PIN # 101978

Type your CC ID number e.g. CC#007





+/- 15 mins

WHO AM I?

THE HUB

http://ccat.site

VOICE YOUR OPINION

https://answergarden.ch/572535



+/- 30 mins

DIGITAL FOOTPRINT

EXPLORATION GUIDE https://tinyurl.com/whoami-cc

SECTION 1

Select 1 activity from the 3 suggested

SECTION 2

Create a digital artifact (infographic/mindmap/presentation) based on the collected information

SECTION 3

React to one of Cat's posts or share something with her

SEND YOUR REPORT



+/- 15 mins

TAKING STOCK

Feedback

https://padlet.com/ccatproj/feedback_activities

NEXT TIME

Go to the hub and explore the FLUXUS FLOW & SEEK and YOU SHALL FIND


MAY THE
FORCE BE
WITH YOU

ROUND 2

RESOURCES

THE HUB http://ccat.site

https://tinyurl.com/ccat-new

TOOLS

Online Content Creation Tools http://tinyurl.com/create-ed-cc

English Online Tools & Apps https://tinyurl.com/tools-apps-eng-infographic

GUIDES

Who am I Guide
https://tinyurl.com/whoami-cc

Allure - Fluxus Flow
https://tinyurl.com/cc-allure

Seek and You shall Find
https://tinyurl.com/cc-seek-guide

PADLETS

Who am I
https://padlet.com/ccatproj/who_am_i

Allure - Fluxus Flow
https://padlet.com/ccatproj/allure

Seek and you shall find
https://padlet.com/ccatproj/seek_findings

Feedback
https://padlet.com/ccatproj/feedback_activities



+/- 10 mins

GIVE FEEDBACK

Feedback

https://padlet.com/ccatproj/feedback_activities

Feedback

https://padlet.com/ccatproj/feedback_activities





1 enter the password

2 click the plus sign

3 copy/ paste your link

* you can edit your post by clicking on the pencil

Why Page O Rama?

- You need to put a page online *fast*.
- You want a full HTML page with images.
- You are tired using facebook.

How Page O Rama?

- Choose page name.
- Write your title.
- Write your page content.
- Add your email if you want to edit your pages.
- Click submit and you are published!.

Select page address

http://www.pageorama.com/?p=

1

4 Save page

Page Title

2

Don't forget to COPY the LINK

Page Text

Source

Styles

Format

3

here is the link -> http://www.pageorama.com



+/- 35 mins

FLUXUS FLOW

#1 Go to the hub and select Fluxus Flow

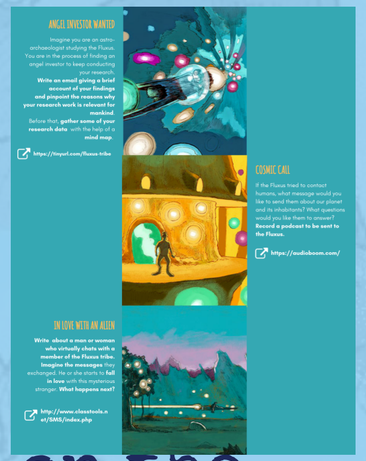
#2 What do you know about The Fluxus?

a) brainstorm about them here Fluxus AnswerGarden

b) Choose one of the following activities

write an email / create a podcast/ simulate a chat

- click the picture



c) save your work; create a link (pageorama) and post it on the allure padlet



FLUXUS LOGS

Fluxus Logs https://fluxuslogs.tumblr.com/

#3 Send a post to the Fluxus

(go to the hub and select the Fluxus Logs

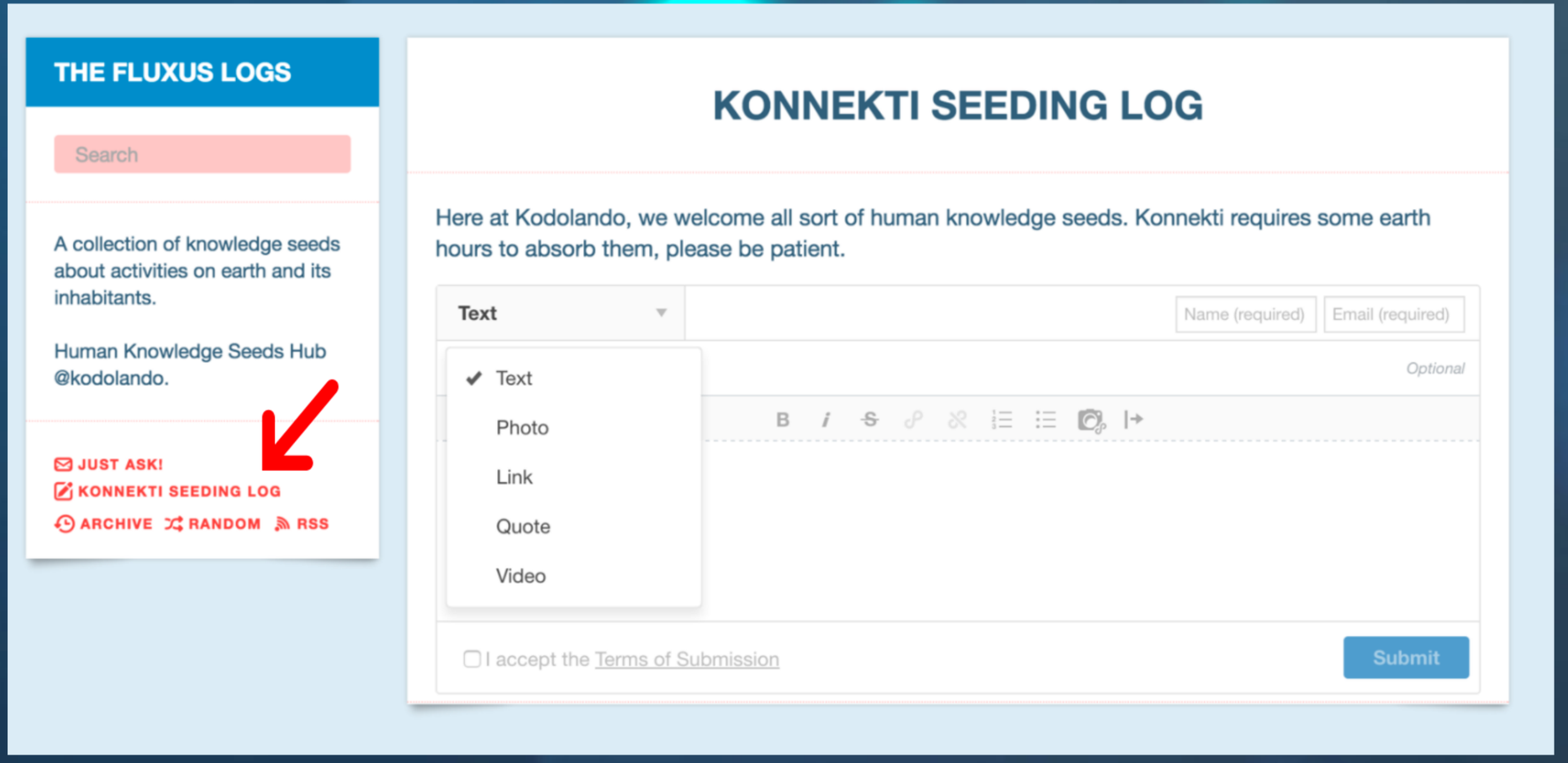
a) Pick one of the seeds requests posts

b) Submit your post through Konnekti Seeding log

* FOLLOW THE INSTRUCTIONS BELOW

Fluxus logs
https://fluxuslogs.tumblr.com/

tag your posts with your user ID --> #CC00



1- Pick one of the seeds requests posts

2- Submit your post through Konnekti Seeding log

KONNEKTI SEEDING LOG

1 2

Here at Kodolando, we welc all sort of human wledge seeds. Konnekti requires some earth hours to absorb them, plea patient.

Text

#CC00 ccshaman1@gmail.com

Name (required) Email (required)

3

- ✔ Text
- Photo
- Link
- Quote
- Video

select

4 e.g. *Fomo Seed*

Optional

B *i* ~~S~~

5 Paste your link, picture, text ...

6

I accept the Terms of Submission

7

Submit



+/- 30 mins

Seek and you shall find

THE HUB http://ccat.site

SEEK GUIDE https://tinyurl.com/cc-seek-guide

#1 Go to the Hub and create your Cat's adventure by selecting Seek and you shall find

2 Explore the Seek Guide - you will be working on ONE of the sections. You must complete one of the tasks and pick another task to work on (check the task map below)

3 Save your work; create a link (pageorama) and post it on the seek padlet

#CONTENTS

You must complete the task indicated on your section
+
choose another task from your section

It's greek to me p. 8

Breakfast at Camden Market p. 22

Last Stop p. 27

#04 [illegible]K THE STORY

#20 CHOW DOWN

#36 ART POWER STATION

#05 BARD OF AVON 101

#24 ON THE MOVE

#37 BOT POW WOW

#11 WORD ON THE STREET

#28 LOST WORLDS

#39 BE A SEEKER

The future of AI widget p. 38

The shard widget p. 12

Speakers' Corner p. 35

#41 SOURCE CODE

+/- 15 mins

TAKING STOCK

Feedback

https://padlet.com/ccatproj/feedback_activities

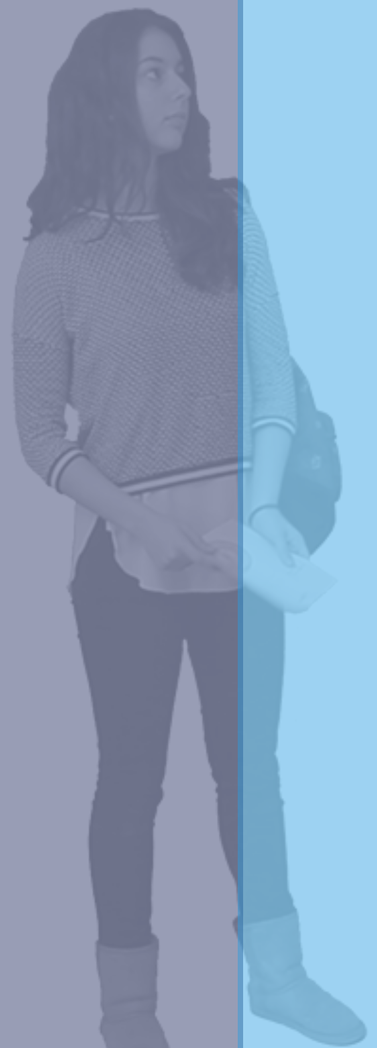
NEXT TIME

Download the App Aurasma + a QR Code Reader App





The Hunger Games by KendraMillerPhotography



ROUND 3


SECURED ACCESS
Property of The Elizabeth Arkham Asylum for the Criminally Insane

RESOURCES

THE HUB http://ccat.site

https://tinyurl.com/ccat-new

TOOLS

Online Content Creation Tools http://tinyurl.com/create-ed-cc

English Online Tools & Apps https://tinyurl.com/tools-apps-eng-infographic

GUIDE Seek and You shall Find https://tinyurl.com/cc-seek-guide

PADLETS

Seek and you shall find https://padlet.com/ccatproj/seek_findings

This is your Story https://padlet.com/ccatproj/urccstory

Feedback https://padlet.com/ccatproj/feedback_activities

-------- // --------

Feedback about the Project https://tinyurl.com/cc-experience-students



+/- 15 mins

GIVE FEEDBACK

Feedback

Seek and you shall find - Padlet

What did you explore and learn from
the interactive video "Seek and you shall find?

https://padlet.com/ccatproj/seek_findings

https://padlet.com/ccatproj/feedback_activities

https://padlet.com/ccatproj/feedback_activities





1 enter the password

2 click the plus sign

3 copy/ paste your link

* you can edit your post by clicking on the pencil

Why Page O Rama?

- You need to put a page online *fast*.
- You want a full HTML page with images.
- You are tired using facebook.

How Page O Rama?

- Choose page name.
- Write your title.
- Write your page content.
- Add your email if you want to edit your pages.
- Click submit and you are published!.

Select page address

http://www.pageorama.com/?p=

1

4 Save page

Page Title

2

Don't forget to COPY the LINK

Page Text

Source

Styles

Format

3

here is the link -> http://www.pageorama.com



AWOL

MISSING PERSON

MEGAN WILLIAMS



PLEASE SHARE

IT IS BELIEVED SHE HAS BEEN KIDNAPPED.
PLEASE SHARE THIS SO WE CAN FIND HER.
1 SHARE MAKES A DIFFERENCE.

IF YOU KNOW WHERE SHE IS OR HAVE ANY INFORMATION THAT CAN HELP THE INVESTIGATION, PLEASE CONTACT US.

MP INVESTIGATION

https://tinyurl.com/fb-awol



+/- 20 mins

AWOL



#1 Download on your mobile a QR Code Reader App

#2 Explore the Clues

* Aim your mobile cam at the QR Code
* Collect the information



+/- 35 mins

This is YOUR STORY

#1 PUT YOUR THINKING CAP ON

* This girl gave Cat a portal piece. What is this portal piece?
* Why does she have it?
* How did Cat get to the portal piece?

#2 BE A BOLD STORYTELLER

* Tell the rest of the story.
* Create 3 clues that others can explore and find out about your version of the story -> It can be a picture; a text or whatever you feel like creating.

USE THE CONTENT CREATION TOOLS -> http://tinyurl.com/create-ed-cc

#3 SAVE your work; create a LINK (pageorama) and POST it on the your story padlet



+/- 20 mins

TAKING STOCK

Feedback

https://padlet.com/ccatproj/feedback_activities

https://tinyurl.com/cc-experience-students



You can't stop the future

You can’t rewind the past

The only way to learn the secret

...is to press PLAY



Photo by Simone Acquaroli on Unsplash

Appendix X

Papers concerning the Research Project

- Rodrigues, P., & Bidarra, J. (2014). Transmedia Storytelling and the Creation of a Converging Space of Educational Practices. International Journal Of Emerging Technologies In Learning (Ijet), 9(6), 42. http://dx.doi.org/10.3991/ijet.v9i6.4134
- Rodrigues, Patrícia; Bidarra, José - Ao encontro da geração net delineando um projeto de aprendizagem transmédia. "inVISIBILIDADES [Em linha] : Revista Ibero-Americana de Pesquisa em Educação, Cultura e Artes". ISSN 1647-0508. No 7 (dez. 2014), p. 30-43
- Rodrigues, Patrícia; Bidarra, José - Design of a transmedia project targeted to language learning. In Artech 2015. International Conference on Digital Arts, 7, Óbidos, 2015 - "Creating digital e-motions [Em linha]: proceedings". Editada por José Bidarra [et al.]. [S.l.] : Artech International, 2015. ISBN 978- 989-99370-0-0. 7
- Rodrigues P., Bidarra J. (2015) Connecting Cat - A Transmedia Learning Project. In: Schoenau-Fog H., Bruni L., Louchart S., Baceviciute S. (eds) Interactive Storytelling. Lecture Notes in Computer Science, vol 9445. Springer, Cham https://doi.org/10.1007/978-3-319-27036-4_35 (Poster available at https://drive.google.com/file/d/0B0KyNqbgCgJ8dnVpaUp2dEpmLWs/view)
- Rodrigues, P., & Bidarra, J. (2016). Transmedia Storytelling as an Educational Strategy. International Journal Of Creative Interfaces And Computer Graphics, 7(2), 56-67. http://dx.doi.org/10.4018/ijcicg.2016070105
- Rodrigues, Patrícia; Bidarra, José - Towards a transmedia learning approach in ESL context. In iLRN 2017. International Conference on Immersive Learning, 3, Coimbra, 2017- "Immersive Learning Research Network [Em linha]: proceedings". [et al.]. [S.l.] : [s.n.], 2017. ISBN 978-3-85125-530-0-388.
- Bidarra, J., & Rodrigues, P. (2018). Transmedia Storytelling as a Framework for Effective Blended Learning Design. In G. Ubachs & L. Konings, The Envisioning Report for Empowering Universities. EADTU
- Rodrigues, Patrícia; Bidarra, José , Learning English through a Transmedia Storyworld - Submission (Working Papers), Connected Learning Summit 2018 – MIT Media Lab, Cambridge, MA (Poster available at https://drive.google.com/file/d/1f8MukcDz5g81EbRfaPy8s48u3LYD4R0R/view)

Transmedia Storytelling and the Creation of a Converging Space of Educational Practices

http://dx.doi.org/10.3991/ijet.v9i6.4134

Patrícia Rodrigues, José Bidarra
Universidade Aberta, Lisbon, Portugal

***Abstract*—As the media landscape evolves, educators are tapping into learning opportunities that meet the needs of 21st century learners. This paper provides an entry point to a relevant social problem related to education with Transmedia Storytelling, a story that crosses multiple forms of media, and each delivers a unique or specific contribution to the story experience. This study aims to contribute to the development and application of Transmedia Storytelling in educational settings. For this purpose a set of frameworks and educational models were selected based on research that points to the widespread use of transmedia learning experiences that are authentic, engaging, immersive, as well as support the development of new literacies. Ultimately, we attempt to demonstrate how the creation of a transmedia learning environment will allow the learner to develop and thrive in the digital age.**

***Index Terms*—Connected Learning, Game-based Learning, Location-based Learning, Transmedia Play, Transmedia Storytelling.**

I. INTRODUCTION

Storytelling is considered to be an innate human activity. As a core element of human communication and sense making, storytelling has been studied across a wide variety of fields ranging from literary criticism, cultural studies, linguistics to education. Not only do stories enhance individual development, they also imply a sense of cultural identity. Storytelling as a learning practice is not new. Stories naturally lend themselves to learning as they "help us connect new learning to existing personal knowledge as the patterns of narrative form connections to earlier knowledge in the brain, and are contextualized by existing social norms and values " [1]. Storytelling is an engaging activity "Imaginary worlds are enjoyed not only by those who visit them, but also by those who invent." [2] and used as a learning opportunity to create content and connect to context.

The 21st Century learners have taken the ancient tradition of storytelling to a new dimension taking advantage of the rich and immersive possibilities available on the media landscape - they "do not see narrative as text-based only; rather they view narrative as a multimedia enterprise" [3]. This new generation is weaving stories across multiple platforms and expanding learning and engagement through what is referred as Transmedia Storytelling.

Transmedia Storytelling has been defined by various scholars in different academic fields of study. At the moment, there is no consensual or canonical definition and given its wide scope of application, researchers are expressing the need for an interdisciplinary space of discussion and proposing the constitution of an independent field of study of Transmedia Storytelling.

For the purpose of this paper, Transmedia Storytelling "represents a process where integral elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience. Ideally, each medium makes it own unique contribution to the unfolding of the story." [4] - a definition proposed by Henry Jenkins in the context of a media convergence culture.

Transmedia Storytelling mirrors the dynamics existent in the media ecosystem. Media consumption has altered, and the audience is empowered to select how and where to access the story - "consumers become hunters and gatherers pulling together information from multiple sources to form a new synthesis" [5]. Digital learners are players who want to take part in creating stories and assume the protagonist role in their learning path, yet the educational system seems to neglect their context and skills or meet their learning needs. A new approach is needed, following a theoretical methodological discussion, allowing us to obtain a deeper insight on what works best in which realities, contrasting different potential perspectives.

The rupture of traditional assumptions and educational models has propelled educators into the exploration of diverse learning formats that might meet the needs of a "new learner" by incorporating new kinds of inputs, media consumption and production practices, global resources and accommodate the move into a more learner-centered environment.

The educational system needs to adapt and narrow the impact of these ongoing transformations by harnessing the power of the options available in an ever-changing media landscape. Moreover, teaching and learning have gained a new dimension outside the traditional educational institutions and opportunities are now available in an expanding learning ecosystem.

The creation of a transmedia learning environment might scaffold this change. Several elements of transmedia might be used in the design of learning experiences that create engagement and turn learners into active participants. Transmedia Storytelling involves world building and in this perspective it might extend to content world building and curricula. Herr-Stephenson & Alper, authors of the report *T is for Transmedia: Learning through Transmedia Play*, highlight that "transmedia can be a resource for learning in various contexts, including schools, expanded learning programs, and at home. (…) transmedia play is a way of thinking about children's experimentation with, expression through, and participation in a transmedia experience that acknowledges their

cultural engagement, respects their thoughts and feelings and builds up and upon 21st Century literacies" [6]. Hovious develops even further this idea by singling out seven different literacies [7] that might be found in Transmedia Storytelling projects: multimodal literacy; critical literacy; digital literacy; media literacy; visual literacy; information literacy and game literacy (problem-solving; use of logical and strategic thinking).

The following sections present a set of frameworks and educational paths through which a transmedia learning environment might emerge.

II. CONNECTED LEARNING

Connected Learning: An Agenda for Research and Design is a report that maps the issues and tensions concerning education within a networked media environment and provides a framework to design new learning practices. It focuses on the implications of this new media scenario and the challenges it might present in terms of learning and literacy as well as the development of "digital citizens" - "we are living in a historical moment of transformation and realignment in the creation and sharing of knowledge, in social, political and economic life, and in global connectedness" [8].

As the authors Ito et al. point out [8], Connected Learning is "reimagining education in the information age." Mishra in the report *Now&Next: Future of Engagement* [9] highlights six major trends (Table I) in terms of creation and consumption of media content:

Table I.
CREATION AND CONSUMPTION OF MEDIA CONTENT

Short Attention Spans	→	News and entertainment are consumed in byte-sized pieces on mobile devices, often on-the-go
Narrowing of Interests	→	People filter topics based on their interests
Social Serendipity	→	People discover new content according to what is shared in their networks or by like minded people, via sophisticated algorithms
Community Curation	→	Communities emerge around a shared interest or goal via content curation
Remix in Context	→	People remix photos, videos, music, art and share creative work in the context of time, place or event
Emergent Storylines	→	People continuosly curate their social network timeline with emergent narratives

The principles that build a Connected Learning experience embody these trends while channeling them to the fulfillment of educational goals (Table II).

Table II.
CONNECTED LEARNING

LEARNING PRINCIPLES	DESIGN PRINCIPLES		NEW SOCIAL MEDIA TRENDS
Interest-powered	Production-centered	→	People filter topics based on their interests
Peer-supported	Openly networked	→	People discover new content according to what is shared in their networks or by like minded people
Academically oriented	Shared purpose	→	Communities emerge around a shared interest or goal via content curation

Connected Learning is rooted in the active participation of learners and educators; it fosters the ability to connect people, resources and content. By assembling components, learners can build personalized pathways to accomplish educational goals - "the integration of personal in-class and out-of-class experiences, collaborations and resources leads to learning experiences that suit the learners' specific needs" [8].

In the educational landscape, the Connected Learning framework addresses challenges such as: 1) lack of connection between formal education and learners' social contexts; 2) the need for social connection- learning is meaningful when it is a part of valued social relationships and shared practice, culture, and identity; 3) the need to enhance civic engagement - learning environments and civic life thrive when all members actively engage and contribute.

The concept of Connected Learning is recent and therefore still lacks a more precise configuration since teachers and learners are still sorting out how to find effective ways to assemble all the options required to build a learning experience from a wide and complex scope of choices. However, there seems to be consensus among researchers in what regards the implementation of an educational shift; similarly to Connected Learning, the report *System Upgrade: Realising the vision for UK education* [10], addresses 12 key issues while providing recommendations for each theme: connect; share; analyze; assess; analyze; apply; personalize; engage; streamline; include; know; compute and construct. These are actions that clearly put into evidence the use of the literacies one might find in transmedia projects.

More than a resource, transmedia is a tool to be valued in the construction of expanded learning experiences that address "(...) some of the most pressing challenges facing education today. Through immersive, interconnected, and dynamic narratives, transmedia engages multiple literacies, including textual, visual, and media literacies, as well as multiple intelligences" [6]. In the report, *T is for Transmedia: Learning through Transmedia Play* [6] it is possible to find elements that might forge a connection between the learner's media participation habits and learning.

III. TRANSMEDIA PLAY

Based on the lives of children 5 to 11 years old, the report *T is for Transmedia: Learning through Transmedia Play* [6] identifies links between transmedia and learning bringing forward key elements of Transmedia Play and providing a set of principles for Transmedia Play experiences.

Alper and Herr-Stephenson define Transmedia Play "as a way of thinking about children's experimentation with, expression through, and participation in media" [11].

According to these authors, Transmedia Play favors learning in different ways: 1) promotes new approaches to reading, as children must learn to read both written and multimedia texts (across multiple media) and deeply (digging into the details of the narrative); 2) encourages joint media engagement, providing opportunities for families to experience transmedia together; 3) can support constructivist learning goals - it involves exploration, experimentation, and remix, which emphasize the active role of the

learner in creating knowledge by working to make connections among information in a specific context [11].

Transmedia Play fosters learner-centered practices and is grounded on the knowledge acquired by children while playing video games, telling stories and exploring media. Transmedia Play develops literacy and promotes experiential learning since it implies:

1. Resourcefulness - creative thinking to solve challenges.
2. Sociability - communications among peers mediated by media/ technology.
3. Mobility - use of mobile devices and the movement between media platforms.
4. Accessibility - access from different points of entry and definition of a trajectory according to singular contexts and types of access.
5. Replayability - the act of revisiting and exploring worlds that require multiple visits.

Besides pointing out the pedagogical potential of Transmedia Play, the authors stress the fact that though these may act as starting points, they require further reflection among researchers, specifically on how to best leverage the possibilities of transmedia learning - "(...) under what conditions transmedia supports social skills and cultural competencies, as well as digital, textual, visual, and media literacies" [11]. Ethical and legal issues should be addressed too, namely the sharing of content online.

Transmedia Play entails another dimension targeted to a wider audience. The concept is also used to refer to ways for users to interact with their IP across multiple media devices in a variety of spaces. In other words, Transmedia Play provides moments for audiences to access multiple points of entry to a transmedia world. Transmedia games are an emergent art form and storytelling practice rising from the contemporary convergence culture. Transmedia games, like computer, video or mobile games, develop literacies that go beyond reading and writing. Given their mechanics and the multimedia interactions that constitute them, they require and develop new literacies. The following section aims to explore ways in which games may afford learning, whilst part of Transmedia Play.

IV. GAME-BASED LEARNING

In the last two decades, video games became increasingly popular. During this time, they have been extensively studied by educational researchers to explore their potential for learning purposes. Video games, especially massively multiple online role-playing games (MMORPGs) present elements that can be used for the creation of interactive learning environments and constitute a space that fosters learning of various types of knowledge - knowledge of a world's infrastructures and world logic is important for audiences' understanding of non interactive worlds "(…) such knowledge gains new importance in an interactive world, where it can be used directly by the player who is a participant in the world whose goals and objectives cannot be completed without that knowledge" [2]. Moreover, MMPORGs engage users to participate - "Participation in an MMORPG is collaborative (...) to an extent everything that happens within an online virtual is automatically a part of that world" [2]. From this perspective, gamers are also world builders bringing forward all kind of skills to complete a goal. More than games, they are learning laboratories in which learners can experiment.

Gee argues for the importance of video games in learning [12] and suggests a set of learning principles that are built into video games; among them the author points out to the relevance of situated meaning - verbal information gains meaning when associated with images, actions, experiences and goals in the game and and highlights the fact that games are complex systems and form of model based reasoning as they encourage players to think on how variables come together so that they solve problems and accomplish goals.

Games favor the manipulation of content. They have been used in the context of different subjects ranging from history to science. *Assassin's Creed*, for instance, allows the learners to "replay history" [13]. In the science field, "Simulations and games have great potential to advance multiple science learning goals, including motivation to learn science, conceptual understanding, science process skills, understanding of the nature of science, scientific discourse and argumentation, and identification with science and science learning" [14]. Games are also spaces in which learners can manipulate language - "The rich multimodal environments that games provide function to ground language learning in the situated context of its meaning and use [15], thereby enabling meaningful language acquisition to take place. "They allow the grounded use of language in a rich context, both virtually and, in many cases, socially" [13].

Games are redefining the nature of learning. Video games are in fact learning scenarios in which production of knowledge takes places; such is visible in *Theorycrafting*. As important as the game itself are the participatory spaces constructed around it. These spaces develop collaborative processes and foster the motivation to learn. As an assessment tool, the player's logs allow to map decisions in the course of a player's problem solving process. Equally relevant to learning is the game design. It provides the support to develop the gaming experience via context and, mentoring acting as a teacher to the player. Games can also be used as creative tools allowing learners to explore worlds constructed by them. Different dimensions of the game address different aspects of the learning process such as motivation, design, assessment, and collaboration:

1. Motivation - Gee points to the fact that the game is based on the recognition that learning is a deep motivation for the human [15]. Learning within the game has to be appealing and engaging which implies, according to Gee, to explore the motivation for learning within the human.
2. Design - The game design is crucial because it lends itself to mentoring and teaching functions similarly to the teacher. It shapes the players' goals, decisions and actions but doesn't take away their freedom of choice and accountability in the decision-making process. According to Gee, it also allows the convergence of various forms of exposure, description and languages that promote the articulation of different types of knowledge in the act of play [16]. Through *Scratch* (a platform to create games, interactive stories, animations and music), Kafai and Peppler put into evidence that adolescents are engaged in the

game design creative process to the extent that they develop it in their spare time spontaneously [17]. As an interactive form of art, the authors highlight three dimensions that are explored in the creation of games: technical, critical and creative and argue that the combination of the three develops gaming fluencies without the need for instructional support.

3. Assessment - Engagement in the game is paired with ongoing assessment process [16]. Games more than articulating knowledge, provide ways to assess problem-solving skills, quality of choices and decisions putting their impact into perspective in short and long term. Through query logs or discussion boards, it is possible to track the player's performance and more importantly the knowledge building process and interactions.
4. Collaborative space - Games create social engagement "most positive social engagement in and around games involves, in part, players acting and thinking like designers"[2]. Gee and Hayes point out that players create nurturing *affinity spaces* - "open spaces where groups of people are drawn together because of a shared interest or engagement in a common goal (…) Affinity spaces are able to bridge barriers of age, race, socio-economic status, and educational level, and thus allow each user to participate as he/she chooses" [18]. Another phenomenon emerging from games, in particular MMORPGs, is *Theorycrafting* - " an exemplary form of engagement with participatory media" that "entails the use of mathematics, logic, experimental design, and writing" [19]. It is a social and collaborative practice that promotes discussion and interpretation of experiments results - " within the space of a single website or blog, students can publish, comment, edit and update" [19]. It is a multifaceted activity that encourages community participation and contribution.

Games are conducive to social, experiential and situated learning that may lead to the acquisition of critical thinking, development of creative and collaborative practices, as well as, put into evidence multiple perspectives, social awareness, responsibility and media fluency [20]. There is reason to believe that learner-driven demand and anticipated boost in effectiveness will facilitate an increasing uptake of serious games in the short term, even if simulations have a longer association of its use to support education and training – namely in applications for business, health, and military training. In any scenario, institutions and educators will need extra support when selecting, repurposing and using games or simulations in their practice, often trying to overcome factors such as time pressure, lack of experience, shortage of resources, etc. In many cases off-the-shelf games can be successfully introduced into educational processes, always a good decision as the creation of high-quality educational games has a prohibitive cost.

Context is a key aspect in the learning process. Location-based games, in particular, allow the player to relate knowledge with physical activities situated in the real world. Similarly, in a transmedia experience a player/user can be emerged in the storyworld via context through location-aware events - such is visible, for instance, in the campaign *Unlock the 007 in you* in which passengers were challenged to complete a mission in less than 70 seconds in a train station [9].

The idea of learning as context-dependent is at least a decade old, but the use of mobile devices added new meaning to the term situated learning [21]. Location-based learning is becoming one of the most pervasive uses of mobile devices, and it has increasingly become the focus of attention in the educational community. The following section aims to tap into some of the issues that are rising in this field.

V. LOCATION-BASED LEARNING

Location-based learning leverages the technology advancements of mobile devices - "Mobile phones are becoming context-aware, with GPS positioning, recognition of objects by infrared or wireless tags, and automatic interpretation of images. They are offering opportunities to support new forms of learning through contextual support for field trips, location-based guides, environmental studies" [22]. This rather new designation usually refers to virtual experiences played out in real world spaces. This last aspect makes a difference and identifies the genre more specifically. In general, contextualized clues can only be discovered via real world spaces with the aid of GPS devices that are becoming common amongst students these days.

Learners are active in different contexts and change their learning contexts. Addressing this issue, educators are now focused on understanding context, learning outside the classroom and how this can be supported through mobile technologies. Mobile learning or augmented reality use are not new to educators yet they aren't common practices in school - "many teachers are unaware of augmented reality games (...) and aren't prepared to use them effectively in their classrooms" [23].

Taking advantage of the use of augmented reality, Witan argues it is a tool for learning as it facilitates the visualization of abstract concepts; allows the learners to develop scientific inquiry skills, design thinking and creativity. Augmented reality eliminates barriers existent in the real world - "Through augmented reality, students are able to manipulate physical forces in ways that are impossible in real life" [23] or allow learners "to explore relationships of objects and situations that aren't accessible in the real world" [23]. It also induces learner-centered practices - learners can explore at their pace and experience from different perspectives. Augmented reality can be used as a production tool. Through the *Imaginary Worlds* project, learners created their augmented reality games by designing virtual locations and linking them to fiduciary markers, and placing them at locations around their school [23] - more than learning facts, learners were engaged in active learning and generating new knowledge.

The advent of participatory culture transformed the way learning is mediated. It created a shift from the individual to the social and from the user to the producer. In this context, learners express their views through content creation tools and share them in a networked environment. Mobility and the development of mobile technology, as well as, the use of augmented reality brought on a new dimension - the integration of the digital with the physical world; "(...) mobility allows for the broadening of hybrid possibilities, namely bringing a digital layer to physical space where none was possible before" [24]. The impact

of this shift is most visible in the case of storytelling. Locative storytelling applications allow a user to place story elements (digital images, videos, instructions, clues, etc.) at specific geographic locations using the applications' cartographic interface, in other words, stories can now become a situated experience in the geographic space - "(...) what might be otherwise be salient but abstract information when read on a computer screen can become something potentially more impactful when consumed or engaged with on location" [24].

Witan argues that the use of creative tools such as *Aurasma*, a mobile augmented reality application that allows a user to attach a digital piece of content to a real world marker, will enable the possibility "to hand off the creation process to students so that they can learn not only as consumers of technology but also as designers" [23]. Wagner reinforces this idea by pointing out that using "Aurasma to scaffold narrative game design and situated learning experiences suggests that augmented reality has a strong affordance for supporting creative expression *in situ*" [24].

For mobile learning, we should look for those augmented reality eco-systems that can be used in daily learning activities. They should be open source, or free, and user-friendly since they are going to be used by teachers that in general do not have programming knowledge. With current augmented reality technology, it is already possible to create augmented reality content to layer over educational materials. For example, the teacher can use QR or Microsoft tags to add a layer with text information or a link to a web page in a printed homework sheet providing additional information to students. The creation of location-based learning experiences requires the examination how contexts for learning are created through continual interactions between people, technology, and settings [25] and how they can be supported and maintained. The challenge lies in how to promote effective interactions between learners and the physical environment.

It becomes clear through the analysis of different educational frameworks and pedagogical approaches, such as location-based learning that there is an effort to bridge the gap between formal and informal learning environments and to reach learners taking into account their context. Nevertheless this shift implies a series of challenges in what regards its implementation. Educators need to reflect upon the emerging trends in education and what has already been accomplished on the field so that they can best suit the needs of the learners they have in their classroom. The following section aims at providing examples of immersive educational projects that encourage the restructuring of teaching and learning practices through Transmedia Storytelling.

VI. TRANSMEDIA STORYTELLING EXPERIMENTS

Transmedia learning allows educators to combine the affordances of digital technologies with learners' real life experiences and apply learner-focused pedagogies. It applies storytelling techniques combined with the use of multiple platforms to create an immersive learning landscape, which enables multivarious entry and exit points for learning and teaching [26]. In the case of the digital novel *Inanimate Alice*, a transmedia resource, learners engage in the participatory practice of creating episodes for the series. The educational project by Kate Pullinger and Chris Joseph presents a universe that unravels across different media platforms. In terms of structure, the authors used a spiral approach. Within each series, five in total, the episodes become gradually more complex but allow the learner to visit and revisit the story at appropriate times and places within their learning development [26].

Alice's adventures take place in a game like world, in which learners are "direct participants in helping the story to unfold across multiple platforms" [26]. It is an interactive audiovisual experience that integrates games and puzzles to enhance the storyline. Interactivity is embedded in the story through Baxi, Alice's handheld device, and Brad, Alice's virtual friend, with whom she chats on the Baxi. The integration of these elements gives the user autonomy to explore the story, unfold it in different directions and provides different entrance and exit points to the story.

Learners take part in Alice's world by co-creating content. They have access to the photo story pages, individual frames, scripts, music tracks and comic book art - resources that they can mash up and use to enhance their photos, drawings and texts. The creators have also integrated a content production tool - *Snappy*, an Adobe Air application, that allows learners to create interactive web presentations including text, images and audio. The project also provides means to distribute and share the learners' artifacts via applications for iPad, iPhone, Kindle Fire and Android. This allows the learners not only "to be individual producers but also to engage on collaborative sharing, joint creativity and proliferation of knowledge across the globe" [26].

Inanimate Alice's episodes can be used to explore content in different subject areas. The project includes lessons, lesson plans and multimedia components that can be used on an interactive whiteboard. Educational communities are also connected through the social learning platform Edmodo. Alice's story also addresses the topic of global citizenship - she is a citizen of the world and learners can connect with Alice's multicultural life and friends as she travels the world and is faced with cultural challenges and issues.

The project *Inanimate Alice* encourages teachers and learners to step beyond the story and explore it in relation to the learner's environment; it encourages the use of a broad spectrum of media literacy skills. It promotes the creation of a dynamic learning ecosystem in which educators can use different learning models and explore a wide variety of topics in order to suit the learners' needs.

Aimed at creating opportunities for exploration, interpretation and expansion through an immersive learning experience, the project *Aventuras no Guadiana* [27] experimented with the use of a gamebook. It is targeted to the Portuguese elementary learners and seeks to promote collaborative, engaging and effective practices to explore content in the social studies area.

The gamebook is an interactive ebook that combines the features of an ebook with those of games. *Aventuras no Guadiana* provides different entry and exit points to the story and encourages the learners to explore geographic and environmental elements related to the river Guadiana. To engage the learners, a set of tasks is provided to unfold the story, as they explore widgets, videos, multiple-choice quizzes and other multimedia elements. The crea-

tors of this prototype, Bidarra et al. [27] stress the need to integrate a multimedia dimension in the artifact so that it can generate multisensory experiences thus becoming more immersive. Ultimately, the creators seek to empower the learner to define the path to discovering and unfold the story.

Examples of other story worlds that might provide context and scaffold immersive learning experiences are: *Rockford's Rock Opera*, targeted to pre-school and elementary learners; the transmedia mystery series *Ruby Skye Pi* that combines web episodes, games and character sites or *Collapsus: The Energy Risk Conspiracy*, a documentary with a fictional storyline that uses game elements.

VII. CLOSING DISCUSSION

This article sought to highlight and gather perspectives, across a variety of educational fields of study that may be used to ground the creation of a transmedia learning experience.

In the digital age, educators are confronted with significant disruptions: a changing media landscape; the rupture with traditional forms to deliver instruction, as well as, a fast paced development of mobile technologies and the inherent impact on the educational context. Nevertheless, this new era brought forward unprecedented possibilities to develop learning and numerous forms to design learning experiences.

The learning frameworks and learning models presented show a consensus when it comes to designing a learning experience - it must be engaging, encourage collaboration, develop creative thinking and problem- solving skills. All of these are on high demand if one takes into consideration the interconnected and media-charged context of the learner.

Assuming that the goal of an educator is to prepare learners with knowledge and skills so they thrive in the "real world," one has first to identify what the challenges of that world are and adjust the learning process according to it. Transmedia Play research is grounded in children's interactions with the media around them and their learning design principles are in accordance with that reality. Similarly, Connected Learning picks up from the ways teenagers interact on social networks and express themselves through the creation of artifacts online to channel these processes to learning goals. The research field of Game-based Learning has provided evidence over two decades that games cultivate essential developmental skills in players and addressing the mobility of learners and the increased use of augmented reality applications, Location-based learning presents strategies to use it in an learning environment. It is, in fact, meeting the learners' needs according to their context.

Transmedia projects, like *Inanimate Alice*, show that the creation of such story worlds can be used for the fulfillment of educational goals and support the implementation of strategies that combine effective storytelling with transmedia techniques. They reach out to learners on their terms, creating enhancing and spreading content in a rich and fruitful way. The evidence gathered also suggests that the creation of a transmedia learning environment asks for an urgent redefinition of curricular learning, taking learning processes closer to the actual contexts where people socialize, entertain and learn in informal ways.

REFERENCES

[1] S. J. Warren, J. S. Wakefield, and L. A. Mills, "Learning and teaching as communicative actions: Transmedia storytelling", Cutting-edge Technologies in Higher Education, no.6, pp. 67-94, 2013.

[2] M. J. P. Wolf, Building Imaginary Worlds: The Theory and History of Subcreation. Routledge, 2013.

[3] E. Bonsignore, A. J. Quinn, A. Druin, and B. Bederson, "Sharing stories 'in the wild': A mobile storytelling case study using StoryKit", ACM Transactions on Computer-Human Interaction (TOCHI), vol. 20, no. 3, p. 18, 2013. http://dx.doi.org/10.1145/2491500.2491506

[4] H. Jenkins, "Transmedia 202: Further Reflections", Confessions of an Aca-fan, http://henryjenkins.org/2011/08/-defining_transmedia_furt her_re.html. 2011.

[5] H. Jenkins, "Confronting the Challenges of a Participatory Culture (Part Six)", Confessions of an Aca-fan, http://henryjenkins.org/2006/10/confronting_the_challenges_of_5.html. 2006.

[6] R. Herr-Stephenson and M. B. Alper T is for Transmedia: Learning Through Transmedia Play. USC: Annenberg Innovation Lab, 2013.

[7] A. Hovious, "The 7 Literacies of Transmedia Storytelling", http://designerlibrarian.wordpress.com/2013/11/21/the-7-literacies-of-transmedia-storytelling/#comment-1271. 2013.

[8] M. Ito, K. Gutiérrez, S. Livingstone, B. Penuel, J. Rhodes, K. Salen, J. Schor, J. Sefton-Green and S. Craig Watkins, Connected Learning: An Agenda for Research and Design. Irvine, CA: Digital Media and Learning Research Hub, 2013.

[9] MSL Group, "Now & Next: Future of Engagement", http://peopleslab.mslgroup.com/peoplesinsights/annual-report/. 2013.

[10] R. Noss, R. Cox, D. Laurillard, R. Luckin, L. Plowman, E. Scanlon, and M. Sharples, System Upgrade - realising the Vision for UK education, London Knowledge Lab, ESRC/EPSRC Technology Enhanced Learning Programme, 2012.

[11] M. Alper and R. Herr-Stephenson, "Transmedia play: Literacy across media.", Journal of Media Literacy Education, vol 5, no. 2, 2013.

[12] J. P. Gee, "Good video games and good learning.", Phi Kappa Phi Forum, vol. 85, no. 2, THE HONOR SOCIETY OF PHI KAPPA PHI, p.33,2005.

[13] C. Steinkuehler and K. Squire, "Videogames and Learning", Cambridge Handbook of the Learning Sciences, Second Edition, NewYork, NY: Cambridge University Press, submitted for publication.

[14] National Research Council, Learning science through computer games and simulations. Washington, DC: National Academies Press, Board on Science Education, Division of Behavioral and Social Sciences and Education, 2011.

[15] J. P. Gee and E. R. Hayes, Women and gaming: The Sims and 21st century learning. New York: Palgrave Macmillan, 2010. http://dx.doi.org/10.1057/9780230106734

[16] J. P. Gee, "Foreword", Games, Learning, and Society: Learning and Meaning in the Digital Age, C. Steinkuehler, K. Squire, and S. Barab, eds., Cambridge University Press, 2012. http://dx.doi.org/10.1017/CBO9781139031127.002

[17] Y. B. Kafai and K. A. Peppler, "Developing Gaming Fluencies with Scratch: Realizing Game Design as an Artistic Process In the Twenty-First Century", Games, Learning, and Society: Learning and Meaning in the Digital Age, C. Steinkuehler, K. Squire, and S. Barab, eds., Cambridge University Press, pp.355-358, 2012. http://dx.doi.org/10.1017/CBO9781139031127.026

[18] J. P. Gee, and E. Hayes, "Nurturing Affinity Spaces and Game-Based Learning", Games, Learning, and Society: Learning and Meaning in the Digital Age, Constance Steinkuehler, Kurt Squire, and Sasha Barab, eds., Cambridge University Press, p.123, 2012.

[19] T. Choontanom and B. Nardi, "Theorycrafting: The Art and Science of Using Numbers to Interpret the World", Games, Learning, and Society: Learning and Meaning in the Digital Age, Constance Steinkuehler, Kurt Squire, and Sasha Barab, eds., Cambridge University Press, pp.185-187, 2012.

[20] C. Sintoris, N. Yiannoutsou, S. Demetriou, and N. Avouris, "Discovering the invisible city: Location-based games for learning in smart cities", Interaction Design and Architecture(s) Journal, no. 16, pp.47-64, 2013.

[21] J. Lave and E. Wenger, Situated learning: Legitimate Peripheral Participation. Cambridge, UK: Cambridge University Press, 1991. http://dx.doi.org/10.1017/CBO9780511815355

[22] K. Squire and E. Klopfer, "Augmented Reality Simulations on Handheld Computers.", The Journal of the Learning Sciences, vol. 16, no. 3, pp.317-413, 2007. http://dx.doi.org/10.1080/10508400701413435

[23] D. Witan, "Augmented Reality Games in Education", GLS 9.0 Conference Proceedings, p.356, http://press.etc.cmu.edu/content/gls-90-conference-proceedings. 2013.

[24] L. Wagner and I. Erickson, "Augmented Reality and Neighborhood Narratives." GLS 9.0 Conference Proceedings, p.352, http://press.etc.cmu.edu/content/gls-90-confe-rence-proceedings.2013.

[25] M. Sharples, M. Milrad, I. Arnedillo-Sánchez, and G. Vavoula, "Mobile Learning: Small devices, Big Issues.", Technology Enhanced Learning: Principles and Products, N. Balacheff, S. Ludvigsen, T. D. Jong, A. Lazonder and S. Barnes, eds., Heidelberg: Springer, pp.233-249, 2009.

[26] L. Fleming,"Expanding Learning Opportunities with Transmedia Practices: Inanimate Alice as an Exemplar.", Journal of Media Literacy Education, vol. 5, no.2, p.3, 2013.

[27] J. Bidarra, M. Figueiredo, S. Valadas, and C. Vilhena, "O gamebook como modelo pedagógico: Investigação e desenvolvimento de um protótipo para iPad", Aprender na era digital: Jogos e mobile-learning, A. Carvalho, eds, Santo Tirso: DeFacto, pp.83-109, 2012.

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Ao encontro da geração net delineando um projeto de aprendizagem transmédia

Al encuentro de la generación net delineando un proyecto de aprendizaje transmedia

Meeting the net gen by outlining a transmedia learning project

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Tipo de artigo: Relato de Experiência

RESUMO

À medida que o cenário mediático evolui, a tradição de contar histórias assume novos contornos. A narrativa transmédia tem o potencial de envolver, inspirar e conetar os que nela tomam parte. Pretende-se neste artigo, por um lado, demonstrar como a criação de um ambiente de aprendizagem transmédia vai de encontro ao perfil dos alunos do século XXI e, por outro, como este pode ser alicerçado através do design de um projeto transmédia educativo. Espera-se, desta forma, contribuir para a exploração de um tópico cada vez mais expressivo para a educação.

Palavras-chave: Transmedia storytelling; educação; aprendizagem transmédia.

RESUMEN

A medida que el panorama mediático evoluciona, la tradición de contar historias asume nuevos contornos. La narrativa transmedia tiene el potencial de envolver, inspirar y conectar a sus partícipes. En este artículo pretende demostrarse, por un lado, cómo la creación de un ambiente de aprendizaje transmedia se aproxima al perfil de los alumnos del siglo 21 y, por otro lado, como este puede ser fundamentado a través del diseño de un proyecto transmedia educativo. De esta manera se espera contribuir a la exploración de un tópico cada vez más expresivo para la educación.

Palabras Clave: Transmedia storytelling; educación; aprendizaje transmedia.

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ABSTRACT

As the mediascape evolves, the tradition of storytelling has gained new shapes. Transmedia stories have the potential to engage, inspire and connect those who take part in it. This paper aims at showing how the creation of a transmedia learning environment is suitable for the 21st Century learner's profile. It also seeks to provide insight into how a transmedia learning environment can be scaffold by the design of a transmedia educational project. In this way, we attempt to contribute to the development of transmedia learning - a topic gaining ground in the field of education.

Keywords: Transmedia storytelling; education; transmedia learning.

REVISTA IBERO-AMERICANA DE PESQUISA EM EDUCAÇÃO, CULTURA E ARTES | #7 | ISSN 1647-0508

1. INTRODUÇÃO

Considera-se contar histórias uma atividade humana inata. Estando no cerne da comunicação humana trata-se de um processo de construção de sentido. Para além de serem geradoras de uma identidade cultural, as histórias não só permitem a transmissão de experiências, mas também são veículos de significado e conhecimento, assim como, uma ferramenta de memória organizacional (Whyte e Ralake, 2013:309).

Uma ampla variedade de campos do conhecimento − crítica literária, antropologia, estudos linguísticos, educação e sociologia entre outros − indicam que o ato de contar histórias desempenha um papel preponderante na partilha do conhecimento. Através da história, a informação é, naturalmente, incorporada através de contexto. Com a criação de *clusters* de informação, o processo de retenção é facilitado − "(...) *since stories create clusters or chunks of information, they are easier to pay attention and to remember*" (Whyte e Ralake, 2013:309). Relativamente à importância dos mundos imaginários, Mark J. P. Wolf, baseando-se na investigação dos psicólogos John Tooby e Leda Cosmides, salienta que a habilidade de simular situações (imaginar sem interagir) ocorre de forma inata na espécie humana; que todas as culturas criam mundos ficcionais e que os humanos desenvolveram de forma evolutiva sistemas cognitivos, especialmente concebidos para a interação com mundos imaginários − fingir, imaginar, ter estados mentais acerca de estados mentais (Wolf, 2013:4).

A utilização de histórias em contexto educativo não é uma prática recente. De forma natural as histórias prestam-se à aprendizagem − "(…) *they help us connect new learning to existing personal knowledge as the patterns of narrative form connections to earlier knowledge in the brain, and are contextualized by existing social norms and values*" (Whyte e Ralake, 2013:309). Contar histórias é uma atividade envolvente, Wolf refere que os mundos imaginários são apreciados não só pelos que os visitam, mas também pelos que os inventam (Wolf, 2013:5). Pelo potencial que encerram, as histórias são perspetivadas como uma oportunidade de aprendizagem possibilitando a criação de conteúdos e conexões ao contexto.

Os alunos do século XXI elevaram a antiga tradição de contar histórias a uma nova dimensão tomando partido do cenário mediático que os envolve. A "Geração Net" cria histórias em múltiplas plataformas e expande o processo de aprendizagem por via de *Transmedia Storytelling*. Stavroula Kalogeras salienta que a Internet e a sua vasta gama de ferramentas de comunicação e plataformas permite que os alunos aprendam de forma mais autêntica e em sintonia com o seu processo de construção de conhecimento − "(…) *the Net Gen identifies with media and technology. Today learning with the new media involves a social process of participation in a shared culture*" (Kalogeras, 2014:111).

Apesar de terem emergido várias propostas de definição de *Transmedia Storytelling* (*TS*) em diferentes campos académicos, não existe, atualmente, uma definição consensual. Tal deve-se ao amplo espectro de aplicação e ao facto de ainda não ter sido constituído um espaço interdisciplinar independente para o estudo de *TS*. Neste artigo toma-se como referência a proposta de Henry Jenkins para descrever o que considera ser um fenómeno no cenário mediático em que as narrativas não são confinadas a um medium singular, transcendendo-o e dispersando-se por outros média, citando o autor: "*Transmedia storytelling represents a process where integral elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience. Ideally, each medium makes it own unique contribution to the unfolding of the story*" (Jenkins, 2011).

Perante o cenário de convergência mediática, surgiram novas abordagens e teorias na educação fundadas na utilização da tecnologia e ferramentas vocacionadas para a utilização dos média como é o caso de *Transmedia Play* ou *Connected Learning*. *TS* surge, neste âmbito, como um processo potenciador de uma abordagem pedagógica centrada no aluno, assente na criação de um espaço de aprendizagem que contempla as suas competências e mundividências. A utilização de estratégias transmédia potencia a produção, otimização e propagação de conteúdos valorizando recursos e estratégias utilizadas pelo aluno no seu quotidiano. Através de *TS*, o conteúdo ganha vida na utilização de ferramentas criativas fortalecendo

as relações entre os membros da comunidade educativa, fomentando a resolução de problemas e a interatividade na aprendizagem. Ao invés de se solicitar o envolvimento dos alunos, concebem-se oportunidades que o facilitam.

Pretende-se nas secções seguintes contextualizar e explorar a utilização de *TS* em contexto educativo. Apresentam-se para o efeito relatórios e modelos pedagógicos que apontam para a necessidade de adoção da aprendizagem transmédia. Por via de descrição da fase de desenvolvimento de um projeto transmédia, vocacionado para o ensino de Inglês como língua estrangeira, pretende-se também providenciar uma análise de aspetos e mecanismos. Esta análise deve ser tomada em consideração na conceção de uma experiência de aprendizagem transmédia orientada para criação de um ambiente de aprendizagem imersivo, autêntico e que promova o desenvolvimento de competências no âmbito da literacia mediática.

2. CONTEXTUALIZAÇÃO – O IMPACTO MEDIÁTICO NO CENÁRIO EDUCATIVO

O sistema educativo tradicional encontra-se enraizado num modelo desenvolvido ainda na era Industrial. Duzentos anos após, os alunos do século XXI trazem para o contexto escolar uma proficiência digital que esbarra contra as abordagens educativas tradicionais negligenciando as profundas transformações resultantes da utilização de tecnologias digitais. O debate na comunidade educativa incide, na atualidade, nas estratégias a delinear que possam colmatar as necessidades dos alunos. Embora a mudança nas instituições educativas esteja a ser lenta, relatórios como *System Upgrade: Realising the vision for UK education* (Noss et al., 2012) ou *Learner at the Center of a Networked World* (Aspen Institute Task Force on Learning and the Internet, 2014) colocam em evidência a necessidade de atualização.

O relatório *System Upgrade* é o resultado de vários estudos efetuados entre 2007 e 2012, no Reino Unido. Este explora as relações entre tecnologia e educação focando vários aspetos para a otimização do processo de aprendizagem de uma geração dotada de competências digitais. O desafio proposto aos educadores é o de retirarem partido dos métodos de ensino inovadores e dos ambientes flexíveis de aprendizagem providenciados pela utilização de meios tecnológicos no plano educativo.

No relatório são propostas doze recomendações com o potencial de acionar a mudança no cenário educativo: conetar; partilhar; analisar; avaliar; aplicar; personalizar; envolver; agilizar; incluir; conhecer; computar e construir. Em suma, o relatório lança alertas referentes aos desafios do século XXI, na medida em que os indivíduos necessitam de ser colaboradores e comunicadores digitais confiantes e utilizadores críticos da internet.

Em consonância com as diretrizes apresentadas em *System Upgrade*, o Aspen Institute apresenta, em 2014, no relatório *Learner at the Center of a Networked World* (Aspen Institute Task Force on Learning and the Internet, 2014), uma nova visão de aprendizagem e um conjunto de medidas reformistas. Reunindo a investigação de um coletivo de experts das áreas de tecnologia e educação, o relatório teve como objetivo analisar as formas como os alunos aprendem atualmente e providenciar orientações sobre como otimizar a aprendizagem através da inovação.

O relatório assenta em cinco pilares:

1. os alunos necessitam de estar no centro de novas redes de aprendizagem;
2. todos os alunos devem ter acesso às redes de aprendizagem;
3. as redes de aprendizagem precisam de ser interoperáveis;
4. os alunos devem ter a literacia digital necessária para a utilização dos média e para se salvaguardarem;
5. os alunos devem ter acesso a ambientes seguros e de confiança para a aprendizagem.

Trata-se da criação de um novo ecossistema de aprendizagem, representativo de um afastamento das conceções tradicionais no que concerne a forma de como a educação é providenciada e estruturada. Uma visão assente na necessidade de promover a aquisição das competências necessárias para que o cidadão do século XXI possa desenvolver a sua cidadania em pleno.

Ainda que o processo de ensino/aprendizagem esteja em rota de aproximação à esfera digital e cenário mediático

REVISTA IBERO-AMERICANA DE PESQUISA EM EDUCAÇÃO, CULTURA E ARTES | #7 | ISSN 1647-0508

atual, continua enraizado em práticas pedagógicas datadas. Assim, é necessário reformular práticas pedagógicas ou adotar novos modelos que se coadunem às necessidades dos alunos. Nas secções seguintes apresentam-se modelos pedagógicos baseados na utilização mediática de nativos digitais que podem ser implementados por via de projetos educativos transmédia.

3. *TRANSMEDIA PLAY*

Através de narrativas transmédia imersivas, interconectadas e dinâmicas é possível manipular diferentes literacias, nomeadamente, a textual, visual e mediática – "*Through immersive, interconnected, and dynamic narratives, transmedia engages multiple literacies, including textual, visual, and media literacies, as well as multiple intelligences"* (Alper e Herr-Stephenson, 2013). No relatório "T is for Transmedia: Learning through Transmedia Play" (idem), é possível encontrar os mecanismos que podem forjar a conexão entre a participação mediática do aluno e os seus contextos de aprendizagem.

O documento explora as formas em como o fenómeno transmediático está presente na vida de crianças entre os cinco e onze anos e as suas aplicações na arte de contar histórias e na aprendizagem. Para além de identificar várias conexões entre transmédia e aprendizagem, introduz o conceito de *Transmedia Play* – uma forma de perspetivar a relação das crianças com a experiência transmédia e a sua participação nesta, tomando em consideração o seu envolvimento cultural. Através de *Transmedia Play*, as crianças exploram, apreciam e recombinam elementos de diversos média, nomeadamente personagens, cenários, elementos de enredo originários de livros, televisão, vídeos, brinquedos e novos média. O processo de combinação ou *remix* criativo permite que as crianças contem novas histórias, solucionem os seus problemas e partilhem as suas experiências com os outros.

Transmedia Play apresenta várias vantagens do ponto de vista da aprendizagem:

- corrobora com novas abordagens às leituras tranversais dos média (auxilia as crianças a desenvolver competências de literacia necessárias numa sociedade saturada pelos média);
- fomenta a coaprendizagem entre pares, pais e outros adultos;
- encoraja as crianças a estabelecer conexões complexas entre a informação.

As experiências transmédia para crianças podem, efetivamente, ser fundadas em objetivos de aprendizagem. A natureza multimodal e multifacetada das produções transmédia desafia as crianças a utilizar competências de literacia visual, textual e mediática em processos de descodificação e recombinação de elementos mediáticos. *Transmedia Play* promove a criação de ambientes de aprendizagem centrados na criança e apoia-se nos conhecimentos que as crianças possuem acerca de jogar jogos, contar histórias e partilhar através dos média.

*Transmedia Pla*y pode ser caracterizada como uma experiência em que estão presentes os seguintes aspetos:

- mobilidade – no uso de dispositivos móveis, no movimento entre plataformas, pelo facto de provocar movimento entre os média;
- acessibilidade – pelo facto de utilizar várias plataformas como pontos de acesso à experiência transmédia;
- encoraja reprodutibilidade – a possibilidade de reprodução ilimitada permite que a experiência transmédia seja revisitada e que se agencie diferentes tipos de interação.
- inventividade – a qualidade de agir ou reagir a desafios através de soluções criativas que utilizem ferramentas e recursos disponíveis;
- sociabilidade – na interação com outros conetados através de meios tecnológicos ou co-localizados.

Para além do potencial pedagógico passível de ser explorado em contexto educativo, os elementos que constituem *Transmedia Play* são também os mesmos que devem ser equacionados no design de uma experiência educativa transmédia. O mesmo pressuposto aplica-se ao modelo pedagógico *Connected Learning* apresentado de seguida.

4. *CONNECTED LEARNING*

"Connected Learning: An Agenda for Research and Design" (Ito, Mizuko, et al., 2013) é um relatório que mapeia os problemas e tensões presentes no cenário educativo, no contexto do cenário mediático atual, e providencia um conjunto de princípios de design a implementar em novas práticas de aprendizagem. O documento centra-se no cenário mediático e nas repercussões no contexto educativo; coloca ainda em foco a literacia mediática e o desenvolvimento do cidadão digital - "*We are living in a historical moment of transformation and realignment in the creation and sharing of knowledge, in social, political and economic life, and in global connectedness*" (idem).

Com a apresentação da proposta do modelo pedagógico *Connected Learning*, os autores esperam intervir nas seguintes áreas:

- desarticulação entre contextos de aprendizagem formal e de aprendizagem que ocorre fora de sala de aula;
- valorização da aprendizagem através de relações e práticas comuns que preconizem aspetos culturais e de identidade;
- reforço da participação cívica – tanto o plano educativo como o plano cívico beneficiam-se com a participação ativa e contribuição dos intervenientes.

Connected Learning baseia-se na participação ativa dos alunos e educadores; e promove a capacidade de conetar pessoas, recursos e conteúdos. Através da coleção e agregação de diferentes componentes, os alunos podem construir percursos personalizados de aprendizagem por forma a atingir metas educativas – "*the integration of personal in-class and out-of-class experiences, collaborations and resources leads to learning experiences that suit the learners' specific needs*" (ibidem).

Neste contexto, os autores propõem um modelo de aprendizagem assente em três princípios que espelham a utilização dos média digitais:

Princípios de Aprendizagem	Princípios de Design		Utilização de Média Digitais[1]
Práticas pedagógicas movidas pelo interesse - o aluno orienta a sua aprendizagem de acordo com os seus interesses	Foco na produção	□	São mediados pelos interesses e motivações dos seus consumidores
Colaboração entre pares na construção de processos de aprendizagem	*Networking*	□	Os média sociais providenciam o espaço para o encontro entre utilizadores e promovem inter-relações entre os mesmos
Orientação para o percurso académico	Objetivo comum	□	Curadoria - várias plataformas mediáticas apresentam conteúdos que podem ser relacionados em função de um fio condutor definido pelo utilizador

[1] Informações

Tabela 1 – Princípios de aprendizagem e design do modelo *Connected Learning*.

Emergente da utilização dos média digitais, *Connected Learning* apresenta-se como uma abordagem válida que suporta a aplicação de estratégias de *TS* em contextos de aprendizagem. Apesar de *Transmedia Play* e *Connected Learning* serem modelos pedagógicos orientados para diferentes faixas etárias, ambos colocam em evidência a necessidade de desenvolver um ambiente de aprendizagem transmédia fundado na utilização dos média.

Procurando aclarar a forma pela qual vários elementos dos diferentes modelos pedagógicos apresentados podem ser implementados num projeto de aprendizagem transmédia, descreve-se, na seguinte secção, uma proposta em fase de design de uma experiência de aprendizagem transmédia dirigida ao ensino de Inglês como língua estrangeira, mais especificamente vocacionada para alunos do 10º ano do sistema educativo português.

REVISTA IBERO-AMERICANA DE PESQUISA EM EDUCAÇÃO, CULTURA E ARTES | #7 | ISSN 1647-0508

5. CONNECTING CAT: PROPOSTA DE DESIGN DE UM PROJETO DE APRENDIZAGEM TRANSMÉDIA

O projeto *Connecting Cat* (CC) pretende ser a base de exploração e investigação no âmbito da utilização de *TS* no cenário educativo. Procura-se, desta forma, mapear percursos e experiências de aprendizagem que possam emergir através da utilização de estratégias transmédia incorporadas num projeto orientado para a exploração de conteúdos curriculares da disciplina Inglês, 10º ano do ensino secundário do sistema educativo português. O projeto destina-se a alunos que possuam competência linguística nível B1 e B2, de acordo com o Quadro Europeu Comum de Referência para as Línguas (QECRL). Em termos temáticos pretende-se explorar os seguintes tópicos: diversidade línguística, tecnologia, globalização e os média. Parte-se do pressuposto que CC possa contribuir para a constituição de processos de aprendizagem que explorem as competências comunicativas escrever/falar e ler/ouvir no âmbito da disciplina e promova a aquisição e manipulação de competências da literacia mediática, especialmente na sua dimensão de produção de artefactos.

Em termos de enquadramento pedagógico, será utilizada uma abordagem eclética em função da implementação e agilização dos processos de aprendizagem que se procuram ativar. Os diferentes princípios serão integrados de forma transversal em todas as fases do projeto, e serão ponderados com especial enfoque na fase de design do projeto.

Tomaram-se por referências da área de aprendizagem transmédia, exemplos de projetos bem sucedidos e de valor confirmado pela comunidade académica como é o caso de *Inanimate Alice*. Um projeto educativo composto por uma narrativa digital segmentada em vários episódios que proporciona uma experiência audiovisual interativa através da integração de jogos e desafios. Pretende-se que os utilizadores sejam participantes diretos no desenrolar de história (Fleming, 2013).

5.1 O Universo e a história

Na base de qualquer projeto transmédia está uma história. Se a ficção é considerada como uma forma de representação de conhecimento – "*all knowledge of reality is subjective and is mediated by the forms that represent and describe it, and diverse modes of representation convey diverse visions of the world*." (Kalogeras, 2014:155), no caso específico de um projeto de aprendizagem transmédia, a construção da história requer ainda mais cuidado, na medida em que se procura transmitir conhecimentos e informação sobre tópicos pré-determinados.

Na fase preliminar de desenvolvimento do projeto CC foram considerados três elementos chave para a construção de um universo para a história, propostos por Nuno Bernardo (2014:798): personagens atrativas, a criação de um universo convincente e um enredo robusto com pontos no enredo bem definidos.

Bernardo alerta para a necessidade de se construir um projeto que comporte narrativas integradas em várias plataformas, para tal, é necessário um universo onde a história aconteça – "*Stories involve time, space, and causality, every story implies a world in which it takes place. Worlds can exist without stories, but stories cannot exist without a world"* (Wolf, 2013:29).

A construção de um universo para a história é uma fase essencial no design do projeto, quanto mais detalhado e coeso este seja, maior é a probabilidade de ser credível – "*establishing firm rules for your storyworld and sticking to them is vital to creating and maintaining the credibility of your story*." (Bernardo, 2014:800). Na ótica deste produtor transmédia, para a construção de um universo para a história, designado de "Bíblia" na área transmédia, é necessário: detalhar os perfis das personagens; discriminar as histórias por trás das personagens e os arcos narrativos alargados; pensar nos eventos reais e históricos que auxiliem a validar o cenário (caso sejam divergentes do mundo real); determinar as regras do universo da história e ainda, destrinçar elementos visuais que definam esse universo (idem).

Seguem-se um quadro descritivo dos elementos base do universo de CC e um esquema representativo das interações das personagens nos espaços narrativos:

História: A Cat é uma adolescente que vive em Portugal e é uma procuradora da tribo Fluxus (guerreiros do ciberespaço). A Cat tem a missão de montar um portal na terra com a finalidade de reunir os Fluxus com os humanos. As peças do portal estão espalhadas em diferentes localizações na Terra; para encontra-las e recolhe-lhas, conta com o seu gato Sassy para lhe dar pistas (um guerreiro Fluxus em missão infiltrada no planeta). Juntos tentarão reunir os dois povos.	
Personagens	**Plataformas**
Cat	*webisodes*/ redes sociais
Sassy / Shakid	*webisodes / motion book*
Avó / Dawn	blog/ *motion book*
Pai da Cat	*webisodes*
Peter (amigo da Cat)	*webisodes*/ redes sociais
Fluxus	*motion book*

Tabela 2 – Elementos base do universo de *Connecting Cat.*

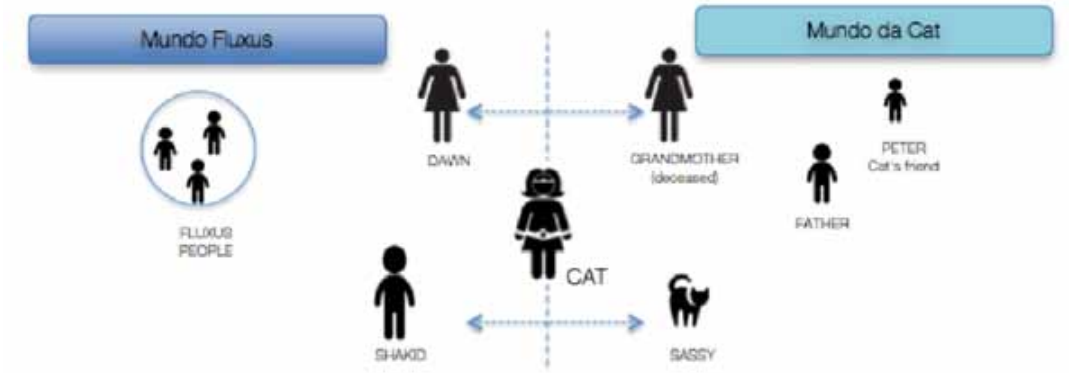

Figura 1 – Relações das personagens do universo de *Connecting Cat.*

5.2 A jornada do herói

Em termos de estrutura narrativa optou-se pela "jornada do herói" que se coaduna em diferentes níveis aos objetivos do projeto. O mitologista Joseph Campbell compara a narrativa humana à jornada do herói e sugere que as histórias que prevalecem são as que possuem desafios e aventura, tanto no plano real, como no místico (Gronstedt e Ramos, 2014:1). O arquétipo no centro destas aventuras é o herói − o que ouve o chamamento. Trata-se, assim, de uma estrutura que permite variações infinitas sendo assim flexível e reutilizável. No caso de um projeto transmédia, que envolve a distribuição de histórias em múltiplas plataformas, logo em diferentes formatos, é uma mais valia. Outra vantagem que induziu a escolha desta estrutura para o projeto foi o facto de se basear na autorreflexão, na necessidade do herói testar as suas capacidades, encontrar aliados, inspiração, atingir objetivos e descobrir talentos escondidos. Em grande medida são elementos que compõem o percurso de aprendizagem dos alunos, pelo que facilita que estes criem empatia com a personagem principal.

A jornada do herói é composta por 12 passos ordenados linearmente – no caso de CC, há passos que surgem em vários pontos e em diferentes ocasiões na narrativa, já que vários pontos da narrativa se entrelaçam. Procurou-se também explorar tanto a dimensão do mundo real − representado no mundo primário de CC, e a dimensão mística através da criação do universo imaginário Fluxus − representado no mundo secundário. De seguida encontra-se um esquema representativo da jornada do herói (neste caso heroína), a Cat − personagem principal da narrativa primária:

REVISTA IBERO-AMERICANA DE PESQUISA EM EDUCAÇÃO, CULTURA E ARTES | #7 | ISSN 1647-0508

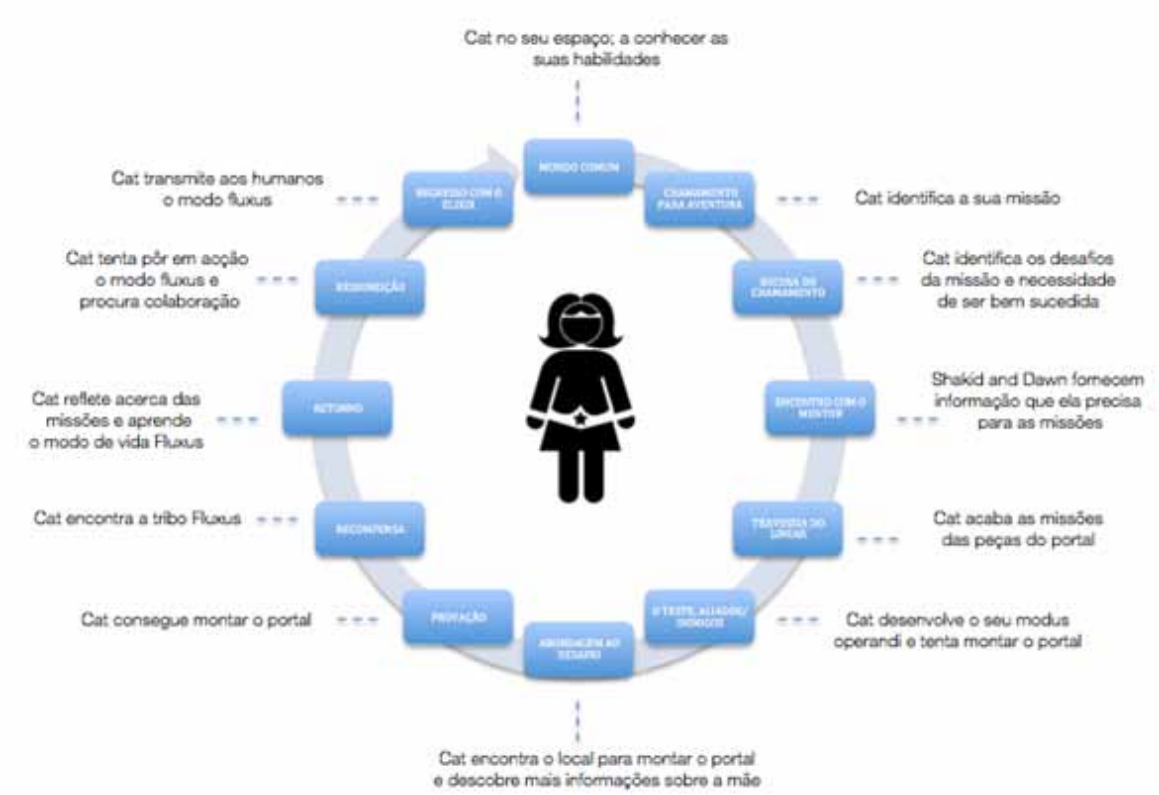

Figura 2 – A jornada do herói adaptada ao percurso da personagem principal de *Connecting Cat.*

5.3 Design orientado para a aprendizagem

Tratando-se de um projeto transmédia educativo é necessário equacionar as questões de ordem pedagógica. Kalogeras coloca à consideração dos educadores um leque de aspectos que permite avaliar o potencial do projeto em função da sua utilização em contexto de aprendizagem (Kalogeras, 2014: 178).

Assim, deve-se ponderar se a história pode ser integrada na exploração de conteúdos curriculares existentes. CC é, na sua génese, um projeto vocacionado para a exploração das competências comunicativas no âmbito de ESL e especificamente, aborda temáticas da disciplina de Inglês, nível seis do 10º ano do ensino secundário português.

A história deve ser apelativa e facilitar processos de aprendizagem. Pretende-se que CC apele a alunos com diferentes perfis de aprendizagem ao explorar, de formas diversificadas, a linguagem visual e auditiva e ao propor um conjunto de desafios que estimulem os alunos de forma diferenciada respeitando níveis diferentes de competência e estilos de aprendizagem (mais autónoma ou mais orientada).

Outro parâmetro a analisar é se as conexões existentes no fio narrativo providenciam informação de interesse e estão em alinhamento com os objectivos e resultados de aprendizagem pretendidos. No projeto CC, o enredo e guião (*storyboard*) dos *webisodes* e do *motion book* são criados em função da temática ou competências comunicativas que se pretendam explorar por via de pistas visuais ou desafios; por exemplo, a primeira sequência do *motion book*, que pretende focar a diversidade linguística, centra-se numa árvore alienígena cujos frutos são caracteres de diferentes alfabetos e que é afectada pelas comunicações dos terrestres.

Para além das conexões é necessário avaliar se o projeto permite integrar extensões em termos de aprendizagem. O facto de CC ser um projeto transmédia permite a exploração

do universo da Cat em diferentes plataformas e por diversos meios. A história pode ser explorada de ângulos diferentes em função de um determinado objectivo de aprendizagem. Espera-se que a criação de uma comunidade educativa online na plataforma Edmodo funcione como um centro nevrálgico, para professores e alunos, onde seja possível debater e partilhar propostas de expansão do fio narrativo para explorar outros tipos de aprendizagem.

Kalogeras propõe ainda avaliar o grau de interação com os alunos, se estes podem criar extensões narrativas por via de histórias digitais com fins educativos. Em CC pretende-se que os alunos sejam co-produtores da história através de artefactos – *podcasts*, vídeos, *wikis*, a título de exemplo – que possam contribuir para a construção do universo da Cat. Nas páginas das redes sociais das personagens serão lançados desafios que remetem para a produção criativa digital. Adicionalmente, através do arquivo dos Fluxus, acedido através de uma plataforma de *blogging*, pretende-se que os alunos contribuam para o conhecimento dos Fluxus acerca dos humanos. Os alunos são, assim, convidados a produzir e partilhar artefactos que por um lado, espelhem os seus conhecimentos e por outro, adicionem nova informação ao universo imaginário da história.

TS é um processo estratégico baseando-se em Norrigton, Kalogeras, no que se refere a, "*scale and scope are a whole lot more than the sum of all its parts*" (Kalogeras, 2014:177). Por forma a induzir a reflexão sobre o design de um projeto transmédia Kalogeras propõe a análise que denominou de "os cincos efes" descritos na tabela 3.

5.4 Design da experiência transmédia

Se a construção do mundo da história e a definição afinada da narrativa são vitais, não menos é o design da experiência, a questão central é – Que tipo de atividades levam a alcançar os objetivos pretendidos? Para responder a esta pergunta é necessário de equacionar diferentes aspetos: nível de imersão, motivações, objetivos a atingir e seleção de plataformas a utilizar.

O projeto CC é composto por uma série de *websisodes*; um *motion book* e um evento presencial – uma missão da personagem principal. Outros pontos de acesso são fornecidos através da utilização de plataformas de média sociais – Facebook; Twitter, Tumblr e Edmodo.

5 Efes	Descrição		Connecting Cat
1 Fórmula	desenvolver um *script*/ fórmula estruturado passível de ser adaptado a diferentes parâmetros	→	- a narrativa principal é fundada na jornada do herói proposta por Joseph Campbell (um modelo narrativo fléxivel e adaptável a várias plataformas)
2 Formato	o formato não deve ser rígido, deve permitir flexibilidade criativa e possibilitar a sua restruturação	→	- estrutura não linear - possibilidade de agregar complementos (outros fios narrativos ou plataformas)
3 Forma	a história deve ser delineada de acordo com um estilo distinto	→	ficcional género - aventura tipo - interactivo, não linear
4 Função	implementação da história nas plataformas mediáticas e fim (*edutainment*, educativo, lúdico...)	→	- fim: educativo, entretenimento - *Webisodes* - explorar o mundo principal da história - *Motion Book* - exploração do mundo secundário (universo Fluxus) - Redes socias - contacto com as diferentes personagens
5 *Fit* *(adequação)*	o valor da história reside na capacidade de colmatar as necessidades do público a que se destina	→	- utilização de temáticas curriculares - personagens com que o aluno se possa identificar (personagem principal é uma adolescente) ou que pertença à esfera de interesses dos alunos (tribo guerreira)

Tabela 3 – Princípios de design de um projeto transmédia e a sua aplicação em CC.

REVISTA IBERO-AMERICANA DE PESQUISA EM EDUCAÇÃO, CULTURA E ARTES | #7 | ISSN 1647-0508

5.4.1 *Webisodes Connecting Cat*

Os *webisodes* visam desenvolver o fio narrativo principal, no entanto, funcionam como micro-narrativas que podem ser exploradas isoladamente. A personagem partirá em diferentes missões para colecionar as peças do portal sendo que cada *webisode* corresponde a uma missão. À parte do primeiro, que tem como objetivo contextualizar a história e apresentar as personagens principais, nos *webisodes* pretende-se que os alunos construam o seu próprio percurso de exploração da narrativa para isso fornecendo um conjunto controlado de segmentos narrativos. Em termos de exploração de tópicos curriculares, os *webisodes* fornecem pistas de exploração através de contexto. No caso do segundo webisode, onde se procura explorar a diversidade cultural e linguística, utiliza-se como cenário a cidade de Londres e os seus cidadãos para explorar diferentes aspetos da multiculturalidade que a caracteriza. Em termos de desdobramento narrativo, os webisodes estão conectados às pistas que o utilizador pode descobrir no motion book. Sassy, o gato siamês de Cat é por sua vez Shakid, o guerreiro Fluxus, personagem principal das sequências a serem desenvolvidas no motion book. O facto de ter uma personagem que atue simultaneamente no mundo primário e secundário no universo de CC permite desta forma forjar os elos entre os dois mundos e providencia coesão à história e à experiência imersiva que se pretende proporcionar.

5.4.2 *Motion Book* Fluxus Flow

Se por um lado se explora o mundo real através dos *webisodes*, pretende-se com a utilização de um *motion book* explorar um mundo imaginário. As sequências *Fluxus Flow* têm por objetivo, em termos de enredo, explorar as atividades da tribo Fluxus sendo um fio narrativo secundário que complementa a narrativa principal. Cada sequência, por um lado, desvendará informações relevantes sobre a cultura Fluxus e dos membros da tribo e, por outro, apresentará informações ou pistas que terão impacto no desenvolvimento da narrativa principal explorada nos webisodes. À semelhança dos *webisodes*, as sequências no *motion book* podem ser exploradas isoladamente já que são micro-narrativas. Como ponto de partida para a criação do universo Fluxus foram consideradas referências da cultura mediática que pudessem suscitar interesse ao público alvo, nomeadamente avatares e cenários de MMORPGs (*Massively Multiplayer Online Role Playing Games*) como *League of Legends* ou *World of Warcraft* e *blockbusters* como *Hunger Games*, no entanto pretende-se que o universo Fluxus seja original na sua essência. Para além de apostar na exploração da componente gráfica e na seleção do próprio género − banda desenhada, procura-se apelar ao público alvo através do próprio meio de distribuição das sequências − o *motion book*. Este permite uma experiência de leitura imersiva em que os leitores podem controlar diferentes elementos da sua experiência de leitura, desde vistas panorâmicas que podem ser visualizadas em 360 graus, ao percorrer e alternar entre elementos da sequência − "*Its DNA is comic books. Lots of people have responded that it reminds them of video game elements or having cinematic sort of qualities to it (…). It's an immersive reading experience*" (Schmidt, 2014). *Fluxus Flow* providencia pontos de partida para os conteúdos curriculares por via da linguagem visual e auditiva. Remetendo novamente para o tópico da diversidade linguística − um dos elementos na



Figura 3 – Cenas do webisode 1 da série Connecting Cat dedicado a apresentar a personagem principal e a descoberta da sua identidade fluxus através de um símbolo



Figura 4 – Elementos visuais da sequência 1 do *motion book Fluxus Flow*, da autoria do ilustrador Delfim Ruas, referentes à transformação da personagem Sassy e a sua entrada no universo Fluxus.

primeira sequência é uma árvore alienígena constituída por carateres de diferentes alfabetos em que são utilizados segmentos de áudio, tornando possível distinguir comunicações em diferentes línguas.

5.4.3 Arquivo Fluxus – *blog*

Outro ponto de acesso associado à exploração do universo Fluxus é o seu arquivo. Trata-se de um *blog* na plataforma *Tumblr*, no universo de CC, da autoria da personagem Dawn (avó da Cat no mundo real e também mentora da tribo Fluxus). O objetivo no que concerne a construção do universo Fluxus é constituir a base da cultura Fluxus, através de um repositório de artefactos ligados à tribo. Sendo o objetivo principal da aventura proposta no projeto − conectar Fluxus e humanos; a tribo procura conhecer aspetos relacionados com a Humanidade. Assim, nesta busca de conhecimento os alunos são chamados a contribuir para o arquivo Fluxus com artefactos que colmatem esta necessidade. A introdução deste elemento é vantajosa do ponto de vista da aprendizagem; permite, por um lado, envolver os alunos na produção de artefactos digitais e manipulação de competências associadas à literacia mediática e, por outro, promover práticas colaborativas − os alunos são aliciados a partilhar neste espaço os seus artefactos e expressar as suas opiniões, pretendendo-se, de forma impercetível, orientar para a discussão das temáticas curriculares através de desafios específicos lançados no *blog*.

5.4.4 Redes Sociais

Um dos elementos chave para fomentar a intervenção dos utilizadores na história é criar pontos de contacto com as personagens. Tendo em vista este objetivo, optou-se por criar uma página pessoal para a personagem principal na rede social *Facebook*, amplamente utilizada pelos alunos, assim como criar uma conta na plataforma Twitter. Ambas as plataformas destinam-se a desenvolver a empatia e a interação entre utilizadores e a personagem principal − a Cat é uma adolescente da mesma faixa etária que o público alvo do projeto e hipoteticamente tem os mesmos hábitos de utilização mediática deste. Em termos de desenvolvimento narrativo, ambas as plataformas servem para despoletar o lançamento de fios narrativos e também apelar à contribuição dos utilizadores na constituição do universo CC, através de desafios que a personagem possa lançar. No âmbito da promoção de práticas de aprendizagem, ambas as plataformas proporcionam o espaço para o desenvolvimento das competências comunicativas de receção – de ler e ouvir e de produção − escrever e falar, por via de artefactos digitais que possam ser colocados na página. Adicionalmente, providencia a oportunidade de exercer práticas de curadoria em torno de temáticas que possam ser sugeridas pela personagem principal orientadas para os tópicos curriculares pretendidos.

5.4.5 Edmodo e a criação de uma comunidade educativa

No intuito de criar uma comunidade educativa em torno do projeto CC, foi integrada a plataforma Edmodo, especificamente orientada para fins educativos − "*Edmodo is a social network specifically designed for primary and secondary schools, offering a way for teachers to more easily assess students and trade tips*." (Tate, 2014). Agilizando processos de partilha de recursos e conteúdos educativos (guiões de exploração dos *webisodes* ou do *motion book*, por exemplo) referentes ao universo CC e promovendo o diálogo entre educadores, procura-se lançar CC para o contexto de sala de aula e dinamizar um ecossistema de aprendizagem

REVISTA IBERO-AMERICANA DE PESQUISA EM EDUCAÇÃO, CULTURA E ARTES | #7 | ISSN 1647-0508

em que tanto professores como alunos possam encontrar as ferramentas e recursos necessários para desenvolver percursos de aprendizagem que se coadunem às suas necessidades.

Como demonstração de como as várias plataformas se relacionam entre si no âmbito do projeto veja-se o seguinte esquema:

visível em relatórios como *System Upgrade* e *Learner at the Center of a Networked World*.

Apesar da disrupção provocada no sistema educativo, a convergência mediática aportou novas possibilidades de desencadear processos de aprendizagem. Os modelos pedagógicos *Transmedia Play* e *Connected Learning* demonstram formas de capitalizar essas oportunidades.

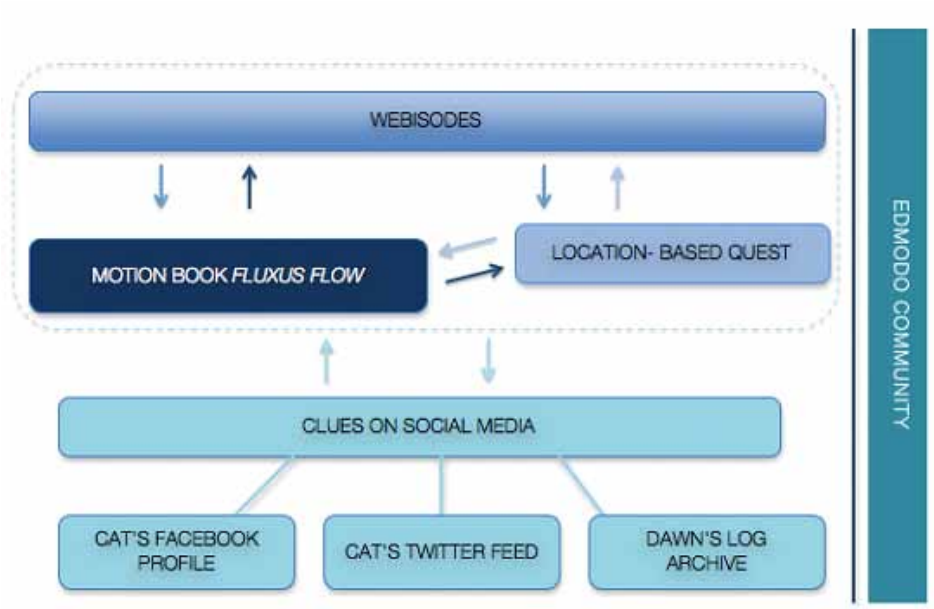

Figura 5 – Mapa das relações entre plataformas na construção da experiência CC.

6. CONSIDERAÇÕES FINAIS

Este artigo procurou colocar em evidência perspetivas que fundamentassem a necessidade de se desenvolver um ecossistema de aprendizagem transmédia, como resposta aos desafios presentes no cenário educativo actual.

Na era de convergência mediática, os educadores são confrontados com um sistema educativo em mudança e a inerente ruptura com práticas pedagógicas que já não colmatam as necessidades dos alunos. Dentro da comunidade educativa surgiu um movimento reformista que, lentamente, se afirma e apresenta um conjunto de propostas válidas para agilizar a transformação necessária. No sentido de ir ao encontro das necessidades de aprendizagem da Geração *Net*, têm vindo a lume várias orientações para implementar a transformação, um esforço

O primeiro baseia-se nas interacções das crianças com os média e propõe que esses processos sejam transferidos para o processo de aprendizagem. Em sintonia com *Transmedia Play*, *Connected Learning*, desta feita, documenta as formas como os adolescentes integram os média no seu quotidiano e se expressam na esfera digital, canalizando-se estas práticas para atingir objetivos de aprendizagem.

Se os alunos do século XXI utilizam os média de forma integrada, a aprendizagem pode ser optimizada por via de experiências que integrem várias plataformas mediáticas. Neste contexto, *Transmedia Storytelling*, dada a sua essência, apresenta-se como um processo com potencial de engajar os alunos em práticas de aprendizagem imersivas, de acordo com o seu contexto e necessidades, ao combinar o poder das histórias com a utilização de múltiplas plataformas.

Para além de contextualizar a necessidade de implementação de um ecossistema de aprendizagem transmédia, procurou-se, por via da dissecação da fase de design de um projecto de aprendizagem transmédia, demonstrar como se pode imbuir processos de aprendizagem numa história que se desvenda em múltiplas plataformas. A construção de uma narrativa transmédia que se preste a colmatar metas de aprendizagem apresenta complexidade *a priori*, pela necessidade de equacionar vários parâmetros tais como, a estrutura, seleção de plataformas, forma, conexões e a experiência do utilizador. Para além deste plano, ainda é necessário definir estratégias de integração da aprendizagem em cada elemento que constitui a própria narrativa e experiência daí emergente. Todavia, procurou-se colocar em evidência o potencial e as possibilidades em termos de práticas de aprendizagem resultantes de um design apropriado de um projeto de aprendizagem transmédia. Espera-se, desta forma, ter contribuído para o desenvolvimento da aprendizagem transmédia − uma abordagem flexível e adaptável à medida de cada aluno do século XXI.

REFERÊNCIAS

ALPER, M. e HERR-STEPHENSON, R. (2013). T is for Transmedia: Learning Through Transmedia Play. Annenberg Innovation Lab.

Aspen Institute Task Force on Learning and the Internet (2014). Learner at the Center of a Networked World. Washington D.C.: The Aspen Institute.

BERNARDO, N. (2014). Building Your Storyworld. In Transmedia 2.0: How to create an entertainment brand using a transmedial approach to storytelling (Kindle ed., 798- 800). Lisboa: BeActive books.

FLEMING, L. (2013). Expanding Learning Opportunities with Transmedia Practices: Inanimate Alice as an Exemplar. Journal of Media Literacy Education, 5(2), 3.

GRONSTEDT, A. e RAMOS, M. (2014). Learning Through Transmedia Storytelling. Infoline, 31(1401), 1-1.

ITO, Mizuko, et al. (2013). Connected learning: An agenda for research and design. Digital Media and Learning Research Hub.

JENKINS, H. (2011). Transmedia 202: further reflections. Confessions of an Aca/Fan. Acedido em 29 de setembro 2014 em < http://henryjenkins.org/2011/08/defining_transmedia_further_re.html>

KALOGERAS, S. (2014). Transmedia Storytelling and the New Era of Media Convergence in Higher Education. (101-178). Palgrave Macmillan.

MARCOS, A. F. (2012). Instanciando mecanismos de a/r/tografia no processo de criação em arte digital/computacional. *Invisibilidades Revista Ibero-Americana de Pesquisa em Educação Cultura e Artes* (3), pp.138-145.

MARCOS, A. M., BRANCO, P. S. & ZAGALO, N.T. (2009). *The Creation process in Digital Art* In: I. F. B. (Ed.), editor Handbook of Multimedia for Digital Entertainment and Arts. New York. pp. 601-615.

MSL Group. (2013). Now & Next: Future of Engagement. Acedido em 29 de setembro 2014 em <http://peopleslab.mslgroup.com/peoplesinsights/annual-report/>

SCHMIDT, Bryan. (2014) "Madefire's Motion Book Tool Revolutionizes Comic Books For a Digital Age." To Be Read. Acedido em 29 setembro 2014 em <http://tobereadbooks.com/madefire-motion-book-tool-revolutionizes-comic-books/>

TATE, Ryan. (2014). "The Next Big Thing You Missed: A Social Network That Could Truly Reform Our Schools | WIRED." Wired.com. Conde Nast Digital. Acedido em 29 setembro 2014 em <http://www.wired.com/2014/06/edmodo/>.

WHYTE, G., & RALAKE, M. (2013). An Investigation into the Effectiveness of Storytelling as Means of Sharing Tacit Knowledge. In Proceedings of the 4th International Conference on IS Management and Evaluation: ICIME 2013 (309). Academic Conferences Limited.

WOLF, M. J. (2013). Building Imaginary Worlds: The Theory and History of Subcreation. (4-29) Routledge.

Design of a Transmedia Project targeted to Language Learning

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***Abstract* — Transmedia is steadily gaining ground in education. A transmedia learning environment is immersive and engaging and presents the potential to meet the needs of 21st Century learners. This paper looks into the design stage of a transmedia learning project targeted to English as Second Language learners and explores aspects concerning the integration of learning goals and strategies within the structure of the project. In this manner, we hope to contribute to the development of transmedia learning environments.**

***Index Terms* — English as Second Language, Transmedia Learning.**

I. Introduction

Transmedia is a concept rooted in the entertainment area, however its use in education is becoming more common. As learning environments are being redefined in order to meet today's learners needs, digital media, social media platforms, augmented reality and mobile devices become the tools of trade for educators - "(…) the Net Gen identifies with media and technology. Today learning with the new media involves a social process of participation in a shared culture" [1].

Transmedia is an approach of educational value as it provides multiple entry points to learning and is in alignment with the most recent orientations for the design of new learning paradigms. Addressing the required transformation of learning and teaching practices, different reports such as System Upgrade [2]; Learner at the Center of a Networked World [3]; Transmedia Play [4] and Connected Learning [5] have come to light. More than providing pedagogical frameworks based on learners' media consumption and production tendencies, these documents supply valuable guidelines for educators to accommodate the move into learner-centered environments. At the core of the reports Transmedia Play and Connected Learning lies the need to enhance collaborative practices and engage learners through the use of media. "The disconnect between classroom learning and the everyday lives and interests of many young people is not new." [5] The question is "How can we capitalize on today's new media to expand these forms of learning opportunity?" [5].

Creative transmedia storyworlds are participatory spaces and can engage learners in the creation of their own stories and production of artefacts while developing learning paths. Wolf points out "imaginary worlds are enjoyed not only by those who visit them, but also by those who invent them. (...) They are often transnarrative and transmedial in form. Stories written by different authors can be set in the same world, so imaginary worlds can be transauthorial as well" [6]. The affinity spaces created by the players of MMORPGs such as World of Warcraft or League of Legends are the evidence that imaginary worlds are shaped by players. Moreover, they are spaces in which learning processes occur - "players socialize within the game, and they come together in fan sites to discuss, critique, analyse, and mod the game" [7] Gee & Hayes stress that "the game beyond the game" encourages the development of skills related to "technology, design, system thinking and sociotechnical engineering." [7].

Not only 21st Century learners play, they are also taking advantage of the possibilities available in the media landscape to weave their stories across multiple platforms - they "do not see narrative as text-based only; rather they view narrative as a multimedia enterprise"[8]. Since Transmedia Storytelling mirrors the learners' dynamics in the media ecosystem, it can be perceived as a way to capitalize on learning opportunities.

The use of storytelling as a learning tool is not new. Stories lend themselves to learning. As Frank Rosen points out, storytelling is "a symbiotic exchange between teller and listener. (...) We use stories to make sense of our world and to share that understanding with others. They are the signal within the noise" [9].

The art of storytelling is taken to a new dimension when combined with a transmedia approach. Jenkins defines Transmedia Storytelling as "a process where integral elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience. Ideally, each medium makes it own unique contribution to the unfolding of the story" [10]. For learners it's an opportunity to "seek out content through active hunting and gathering processes while crisscrossing various media platforms [10] and evaluate ideas with others. [11]. Hence, creating a transmedia learning environment provides the learners the "opportunity to be deeply immersed in a topic. (...) They concurrently use technology tools for exploration as they develop narrative and characters that will provide others with a learning, as well as play, experience [11].

In order to tap into how a transmedia learning environment might be stimulated, the following sections describe the theoretical framework, as well as, the

design phase of a transmedia learning project which is currently being used as basis of research for this subject.

II. The Project's Goals

The project Connecting Cat is the basis of research for the creation of a transmedia learning environment in the context of English as Second Language (ESL) learning. It is specifically targeted to Portuguese 10th-grade learners, 16-year-old teenagers. Connecting Cat's storyworld hopes to be the setting for the exploration of contents and curricular goals of ESL, level six - Intermediate. Through this project, one intends to provide space for the development of communication skills and engagement in the topics: media culture, multiculturalism, linguistic diversity and use of technology. It is also aimed at developing media literacy and engaging learners in multimodal learning experiences. For this effect, a set of media platforms were selected taking into consideration the expected learning outcomes, as well as the learner's interests.

Warren et al. highlight that a "transmedia story is never ending, and it is continuously reshaped with the help of peer constative feedback"[11]. Thus, transmedia can be perceived as “a continuous learning process where linear learning is no more. Instead, multimoldal experiences allow learners to seek, weigh, and communicate answers. Knowledge is found socially constructed based on existing knowledge [11].

Connecting Cat intends to be a social space for learners in which collaborative learning practices may occur. The design of the project attempted to instigate the development of a learning community via integration of content curation processes, joint media artefact production activities and promotion of social interaction between participants within the storyworld.

III. Theoretical Framework

Connecting Cat draws upon two learning models: Transmedia Play [4] and Connected Learning [5]. It also integrated suggestions of the reports Student at the Center of the Networked World [3] and System Upgrade [2] during the stage of design of the project. The selection of the most appropriate elements was determined by the project goals and the enhancement of the learning experiences.

Transmedia Play is "a way of thinking about children’s experimentation with, expression through, and participation in media"[4]. Alper & Herr-Stephenson suggest that the transmedia play model promotes learner-centered practices, experiential learning and develops literacy. A transmedia play experience implies:

1. Resourcefulness- creative thinking to solve challenges;
2. Sociability- communications among peers mediated by media/ technology;
3. Mobility- use of mobile devices and the movement between media platforms;
4. Accessibility- access from different points of entry and definition of a trajectory according to singular contexts and types of access;
5. Replayability- the act of revisiting and exploring worlds that require multiple visits.

These aspects were taken into consideration while designing the different elements of the project and modes of representation used.

Based on media use trends, thus relevant to the design of a transmedia learning project, the Connected Learning model proposes the following learning principles: activities must be interest-powered; peer-supported and academically oriented. In terms of design principles, Ito et al. suggest that activities should be production-centered, openly networked and be focused on a shared purpose. Connected Learning is rooted in the active participation of learners and educators and nurtures the ability to connect people, resources and content - “the integration of personal in-class and out-of-class experiences, collaborations and resources leads to learning experiences that suit the learners' specific needs” [5].

Similar to the Connected Learning report, Learner at the Center of a Networked World [3] focuses on promoting learning networks that "allow learners and teachers alike to connect directly to resources, people and activities"[3]. The Aspen Task Force on Learning and the Internet presents five principles and a set of recommendations that might enhance learning experiences: "learners need to be at the center of new learning networks; every student should have access to learning networks; learning networks need to be interoperable; learners should have the literacies necessary to utilize media as well as safeguard themselves in the digital age and students should have safe and trusted environments for learning"[3]. Though aimed at a wider scope of application (an educational system), part of the set of recommendations [3], listed below, were considered in the setting of the learning ecosystem within the project; access to the media platforms; possible interactions between platforms and media artefact production activities:

1. Redesign learning environments to empower learners to learn any time, any place, and at any pace, both in school and beyond;
2. Enhance the ability of educators to support and guide learners in a networked learning environment;
3. Build an infrastructure that will connect all students in all of the places they learn;
4. Support the maximum feasible degree of interoperability across learning networks;

5. Adopt policies to incorporate digital, media and social-emotional literacies as basic skills for living and learning in the digital age.

The report System Upgrade: Realising the vision for UK education [2] addresses 12 key issues that promote the use of digital literacy: connect; share; analyze; assess; apply; personalize; engage; streamline; include; know; compute and construct. These aspects apply on various levels to the design of different learning experiences and were used as reference in the conception of the learning opportunities integrated in the project.

Using a holistic approach, allows for the selection of principles and aspects that best suit the needs of the project and the audience it is targeted to. All the reports presented in this section, from different perspectives, put into evidence the need to shift learning and teaching practices. The reports also highlight the importance to connect with learners in their context. In the 21st Century, it implies making use of the possibilities available in the media landscape and capitalize their potential for learning. The creation of a transmedia learning environment, in this case promoted by a transmedia learning project, may provide a space for the development of learning paths suited for the 21st Century learners.

If a solid theoretical framework is essential, no less is applying it to the design stage of the project. The following sections present the different elements that constitute Connecting Cat and address issues inherent to the design of a transmedia learning project.

IV. The Story and the Storyworld

In a preliminary stage of the project, as suggested by the transmedia producer Bernardo, three key elements were considered: "compelling characters; an exciting and convincing storyworld and a strong storyline with clearly defined plot points" [12].

In terms of narrative structure, Connecting Cat uses the hero's journey model. Campbell's structure is flexible and reusable, which in terms of transmedia is an advantage. Using a transmedia approach to telling a story, implies distributing different elements of the story across multiple platforms and adapting them to different formats. Gronstedt & Ramos identify reliance and reliability as the strengths of the structure - "What works universally with this structure is its reliance and reliability for telling stories based on self-reflection, stretching one's capability, finding friends, inspiration, attainment of goals, and perhaps what up until this point had been undiscovered talents" [13]. To a large extent, a learner's progression path is punctuated by challenges and moments like the ones that shape the hero's journey. In this manner, the learners will be able to identify with the story and the hero.

Connecting Cat is an adventure story. Cat, an ordinary teen girl, living in Portugal, is a seeker of the Fluxus tribe (native cyberspace warriors) with the mission to assemble a portal that ultimately allows the Fluxus to interact with humans. The portal pieces are scattered all over the world. In order to collect them, Cat relies on her cat, an undercover warrior of the Fluxus, to give her clues. Together they will try to connect the Fluxus to mankind. Cat's quests take place in a storyworld in which learners are direct participants in helping the story to unfold across different platforms.

The hero's journey is comprised of 12 different steps. The following table presents how the structure was apllied to Cat, the heroine of the story:

Table I. Application of the hero's journey

	The Hero's Journey		Connecting Cat
1	Ordinary world	→	Cat in her space; getting to know her skills
2	The call to adventure	→	Cat identifies her mission to collect and assemble the portal pieces
3	Refusal of the call	→	Cat identifies the challenges in completing the quests and the need to be successful
4	Meeting with the mentor	→	Shakid and Dawn provide her the intel she needs to complete her mission
5	Crossing the threshold	→	Cat completes the quests to find the portal pieces and is committed to forging the link between Humans and the Fluxus.
6	The test, allies	→	Cat develops her modus operandi and tries to assemble the portal pieces
7	The approach	→	Cat finds the location to assemble the portal and discovers new facts about her mother
8	The ordeal	→	Cat succeeds in assembling the portal
9	Reward	→	Cat's encounter with the Fluxus tribe
10	Road back	→	Cat takes stock of her quests and learns the Fluxus flow
11	Ressurection	→	Cat attempts to put into action the principles she learned with the Fluxus and seeks collaboration
12	Return with the elixir	→	Cat integrates the accquired knowledge in her actions and relationship with humans

Besides using a setting and a main character with a profile that the learners can easily relate to, Connecting Cat's story incorporates both the mystical (the Fluxus world) and the real dimensions (Cat's quests). This strategy is aimed at providing different entry points to the story and allowing for the exploration of a wider range of event type. "Campbell suggests that the most classic and enduring stories are the ones fueled by a standard framework filled with challenge and

adventure—both mystical and real" [13]. It's a balanced blend of imaginary and ordinary world elements to reach learners at different levels and with varied interests.

The main arc of the story, with the purpose of developing the events related to the protagonist, supports micro-narratives - the heroine's quests. This was a strategic choice. Even if the learners don't have prior knowledge of the story, they will still be able to make sense of the micro-narrative. From the learning perspective, each segment of the story explores a curricular topic or aspect thus facilitating the management of learning goals. In parallel with Cat's story, the learners can unfold adventures related to the Fluxus world. These are interconnected to the events of the main narrative; nevertheless they can be explored outside the main frame of the story. The adventures in the Fluxus world are targeted to provide different exploration points to the learning contents introduced via the micro-narratives of the main arc of the story.

Writing a transmedia narrative presents particular design challenges. It involves perceiving the individual affordances of each medium to be used and how to integrate each one of them into a cohesive and coherent narrative. Not only is it necessary to carefully design the narrative, characters, interactions with the targeted audience, but also take into account emergent forms of expression - how the narrative can be shaped, expanded or even defied. Thus, developing a storyworld is crucial during the design phase - “Stories involve time, space, and causality, every story implies a world in which it takes place. Worlds can exist without stories, but stories cannot exist without a world” [6].

The story architecture of the project, the bible, implies developing every aspect of the storyworld. Bernardo argues that "a fully fleshed storyworld 'bible' should include: detailed character profiles; character backstories and extended story arcs, historical and real world events which help define and authenticate your setting; the rules of your storyworld and visual elements that distinguish or define your world"[12]. Bernardo reinforces the importance of building a storyworld by stating "establishing firm rules for your storyworld and sticking to them is vital to creating and maintaining the credibility of your story" [12].

Connecting Cat's storyworld is constituted by a primary world and a secondary world. The first one, set in the real world, explores the adventures of the main character and the second one taps into the imaginary world of the Fluxus tribe. Both worlds are interconnected through characters, assuming double identity, present in the real and imaginary dimensions - a strategy to give cohesiveness to the storyworld and to provide a unified experience to the user.

In order to provide an overview of the storyworld, the core elements are described in the following table:

Table II. Description of the core elements of the storyworld

Entry Point		Description
Webisodes "Connecting Cat"	→	. Primary world . Characters: Cat (main character); Peter (friend); grandmother; father; Sassy (cat). . Goal - develop the main narrative arc.
Motion Book "The Fluxus Flow"	→	. Secondary world . Characters: Shakid (Fluxus warrior/ Sassy in the primary world); Dawn (Fluxus leader/ grandmother in the primary world); members of the Fluxus tribe. . Goal- explore aspects of the Fluxus imaginary world; give access to triggers to develop the main narrative.
Main Character's Facebook page	→	. Primary world . Goal - promote interaction between the audience and the main character.
Blog "The Fluxus log archive"	→	. Secondary world . Goal - engage the audience to contribute to the expansion of the Fluxus world via production of media artefacts.
Edmodo Community	→	. Goal - explore the storyworld through an educational perspective and create a space for educators and learners to interact and develop learning processes around the storyworld.
Live Event Location based Quest	→	. Description - live event depicting one of Cat's quests. It is set in a location in which participants access triggers, set through the Augmented Reality app Aurasma, to develop the mission. . Goal - engage the audience to take part in the development of Cat's adventures.

Designing a transmedia storyworld is a complex procedure since "Transmedia Storytelling is a strategic process where the scale and scope are a whole lot more than the sum of all its parts" [1]. In addition to this process, it is still necessary to delineate a coordinated plan to integrate the learning dimension in the storyworld. The following section presents the rationale supporting the design of the learning layer of the project.

V. Scaffolding Learning in the Project

To determine the learning potential of the transmedia narrative, Kalogeras [1] suggests taking into consideration the following set of questions (in this case in reference to the application in a E-module):

1. Can the story be integrated into an existing curriculum?

2. Is the story engaging, and can it help make learning more effective?

3. Does the story contain subject matter that is relevant to the module?

4. Do the hyperlinks found in the story provide valuable information in keeping with learning objectives and outcomes?

5. Can additional learning extensions be created by subject-matter experts/producers?

6. Can the students create stories extensions via digital stories to provide educational value?

At root, Connecting Cat considers the embedding of learning contents, specific to the 10th-grade subject of ESL. It is expected that the project may reach learners at different levels and with different learning profiles by exploring the audiovisual language in a diversified form and the inclusion of learning challenges that can be explored both in an autonomous or oriented approach.

The storyboards for the webisodes and the motion book were set on the subject's learning topics and communicational skills in focus. The goal was to create context for the learning process by integrating audio and visual triggers. The storyworld can be accessed through different platforms, and the topics are explored through distinct angles thus diversifying and allowing to generate personalised learning paths. Below, you find an example of a visual trigger, set in the first sequence of the motion book, to explore the topic of linguistic diversity - an alien tree affected by human communication.



Fig. 1. Visual Trigger Art Work - Delfim Ruas

The triggers seek to engage students in learning activities. These may vary according to specific learning goals. As an example, in a hypothetical ESL class scenario, the event concerning the alien tree, depicted in the motion book, can be used as resource for learning activities such as brainstorming. Learners can activate prior knowledge on the topic of linguistic diversity; exchange and gather information orally; practice collaboration by working in groups; present to peers their views and/or express themselves via digital artefacts that can be published and shared on the blog dedicated to expand the Fluxus knowledge about Humans.

The series of webisodes "Connecting Cat" are aimed at developing the main story. Apart from the first (introduction to the setting of the story and main characters), the webisodes will allow the learner to build his/her path of exploration within a controlled set of options using for this effect the interactive video format.

In parallel with the webisobes, the motion book "Fluxus Flow" explores the imaginary world of the Fluxus. It is also a secondary story that complements the webisodes. Each panel sequence will on one hand present relevant information about the Fluxus culture and members and on the other provide valuable information or clues that will have an impact in the development of the main story. In every sequence, there will be panels that the user can explore and access different information, clues or puzzles to solve. Fluxus Flow is a motion comic book blending elements of print comic books and animation. Schmidt argues motion books are immersive - "Its DNA is comic books. Lots of people have responded that it reminds them of video game elements or having cinematic sort of qualities to it (…) It's an immersive reading experience" [14]. The integration of a motion book was strategic. The format facilitates the manipulation of imaginary elements difficult to translate to real world sceneries. Concurrently, it integrates references of interest to the target audience - MMORPG elements and the comic book language.

Connecting Cat's storyworld is intended to be shaped by the learners and is oriented to promote the creation of media artefacts. The storyworld integrates spaces that might be used for this purpose - Cat's Facebook page; the Fluxus log archive, in the form of a blog, set to develop the knowledge of the Fluxus regarding humans, and the Edmodo platform.

Picking up on the digital spaces in which learners interact, one of the entry points to the storyworld is Cat's Facebook page. The main character will strategically publish posts that on one hand will immerse the learners in her quests and on the other encourage curation of learning topics embedded in the webisodes.

Similarly, the blog "Fluxus log archive" will include challenges that might encourage the learners to develop wikis, podcasts, videos or any other form of digital creation. The goal is to provide learning opportunities to engage learners in the topics, activate prior knowledge as well as develop media literacy skills. Ultimately, learners are expected to become co-producers of the story and shape it according to their inputs or contributions.

At its core, the project is focused on enhancing learning through interactions on digital spaces, therefore it was important to address how the educational

community would be able to interact. Taking this into account, the Edmodo platform, given its affordances, was integrated in the project - "Edmodo is a social network specifically designed for primary and secondary schools, offering a way for teachers to more easily assess students and trade tips" [15]. It is intended to be the space for the community of learners and teachers to share resources and content related to Cat's storyworld. In this way, one intends to bring the project to life in the classroom by connecting Cat's adventures to the learner's environment and learning needs. For educators, this space can be used as a dynamic learning ecosystem in which different learning models can be implemented, and diverse topics can be explored in order to align with different curriculum goals.

To immerse learners in the storyworld, another story-based learning strategy was applied - a location based quest. Participants are encouraged to help Cat by revealing vital clues and story details that ultimately lead to the discovery of one of the portal pieces.

The location based quest intends to be a situated learning experience in a geographic space by taking advantage of the locative storytelling application Aurasma. This mobile augmented reality application allows a storyteller to attach story elements (digital images, videos, instructions, clues) to a real world marker. The main goal is to make the story tangible to learners by using a learner-centered and active participation approach - "(...) what might be otherwise be salient but abstract information when read on a computer screen can become something potentially more impactful when consumed or engaged with on location" [16].

Designing a transmedia project is a process of leveraging platforms and formats to tell a story and build an interactive experience. "To better serve our audiences, we producers need to evolve the language of 'new media' which is, in many ways, the conjunction of every medium" [12]. To design a transmedia experience translates into planning and acting upon a block of actions, contributing to a planned modification in the behaviour of the target audience. In the case of a transmedia learning project, it implies building a framework that enables learners to engage constructively with the digital resources provided in the platforms and design interactions that sustain an authentic experience for the learner. Crafting a coherent learner's experience is crucial, in others words, is to provide a way for learners to weave together and interconnect the resources and tools. It requires analytical thinking and creativity at the same time. The following diagram presents a possible route to navigate through the different spaces of the project.

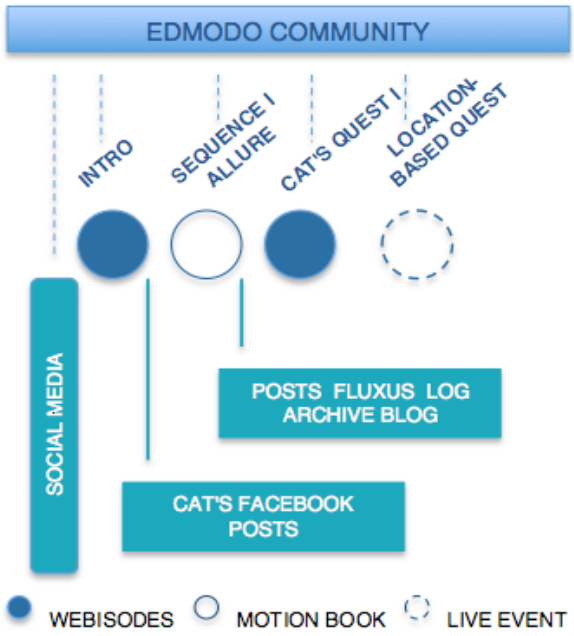

Fig. 2. Mapping of the elements for the user's experience

VI. CLOSING DISCUSSION

In the 21st century, educators are faced with the challenge of capitalising learning opportunities in a media charged environment. Today's learners communicate, express themselves and interact within a participatory culture emerging from the digital spaces they take part in. Learners' habits of media consumption have changed from passive to active. The educational community needs to acknowledge this shift and address the fact that learning occurs not only, but also outside institutional context and even without the presence of educators.

Transmedia is no longer a buzzword for educators. The exploration of educational uses of transmedia practices has become a prevalent topic of discussion in recent years. The growing community of new media literacy educators is tapping into processes to explore the learning potential of transmedia storyworlds - "(...) when transmedia is done well, it creates a deeply engaging, immersive experience, which multiplies the number of learning opportunities"[17].

In this paper, we propose that the design of a transmedia learning project can promote the emergence of a transmedia learning environment that nurtures collaborative practices, engagement in curriculum topics and supports personalised learning paths.

To this purpose, this paper presented theoretical models analysis, the results of which led to the emergence of a consistent theoretical framework for the project. Through the analysis of reports such as Transmedia Play and Connected Learning, it was

possible to identify recurrent guidelines related to the design of learning experiences: development of engagement; focus on collaborative practices; take into account the interconnected media context of the learner and bridge the gap between formal and informal learning environments.

The theoretical foundation of the project led to the development of a design methodology focused on expanding the learning opportunities within an immersive storyworld. The description of the project's design phase attempted to demonstrate how learning activities and strategies were embedded in the narrative and experience layers of the project as well as set forth elements upon which a learning layer might be created.

The design of Connecting Cat focused on providing different portals to interact with content and mobilising learners to participate in the storyworld. In this manner, we expect on one hand that Connecting Cat can be shaped by the learners and on the other supports them in the creation of unique learning paths. Ultimately, Connecting Cat is a space in which learners can express themselves on their own terms and interact across media platforms and devices, while manipulating learning contents.

In order to tap into the learning experiences Connecting Cat intends to provide, a beta version of the project will be tested with a control group of students. The creation of a study case based on the project implementation seeks to identify, assess and reflect on the learning processes that might emerge through the use of a transmedia learning storyworld. Connecting Cat is a research project focused on providing an original contribution to the evolving debate on the educational use of transmedia storytelling and the creation of transmedia learning environments.

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References

[1] S. Kalogeras, *Transmedia Storytelling and the New Era of Media Convergence in Higher Education*, UK:Palgrave Macmillan, 111-178, 2014.

[2] R. Noss et al, *System Upgrade: realising the Vision for UK education*. London: Knowledge Lab, ESRC/EPSRC Technology Enhanced Learning Programme, 2012.

[3] Aspen Institute Task Force on Learning and the Internet, *Learner at the Center of a Networked World*. Washigton D.C.: The Aspen Institute, 2014.

[4] R. Herr-Stephenson and M. Alper, *T is for Transmedia: Learning Through Transmedia Play*. USC: Annenberg Innovation Lab, 2013.

[5] M. Ito et al, *Connected Learning: An Agenda for Research and Design*. Irvine, CA: Digital Media and Learning Research Hub, 2013.

[6] M. Wolf, *Building Imaginary Worlds: The Theory and History of Subcreation*. New York: Routledge, 4-29, 2013.

[7] J. Gee, and E. Hayes, "Nurturing Affinity Spaces and Game-Based Learning", *Games, Learning, and Society: Learning and Meaning in the Digital Age*, Constance Steinkuehler, Kurt Squire, and Sasha Barab, eds., Cambridge University Press, 123, 2012.

[8] E. Bonsignore, et al, "Sharing stories 'in the wild': A mobile storytelling case study using StoryKit", *ACM Transactions on Computer-Human Interaction (TOCHI)*, vol. 20, no. 3, 18, 2013.

[9] F. Rosen, *The Art of Immersion: How the Digital Generation Is Remaking Hollywood, Madison Avenue, and the Way We Tell Stories*. New York: W.W. Norton,1, 2011.

[10] H. Jenkins,(2011) "Transmedia 202: Further Reflections." Confessions of an AcaFan. http://henryjenkins.org/2011/08/defining_transmedia_further_re.html. Retrieved November 9, 2014

[11] S. Warren, et al, "Learning and teaching as communicative actions: Transmedia storytelling", *Cutting-edge Technologies in Higher Education*, no.6, 69-70, 2013.

[12] N. Bernardo, *Building Your Storyworld. In Transmedia 2.0: How to create an entertainment brand using a transmedial approach to storytelling*. Kindle ed:Beactive Books, 798 - 1064, 2014.

[13] A. Gronstedt and M. Ramos, *Learning Through Transmedia Storytelling*. Infoline. 31(1401), 2014.

[14] B. Schmidt, (2014) "Madefire's Motion Book Tool Revolutionizes Comic Books For a Digital Age." To Be Read. http://tobereadbooks.com/madefire-motion-book-tool-revolutionizes-comic-books/. Retrieved November 9, 2014

[15] R. Tate, (2014) "The Next Big Thing You Missed: A Social Network That Could Truly Reform Our Schools." WIRED. http://www.wired.com/2014/06/edmodo/. Retrieved November 9, 2014

[16] L. Wagner and I. Erickson, "Augmented Reality and Neighborhood Narratives.", GLS 9.0 Conference Proceedings, p.352, http://press.etc.cmu.edu/content/gls-90-confe-rence-proceedings.2013. Retrieved November 9, 2014

[17] H. Jenkins, (2013) "T is for Transmedia…" Confessions of an AcaFan. http://henryjenkins.org/2013/03/t-is-for-transmedia.html. Retrieved November 9, 2014

Connecting Cat - A Transmedia Learning Project

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Abstract. In this paper we present an overview of a transmedia learning project. As part of an ongoing research project, Connecting Cat provides glimpses of a story taking place in the material, physical world, and the imaginary world through image, sound and text. Specifically targeted to English as Second Language students, the project supports entry points for learning through immersion in an adventure story and engagement in multimodal learning activities.

Keywords: ESL · language learning · transmedia storytelling

1 Introduction

Transmedia storytelling as a process of "crafting stories that unfold across multiple media platforms, in which each piece interacts with others to deepen the whole - but is capable of standing on its own - giving the audience the choice as to how deep into the experience they go" [1] presents the potential to be used for educational purposes.

Transmedia learning environments allow to shift the balance of agency as learners "become hunters and gatherers pulling together information from multiple sources to form a new synthesis"; to become "active publishers of knowledge" [2]. They also allow to "broaden the mix of representational modes in which students express their knowledge and to build collaborative knowledge cultures" [3].

There is a lack of documented cases that may widen the understanding of the use of transmedia storytelling in educational context or to what extent it may add value to teaching or learning by enhancing the effectiveness of learning. As part of an ongoing research, the project Connecting Cat was created to provide a basis for assessment and reflection on the affordances of transmedia storytelling for learning in general and language learning in particular.

2 Narrative Features and Experience Design

The project is targeted to adolescent English as Second Language - ESL students and focusses on the exploration of contents and curricular goals of ESL, CEFR (Common European Framework of Reference for Languages) - level B1. Through

this project, one intends to provide space for the development of communication skills and engagement in the topics: media culture, multiculturalism, linguistic diversity and use of technology. It is also aimed at developing media literacy and engaging students in multimodal learning experiences. Students are invited to unfold fragments of an adventure story of a teen girl seeking portal pieces in different locations to connect humans to a tribe of alien warriors via diversified media platforms.

The story is set both in a primary world, to unveil the heroine's journey, and a secondary world to allow for the exploration of a mystical dimension, in this case, an alien warriors' world. The segments of the story are presented through micronarratives - hierarchical, modular and accumulative "units of self-contained narrative coherence and flow that are critical to the formation of narrative meaning" [4]. They contribute to the overall experience of the narrative and encapsulate the required context to explore the topics. Participants of the storyworld are invited to shape and expand it through the creation of their representations and hypotheses about content and language.

The learning framework is embedded in the storyworld. Drawing from Kurek & Hauck's multiliteracy training approach [5], the interactions within the storyworld were designed to scaffold a process of reception, participation and contribution - "Similarly to what is happening in a language classroom, the learner is guided from observation of the desired acts, through their interpretation to the final performance"[5]. The gateways to the storyworld are set forth via a website. The navigation within the framework allows for a cumulative or complementary exploration of the elements, linear or non-linear.

3 Enhancing Learning Opportunities

The storyworld integrates platforms that provide learning inputs and platforms targeted to the creation of learning outputs. The goal was to create a meaningful experience that would allow for the progression from reception to contribution.

The first webisode establishes the setting for the story. The main character discovers her alien identity and mission - to seek pieces to assemble a portal and connect mankind to an alien tribe. "Who am I?" can be explored to raise awareness to diverse types of linguistic discourse and discursive practices in the L2. Students can critically evaluate discourse and develop conversation skills using the webisode as the setting.

Parallel to the events in the primary world, a different narrative thread is set to unfold the culture and life of an alien tribe through a motion book sequence. The events in "Allure" were crafted to provide learning inputs related to the topic linguistic diversity. Besides visual elements, the sequence is enhanced by audio elements to immerse the students in the topic. The sequence is available via the Madefire application. It adapts the graphic conventions of comic books - imaginative and supportive typography, strip panels, and speech bubbles to guide the act of reading. The progression in the narrative is dependant on interactions, exchanges and movements of the readers. For ESL learning purposes, it presents

the potential to explore receptive communication skills and reinforce meaning through different modes of representation. In terms of interpretation activities, students can identify biased or exploitative situations and report and rephrase information provided visually in the sequence or communicate about other modes on a metalevel.

The second webisode is an interactive video created via the Interlude platform. "Seek and you shall find" provides a multilayered video experience in which students can make choices within a set of narrative threads. It is set in London, where the protagonist is on a quest to find a portal piece. The setting and interactions with secondary characters were intentionally integrated to exploit the topics of linguistic diversity and multiculturalism. Besides authentic immersion in "World Englishes", the webisode depicts multicultural aspects of the city such as museums or world food markets. Different events provide learning inputs such as discourses representing various cultures, genres, intentions, communication modes and linguistic diversity.

In the location-based quest "AWOL", students aid the main character to solve the mystery of a missing portal piece and its guardian. The interactive elements seek to engage students in solving puzzles and clues through which they can develop reading and listening skills such as scanning or inferencing. The quest explores the topic media and is targeted to develop "reflective reception" [5], by accessing written and audiovisual information. To complete the quest, students need to express themselves through "thoughtful and purposeful online participation" [5] by interacting with Cat via her Facebook page. The story triggers are set via the mobile augmented reality application Aurasma. The primary goal is to make the story tangible to students by using a learner-centered and active participation approach.

Students can communicate with diegetic characters via Facebook pages. The posts reflect impressions related to the quests while expanding knowledge on the learning topics. By interacting with characters they are encouraged to develop accuracy on the linguistic level while using mechanisms of self-expression. The posts are also resources to exploit discourse issues such as argumentation and negotiation skills, pragmatic competence or even net-etiquette in L2 - "Learners are expected not only to interpret the meaning conveyed through input but also to articulate their own opinions by deliberately choosing and imitating a particular convention or type of discourse" [5].

Through the blog "Fluxus Log Archive", a file repository collected by humans to enlighten the tribe about human activities, students can become co-creators of the storyworld. The objective is to engage students in the topics, activate prior knowledge and skills, as well as develop media literacy skills. They can remix and recycle modes, genres and symbols to forge new interpretations or representations of the storyworld through the creation of digital artifacts such as podcasts, videos or wikis.

On the basis of enhancing learning via interactions on digital spaces, the project contemplates the construction of an online community of educators and students. Edmodo, given its affordances, allows for the creation of a space

through which users can interact, share resources and discuss content correlated to the storyworld.



Fig. 1. Screenshots of a scene of the motion book sequence and an interactive menu set in webisode 2

4 Future Work

The primary purpose of this PhD research project is to deepen the understanding of the implementation of transmedia practices in ESL learning context. For the collection of data regarding the students' experiences of the storyworld, a set of observational tools will be used to analyze the participation in the social platforms and materials produced by students. The participants' experience will also be mapped by tracking predefined points of interaction within the storyworld. During the study case, interviews and questionnaires will be conducted to provide a body of data that can be scrutinized to interpret trends emerging from the participants' experiences. The goal is the systematic description and analysis of the implementation of the project, taking into account the subjective experiences of participants.

References

1. Weaver, T.: Comics for Film, Games, and Animation: Using Comics to Construct Your Transmedia Storyworld, p.8. MA: Focal Press, Burlington (2013)
2. Jenkins, H.: Confronting the challenges of participatory culture: Media education for the 21st century, p. 46. Mit Press, Cambridge,MA (2009)
3. Kalantzis, M., Cope, B.: New learning: a charter for change in education 1. In: Critical Studies in Education, Vol.53 (1), pp. 83–94. (2012)
4. Bizzochi, J., Nixon, M., DiPaola, S., Funk, N.: The Role of Micronarrative in the Design and Experience of Digital Games. In: Proceedings of DiGRA 2013, pp. 161–197 (2013)
5. Kurek, M., Hauck, M.: Closing the "digital divide" – a framework for multiliteracy training. In: Digital Literacies in Foreign and Second Language Education. pp. 119–136. Calico Monograph Series 12, San Marcos (2014)

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Towards a Transmedia Learning Approach in ESL Context

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Abstract. Transmedia storyworlds allow students to express themselves and take part in a shared culture while developing learning paths. Whilst the use of transmedia storytelling in formal learning environments has been steadily gaining ground among educators, documented cases of its application are still sparse. This paper reports on a transmedia learning storyworld targeted to English as Second Language students by providing insight on the design of the storyworld and analysis of its core elements. The potential and challenges of applying a transmedia approach in an educational setting are explored through the description of the implementation of a prototype version of a transmedia learning storyworld and discussion of issues emerging from the application process. Based on the insights acquired during this stage, the paper concludes with a set of considerations to take into account in the development of future research in the transmedia learning field.

Keywords: English as second language · transmedia learning · transmedia storytelling

1 Introduction

In the 21st Century, students express themselves and interact within a participatory culture. In out-of-school settings, adolescents engage in new forms of cognition and communication [1] by leveraging different technologies for their own purposes, establishing social networks, engaging in sophisticated gaming practices [2], creating, publishing, and commenting on a range of multimedia texts [3]. In this context, transmedia storytelling - "a process where integral elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience" [4] - "emerges as a mean of creation and expression of the Millennial generation"[5].

Transmedia learning is defined by Raybourn [6] as "a scalable system of messages representing a narrative or core experience that unfolds from the use of multiple media, emotionally engaging learners by involving them personally in the story" - intrinsically, it provides the space "to connect students with diverse content and each other" [7]. Given their affordances, transmedia ecosystems lend themselves in particular to the development of learning activities in English as Second Language (ESL) by providing a multimodal sandbox within which

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students gain a greater agency to produce language through digital formats. English language learning, in the mediated and participatory landscape of the 21st Century, can no longer be narrowed down to the exploration of the four skills: speaking, listening, reading, and writing. Competence in ESL entails not only grammatical but also communicative, symbolic [8], and relational [9] aspects which are controlled by sociolinguistic, pragmatic and cultural variables. Hence, language practice cannot be dissociated from the students' needs or language use, goals and reflections. One of the main affordances of transmedia learning environments is the potential to shift the balance of agency as students "become hunters and gatherers pulling together information from multiple sources to form a new synthesis" to become "active publishers of knowledge" [10]. They also allow to "broaden the mix of representational modes in which students express their knowledge and build collaborative knowledge cultures" [11]. Ultimately, these ecosystems aim to engage students in meaningful and authentic learning experiences by taking into consideration their contexts.

Addressing the need to map the use of transmedia learning in formal learning environments of ESL, this paper presents part of an ongoing research project that aims to deepen the understanding of the application of transmedia storyworlds in English as second language learning context. The following sections provide insight into a transmedia learning storyworld, explicitly targeted to ESL adolescent students. The next section describes the design methodology used to scaffold learning activities in the storyworld and provides an overview of the core elements that constitute the experience of the storyworld. Section three reports on the application of a prototype version of the storyworld in a formal learning environment. Finally, the paper concludes with a brief discussion of the challenges emerging from the implementation process and points to future research.

2 Connecting Cat

2.1 Conceptual Design

Connecting Cat is a transmedia learning storyworld targeted to Portuguese 10th-grade students, 16-year-old teenagers. It aims to be the setting of exploration of curricular goals of ESL, level B1 according to CEFR (Common European Framework of Reference for Languages). It is designed to engage students in the exploration of the curricular topics media culture, multiculturalism, linguistic diversity and use of technology. By taking part in the storyworld, students may enhance their language as well as their media literacy skills.

The storyworld's backdrop is an adventure story in which the protagonist seeks pieces to build a portal to connect humans to a tribe of alien warriors. In terms of narrative design, the hero's journey model was used to create an emotional connection and stimulate interest in the learning content embedded in the storyworld. Similarly to Cat's journey, the heroine of the story, students face challenges, meet mentors and are called to develop their learning path. The story is set in both a primary and a secondary world. In this manner, students

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can explore a mystical dimension, in this case, an alien warriors' world, as well as the real, through the unveiling of the protagonist's life events.

Drawing from the multiliteracy training approach proposed by Kurek & Hauck [12], the students' interactions, within the storyworld, were scaffolded around the following parameters: reception, participation, and contribution. This method "attempts to address learner literacy needs on various levels. Similarly to what is happening in a language classroom, the learner is guided from observation of the desired acts, through their interpretation to the final performance, with the teacher gradually withdrawing support" [12]. By exploring the different platforms, students are able to move from informed reception of input to responsive participation in opinion-generating activities and creative contribution of multimodal outputs [12]. Kurek & Hauck [12] argue "language learners who can comfortably alternate in their roles as semiotic responders and semiotic initiators will reflect the success of training that takes account of multimodality as a core element of digital literacy skills." To facilitate the management of learning goals, different narrative units address different curricular topics Regardless if the students explore the storyworld in a linear or non-linear manner, the narrative units are comprehensible on their own, even when explored outside the main narrative framework and encapsulate the necessary context to explore the learning content.

2.2 Core Elements of the Experience

The platforms for the storyworld were selected taking into account the learning sequence proposed by Kurek & Hauck [12]: reception, participation, and contribution. Platforms that would, on the one hand, provide learning inputs and, on the other, trigger the creation of learning outputs. The different points of access to the storyworld are set forth via a website [13], the hub of the storyworld. The navigation within the framework allows for a cumulative or complementary exploration of the elements, linear or non-linear. Below is a brief description of the main platforms that constitute the storyworld. The first three targeted to provide learning inputs the students can explore:

Who am I [14] is a webisode that establishes the essence of the story - characters, setting, and challenges. The main character is confronted with the revelation of her secret alien identity and mission. The webisode integrates a clue to two other narrative units. It can be explored to raise awareness to diverse types of linguistic discourse and discursive practices in the L2. Students can critically evaluate discourse and develop conversation skills using the webisode as a setting.

Seek and you shall find [15] is an interactive video. It makes use of the choose-your-own-adventure structure to provide a set of narratives threads that users can select and consequently create a personal experience of the story. Both the setting and characters' interactions were intentionally attuned to exploit the topics of linguistic diversity and multiculturalism. The various narrative threads provide learning inputs such as discourses representing diverse cultures, genres, intentions, communication modes and language varieties.

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Allure [16] is a motion book sequence that exploits the culture and life of the alien tribe. The user is invited to track the warrior Shakid from the moment he morphs from a cat, in the real world, into a Fluxus warrior, follow a rescue mission and his return to the real world. The events related to the mission, in particular, are set to integrate learning triggers related to the topic linguistic diversity. Allure adapts the graphic conventions of comic books and combines static art, simple animation, and sound to create a movie-like feel within the comic. Thus, it presents the potential to explore receptive communication skills and reinforce meaning through different modes of representation. By tapping into this narrative unit, students can identify biased or exploitative situations and then report and rephrase information provided visually in the sequence.

In conjunction with platforms targeted to deliver learning inputs, the storyworld is articulated around three platforms aimed to trigger the production of learning outputs:

The Fluxus Logs [17] is a blog that aims to be the alien tribe repository of knowledge "seeds" collected by humans about planet earth and its inhabitants. As co-creators of the storyworld, students can give their contribution to the assemblage. Posts on the blog include challenges that might encourage students to create, collaboratively or on their own, digital artifacts such as wikis, podcasts, videos or any other form of digital creation. This space is targeted to engage students in the topics, activate prior knowledge as well as develop media literacy skills. They are encouraged to express in a creative manner, remix and recycle modes, genres, and symbols to forge new interpretations and representations of the storyworld while channeling previously acquired knowledge and skills.

Cat's Facebook posts seek to immerse students in her quests by sharing her impressions, the challenges she is facing and asking for opinions. Students are encouraged to be active participants and expand their knowledge on the topics explored through the webisodes and motion book sequence. By interacting with the protagonist on this platform, they can address discourse issues such as argumentation and negotiation skills, pragmatic competence or netiquette in L2.

The Ed Tribe/Community is a platform specifically targeted to the use of the storyworld in formal learning environments. Edmodo integrates social networking and communication features that promote collaborative and creative practices both in the classroom and outside leading to the creation of learning paths that address the students' needs and learning contexts. It is intended to be a space for the community of students and teachers to share resources and content related to the storyworld. A set of learning resources [18] related to the story is also provided on this platform. The exploration guides to the story provide prompts for speaking activities such as group discussions or role play and a wide variety of writing prompts. The main goal is to provide a body of activities conveyed via personal accounts as much as factual texts reflecting an authentic variety of sources taken from the English speaking world that teachers can select according to the students' needs. The learning activities can be shared, remixed and enhanced by educators or students.

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3 Application of the Storyworld Prototype in Formal Learning Environment

Upon completion of the design stage and the development of the experience, several questions remained answered, namely: if the story was engaging thus fostering learning practices within a formal learning environment; whether or not students felt compelled to complete the whole experience and if the learning content encapsulated in the different fragments of the story was interesting enough and understandable to the students. Ultimately, could the storyworld provide a sufficiently satisfying learning experience to the students. To attain a preliminary assessment and collect feedback regarding as to how students would respond to the storyworld, an exploratory test was conducted.

3.1 Methodology

The pilot study followed the design-based research methodology mostly due to its central focus on tackling complex educational problems and given the complexity that entails the analysis of a learning experience and the assessment of an artifact such as a transmedia storyworld. The first iteration of the storyworld was implemented in three 90-minutes ESL classes with 24 tenth grade students at an urban secondary school in Portugal. The number of students didn't vary across the three sessions. They spent the 90 minutes sessions working on activities and assignments related to the storyworld. The researcher took part in the experience as observer and participant, and the classes were co-taught with the teacher. Throughout the three sessions, student and teacher observation and interviews were conducted, and artifacts collected. The sessions were recorded for transcription purposes and also to collect data regarding interactions between teacher/ students and between peers. Prior to the implementation stage, the teacher had access to all the content the students would engage with and was given instructions on how to interact with the various elements contained within the storyworld. Students had previously had contact with the curricular topics that are at the core of the storyworld since the sessions were set at the end of the school year. During this research cycle, the pedagogical sequence: reception - participation - contribution wasn't followed taking into account the goals of the pilot study - elicit overall feedback from users regarding the use of the storyworld for learning purposes. Nevertheless, at different points of the pilot study, students were specifically instructed to participate in the storyworld by producing digital artifacts or by being active participants in the story through a quest set via QR codes and augmented reality triggers.

In the first session, students were allowed to explored the storyworld without guidance from the teacher or researcher. To track the students' experience, a hash number was generated and saved on the client side. In this manner, it was possible to identify which access points the students had accessed to and through which sequence they had engaged with the different platforms. Using Google analytics features, it was also possible to monitor how much time students spent exploring the various platforms of the storyworld. The majority of the

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students preferred to explore the motion book sequence and the interactive video. Returning on separate occasions during the session to replay the content on these two platforms. In the last 30 minutes of the session, in groups of four, the students exchanged information with their peers about the story and tried to map the events of the main protagonist. All groups were able to track the main events of the protagonist. During the second session, students were asked to focus on the Fluxus Logs blog, select one of the available posts and submit a digital artifact related to it. The remaining 30 minutes were used to discuss what they had learned through the exploration of the blog posts and the creation of their digital artifacts. In the last session, students took part in one of the protagonist's quests. They were encouraged to help Cat to find the location of one of the portal pieces and its kidnaped guardian. The triggers for the quest were set via the mobile augmented reality application Aurasma and QR Codes. Throughout the quest, students had to solve clues and provide information to Cat. The remaining 30 minutes of the session were used to collect feedback on the overall experience of the storyworld. The students also provided feedback through a questionnaire provided at the end. The feedback activities were integrated into the sessions as opportunities for students to interact and engage in reflective practice using L2.

3.2 Research Insights

Previous to the sessions, to collect data that might help target their needs as participants of storyworld and improve it according to their preferences and insights, they answered a questionnaire concerning their social media consumption habits and their presence in the online world. More than 80% stated to prefer to be online through their mobile phones. The majority of the class (more than 70%) reported spending an average of two to five hours a day online mostly on social networks (74%) or playing games. 61% students are members of more than three social networking sites. Regarding preferences, the students prefer to use Facebook to interact with peers - more than 90%, but some also frequently interact on the Tumblr and Instagram platforms (36%). 70% play multiplayer online games and prefer action, and adventure games such as League of Legends or GTA V. The collection of this data allowed posteriorly to improve upon the first version of the storyworld by including access points in platforms that were more relevant to the students namely the Instagram platform.

Following the sessions, a feedback questionnaire was used to ascertain students' attitudes toward the storyworld. Students were asked a number of questions concerning the different platforms they had interacted with. The questions were presented as statements with Likert-type responses. Students could indicate how much they agreed or disagreed with each statement on a scale from 1 to 5. The questions referred to the following themes: quality; learning and engagement. They were also asked to rate the elements of the storyworld. Table one presents the average ratings received from the students (based on a scale of 1 to 5, with 5 being the highest).

Through the feedback questionnaire and discussion activities, participants had the opportunity to provide their insight on how the storyworld could expand.

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	Quality	Engagement	Learning
Webisode 1	3	4	3
Motion Book Sequence	4	5	4
Interactive Video	4	4	3
Blog	4	4	4
QR / AR Quest	4	4	4

Table 1: Average ratings received from students during the first iteration.

They suggested that the integration of an Instagram account could help track Cat's quests and that they could have an active role by creating their own Cat's adventures.

Although students provided positive reviews to the site regarding navigation and web design, they suggested more guidance should be added. These concerns were addressed subsequently resulting in the integration of supplementary structured menus in a new version of the site.

A significant amount of challenges emerged during the sessions. Often students expected direct guidance from the teacher or researcher to explore the storyworld, and while developing their digital artifacts, they were not aware of intellectual property rights concerning the resources they had used. During group work, some participants demonstrated a lack of collaborative culture in interactions with their peers. This was particularly visible during the quest activity and interfered with the completion of the mission. Taking into account the qualitative and quantitative data collected, future research cycles should address the fact that students in a class present different levels of media literacy proficiency and the need to raise awareness to digital copyright use. In the next stage of research, a new iteration of the prototype will be explored in an ESL formal learning environment to acquire insights on how the pedagogical sequence: reception; participation and contribution via learning input and output platforms can be applied through the use of a transmedia storyworld.

4 Closing Discussion

Connecting Cat, as part of an ongoing research project, aims to deepen the understanding of the implementation of transmedia storyworld in ESL learning context - how it can communicate the complexity and context of a story and its learning content via the use of media platforms as well as achieve students' engagement and participation. Researchers have demonstrated through empirical study that learning is inseparable from the cultural identities, practices and material settings of everyday life yet in schools educators and students seem to have little control over what happens in their classroom [19]. Transmedia storyworlds targeted to learning have the potential to create a participatory space for students. Knowledge and skills can be shared around a shared purpose and enhance creative production. In other words, transmedia storyworlds can be viewed as spaces in which students feel connected.

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Although this paper only reports on the preliminary stage in a research process to assess and improve the storyworld, the data collected during the pilot study indicate the storyworld has the potential to be explored in an ESL learning context. The implementation of future versions will hopefully yield more insights on to how to use transmedia learning storyworlds in formal learning environments.

References

1. Hull, G., Schultz, K. (2002) Bridging Out-of-School Literacies with Classroom Practice. Teachers College Press, New York, pp. 51-52
2. Gee, J.P. (2007) What video games have to teach us about learning and literacy. Palgrave Macmillan, New York. pp. 2-14
3. Leander, K., Boldt, G. (2013) Rereading 'A pedagogy of multiliteracies': Bodies, texts, and emergence. In: Journal of Literacy Research, 45(1), pp. 22-46. doi:10.1177/108629612468587
4. Jenkins, H. (2007) Transmedia Storytelling 101. http://henryjenkins.org/2007/03/
5. Howe, N., Strauss, W. (2000) Millennials Rising: The Next Greatest Generation. Vintage Books, New York
6. Raybourn, E. M. (2014) A new paradigm for serious games: Transmedia learning for more effective training and education. In: Journal of Computational Science, 5(3), pp. 471-481
7. Raybourn, E. M., DiGiovanni, F. C., Jones, T. (2015) Transmedia (Social) Learning in the Wild Exploring a Continuum of Support for Transitioning Service Members. https://adlnet.gov/adl- assets/uploads/2015/12/Transmedia Social Learning in the Wild-DoD Skillbridge for Transitioning Service Members.pdf
8. Kramsch, C. (2009) The multilingual subject: What foreign language learners say about their experience and why it matters. Cambridge, Cambridge University Press, Cambridge, UK
9. Kern, R. (2014) Technology as Pharmakon: The promise and perils of the Internet for foreign language education In: Modern Language Journal, 98(1), pp. 340-357
10. Jenkins, H. (2009) Confronting the challenges of participatory culture: Media education for the 21st century. MIT Press, Cambridge, MA, p. 46
11. Kalantzis, M., Cope, B. (2012) New learning: a charter for change in education 1. In: Critical Studies in Education, Vol.53 (1), pp. 83-94
12. Kurek, M., Hauck, M. (2014) Closing the "digital divide" a framework for multiliteracy training. In: Digital Literacies in Foreign and Second Language Education. Calico Monograph Series 12, San Marcos, pp. 119-136
13. Connecting Cat (2015). http://ccat.site
14. Who am I (2015) https://vimeo.com/122134357
15. Seek and you shall find (2016) https://v.interlude.fm/v/An4DBM
16. Allure (2015) http://content.madefire.com/s-52e499b6eb0d42008b41136d98b397f4/index
17. The Fluxus Logs (2016) https://fluxuslogs.tumblr.com/
18. Seek and you shall find: Work out your English (2016) http://slides.com/ccat/deck
19. Jenkins, H., Ito, M., Boyd, D. (2016) Participatory Culture in a networked era: A conversation on youth, learning, commerce, and politics. Polity Press, Cambridge, Uk, p. 95

Transmedia Storytelling as an Educational Strategy:

A Prototype for Learning English as a Second Language

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ABSTRACT

This paper proposes the use of transmedia storytelling in an educational context. Transmedia stories are perceived as opportunities to create a new learning scenario that allows for the development of innovative student-centred educational practices, and the implementation of collaborative strategies that ultimately meet the 21st-century students' needs. Through the discussion of a transmedia learning project targeted to English as Second Language students, this paper attempts to provide insight on how learning activities and strategies can be embedded in the digital narrative and experience layers of a storyworld.

Keywords: ESL, Language Learning, Interactive Platforms, Transmedia Learning, Transmedia Storytelling

INTRODUCTION

Stories are mystifying and forge emotional connections. Fiction, in particular, stimulates empathy with characters that seems real. As communication tools, they provide understanding and entertainment. Independent of the medium - books, web series, comic books, films or games, stories engage audience members in a narrative experience that becomes a unique enterprise that differs from individual to individual.

The internet has given rise to a new form of narrative "one that's told through many media at once in a way that's nonlinear, that's participatory and often game-like, and that's designed above all to be immersive" (Rose, 2011, p. 3). Stories are universal nevertheless, the way they are told changes with the medium through which they emerge. As participatory media proliferate, storytelling does too. In this context, transmedia storytelling emerges as a mean of creation and expression of the "Millennial generation", a definition introduced by Howe and Strauss (2000, p. 4).

Transmedia Storytelling is a process of "crafting stories that unfold across multiple media platforms, in which each piece interacts with others to deepen the whole - but is capable of standing on its own - giving the audience the choice as to how deep into the experience they go" (Weaver, 2013, p. 8). In a nutshell, Weaver (2013, p.12) compares the transmedia approach to storytelling to the creation of a handshake. The audience has the chance to return the handshake by consuming one piece and then deciding if they want to continue the conversation by seeing what else is in the storyworld.

As passive viewers become active users and participants, transmedia provides a set of tools and techniques that can reach and engage young audiences, often through multiple interfaces, platforms and devices. Gomez (2014, para. 5) refers to the “Millenials” as the most published and social generation in the history of humanity. He argues they are also the “Transmedia Generation” since they can take different parts of a story, delivered across different platforms and assemble a whole that suits the level with which they want to engage with the material.

The exploration of the educational uses of transmedia practices has become a prevalent topic of discussion in recent years. From an educational point of view, transmedia learning environments allow to shift the balance of agency as students "become hunters and gatherers pulling together information from multiple sources to form a new synthesis" to become “active publishers of knowledge" (Jenkins, 2009, p. 46). They also allow to “broaden the mix of representational modes in which students express their knowledge and to build collaborative knowledge cultures” (Kalantzis & Cope, 2012, p. 84).

This paper seeks to highlight the potential of the use transmedia learning environments and related interfaces by looking into a transmedia project in the context of ESL - English as Second Language learning. By tapping into the conception, design, and application of the prototype, the authors seek to assess its validity, relevance for educators and students, and appropriateness for educational use. The first section of the paper provides the educational context and goals of the project. The following section presents the narrative design of the prototype, while the third is dedicated to an overview of the core elements that constitute the storyworld. The paper concludes with points for future research development and briefly discusses the challenges that might emerge during the process.

THE PROJECT'S GOALS

Connecting Cat is part of an ongoing research concerning the creation of a transmedia learning environment in the context of ESL learning. It is targeted to Portuguese 10th-grade students, 16-year-old teenagers. Connecting Cat's storyworld is designed to be the setting of exploration of contents and curricular goals of ESL, level B1, according to CEFR (Common European Framework of Reference for Languages). The project uses a multilayered combination of audiovisual elements within a storyworld to shed light on the topics: media culture, multiculturalism, linguistic diversity and use of technology. The storyworld is constructed to allow expansion and dynamic personalization of its elements while enhancing the development of communication and media literacy skills.

By exploring the different aspects provided in the storyworld, students are able to move from informed reception of input to responsive participation in opinion-generating activities and creative contribution of multimodal outputs. Kurek and Hauck (2014, p. 120) argue “language learners who can comfortably alternate in their roles as semiotic responders and semiotic initiators will reflect the success of training that takes account of multimodality as a core element of digital literacy skills”.

When considering the participatory and mediated nature of the students' context, transliteracy becomes a key educational issue - “consuming and producing content across multifarious media platforms is a basic life skill for the twenty-first century” (Fleming, 2013, p. 373). Taking into account the need to equip students to communicate and express in the 21st-century mediascape, Connecting Cat seeks to promote transliteracy - the ability to read, write and interact across a range of platforms, tools, and media” (Thomas et al., 2007, para. 4). For this effect, the storyworld provides spaces for self-expression, interaction and participation within a shared culture disseminated in the storyworld. Warren et al. (2013, p. 69) argue that a “transmedia story is never ending, and it is continuously reshaped with the help of peer constative feedback”. Thus, it can be perceived as “a continuous learning process where linear learning is no more. Instead, multimodal experiences allow learners to seek, weigh, and communicate answers. Knowledge is found socially constructed based on existing knowledge” (idem).

The pursuit of new learning paradigms has previously directed educators to focus on the use of technology. Nevertheless, several studies comparing technology-enhanced learning to traditional learning, conducted in the last two decades, have led to inconclusive findings. The authors argue although the use of transmedia learning environments may not be a straightforward substitution for the abstract

knowledge-based learning, teacher-centered paradigm, it may allow students to engage in meaningful and authentic learning experiences by accounting for students' contexts. Starskey (2012, p. 24) highlights the fact that “learners in the Digital Age can connect and collaborate with people beyond their physical environment (…) can connect a range of information or data and draw on a range of perspectives to collaboratively generate and critique new ideas”. Thus, taking into account the mediated nature of the students' environment, one of the goals of the project is to include aspects that might stimulate the development of "critical understanding of the nature of mass media, the techniques, used by them, and the impact of those techniques more specifically how they construct reality" (Kalogeras, 2014, p. 72).

NARRATIVE SCENARIO

The project's backdrop is an adventure story in which the protagonist seeks portal pieces on different places to ultimately connect humans to a tribe of alien warriors. The story is set in a primary world and secondary world to allow for the exploration of a mystical dimension, in this case, an alien warriors' world, as well as the real, through the unveiling of the main character's events. "Campbell suggests that the most classic and enduring stories are the ones fueled by a standard framework filled with challenge and adventure—both mystical and real" (Gronstedt & Ramos, 2014, p. 1). By integrating both dimensions, it was possible to diversify entry points to the storyworld and enhance the exploration of a wider range event type.

So that students could relate to the topics in a seamless way, particular attention was given to the creation of a convincing storyworld and also the design of characters. The more compelling, the easier it is for students to create empathy. To avoid the cognitive overload inherent to the exposure to multimodal inputs, the contents are presented through a strong storyline with clearly defined points. Bernardo (2014, p. 798) points out that storyworld, characters, and storyline are pivotal elements of a transmedia project. By the same token, Kurek and Hauck (2014, p. 122) highlight the importance of careful scaffolding and modeling to reduce the cognitive load – “dealing with vast amounts of multimodal information may exceed leaner’s available cognitive capacity, leading to cognitive overload and, consequently, superficial interaction with the input in question (...) it is even more complex in case of exposure to multimodal content in languages other than one’s L1” (Kurek & Hauck, 2014, p. 127).

The story is supported by a main narrative arc constituted by micro-narratives. Connecting Cat draws upon the hero's journey model, one that students can relate to. Campbell's monomyth structure is universal – “What works universally with this structure is its reliance and reliability for telling stories based on self-reflection, stretching one’s capability, finding friends, inspiration, attainment of goals, and perhaps what up until this point had been undiscovered talents” (Gronstedt & Ramos, 2014, p. 1). Similarly to Cat's journey, the heroine of the story, students during their learning course face challenges, meet mentors and are called to develop their skills. The underlying goal is to create an emotional connection and hence stimulate the engagement with the content knowledge embedded in the narrative. Dettori (2011, p. 55) highlights that narratives facilitate and provide context for ideas conveyed through emotional engagement– “narrative-based contexts usually result engaging for learners from the emotional/affective point of view and hence help connecting this aspect with content knowledge, stimulating the development of intrinsic motivation”.

Alongside the events unveiled in the primary world, students can access the secondary world targeted to explore the culture of the alien tribe. To provide cohesiveness and a unified experience to the participants of the storyworld, the events set in both worlds are interconnected, and some characters assume a double identity in the two dimensions.

The events of the storyworld are presented through micro-narratives. These were crafted to address a particular curricular topic or aspect to facilitate the management of learning goals. Regardless if the students explore the storyworld in a linear or non-linear manner, the micro-narratives are comprehensible on their own, even when explored outside the main narrative framework, and encapsulate the required context to explore the topics.

The storyworld is incomplete and seeks to engage students in shaping, expanding and filling in the narrative gaps. By exploring the storyworld, students learn more about it and become immersed in it. Ryan (as cited in Wolf, 2013, p. 5) proposes a multilayered process through which participants become immersed in the world – "the reader constructs in imagination a set of language-independent objects, using as a guide the textual declarations, but building this always incomplete image into a more vivid representation through the import of information provided by internalized cognitive models, inferential mechanisms, real-life experience, including knowledge derived from other texts". Wolf (2013, p. 5) expands this notion by including imagery and sound as well.

PROVIDING FOR A LEARNING EXPERIENCE

Transmedia Storytelling is "a strategic process where the scale and scope are a whole lot more than the sum of all its parts" (Kalogeras, 2014, p. 177). At its core, a transmedia project relies on processes of leveraging media platforms to deliver a story and create an interactive experience. For Raybourn (2014, p. 475), transmedia storytelling design entails the development of character (interaction and personas), story (narrative and scenarios), worldbuilding (place), and audience (participation and emergent culture). In addition to these elements, in the case of a transmedia learning experience, it is also necessary to ground a learning framework. Taking into account the goals of the project, the framework of the storyworld supports the construction of knowledge via manipulation of the digital resources scattered through the platforms and integrates interaction triggers that can ultimately lead to an authentic learning experience. The learning framework takes into account the following set of questions to assess the appropriateness of a narrative work for an educational setting, in this case, in reference to an e-module (Kalogeras, 2014, p. 178):

1. Can the story be integrated into an existing curriculum?
2. Is the story engaging, and can it help make learning more effective?
3. Does the story contain subject matter that is relevant to the module?
4. Do the hyperlinks found in the story provide valuable information in keeping with learning objectives and outcomes?
5. Can additional learning extensions be created by subject-matter experts/producers?
6. Can the students create stories extensions via digital stories to provide educational value?

Drawing from the multiliteracy training approach proposed by Kurek and Hauck (2014, p. 119), the students' interactions were scaffolded around the following parameters: reception, participation, and contribution. This method "attempts to address learner literacy needs on various levels. Similarly to what is happening in a language classroom, the learner is guided from observation of the desired acts, through their interpretation to the final performance, with the teacher gradually withdrawing support" (Kurek & Hauck, 2014, p. 126).

Considering the learning sequence: reception, participation, and contribution for this project, implied selecting platforms that would allow for the progression from reception to contribution. Platforms that would on one hand provide learning inputs and, on the other, trigger the creation of learning outputs and engage students into taking an active role. The different gateways to the storyworld are set forth via a common interface - a website, the hub of the storyworld. The following diagram provides an overview of the core elements that constitute the experience of the storyworld. The navigation within the framework allows for a cumulative or complementary exploration of the elements, linear or non-linear. Participants can determine their level and form of immersion in the storyworld.

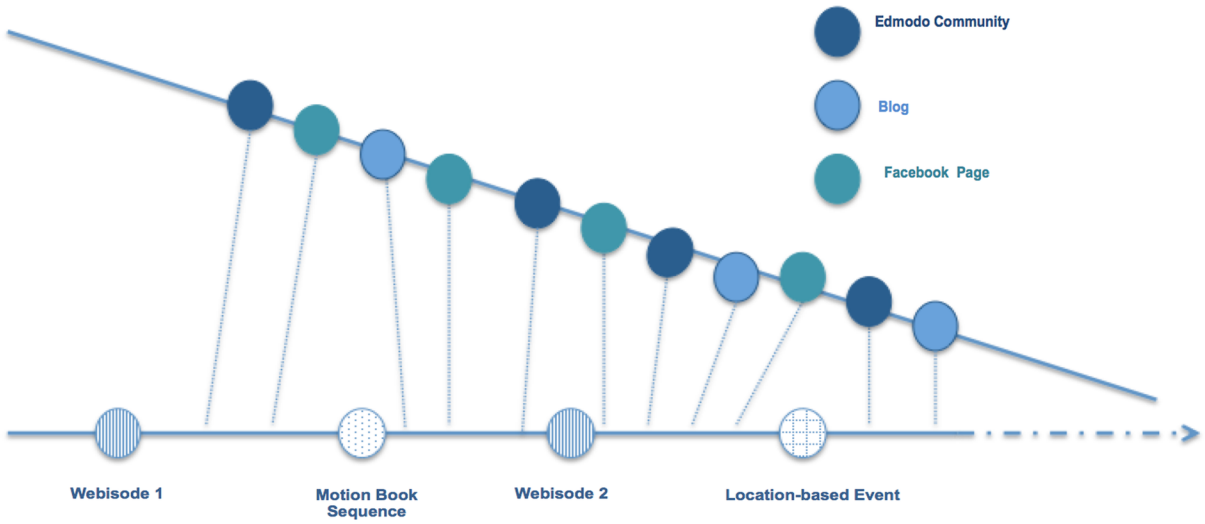

Figure 1. Mapping of the interfaces of the storyworld

Gateways to the Storyworld targeted to explore Learning Inputs

The first webisode "Who am I?" establishes the essence of the story - characters, setting, and challenges. The main character is confronted with the revelation of her secret alien identity and mission - to seek pieces to assemble a portal and connect mankind to an alien tribe. Cat also finds her allies, her pet and member of the alien tribe. The webisode integrates a clue - a narrative link to other two narratives. Through the lens of learning, "Who am I?" can be explored to raise awareness to diverse types of linguistic discourse and discursive practices in the L2. Students can critically evaluate discourse and develop conversation skills using the webisode as setting.

If the first webisode explores real world events of the storyworld, the second micro-narrative taps into the imaginary dimension of the story. It exploits the culture and life of the alien tribe. Since it seeks to explore an imaginary dimension, the narrative thread is conveyed through a sequence of a comic motion book. It is available via Madefire application and is hosted online. The sequence “Allure” presents the context for the clue set in the webisode “Who am I?" while exploring activities and adventures of the tribe members. The user is invited to track the warrior Shakid from the moment he morphs from cat, in the real world, into a Fluxus warrior; follow a rescue mission and trace his return to the real world. The events related to the mission, in particular, are set to integrate learning triggers related to the topic linguistic diversity. One of the tribe members is entangled in the branches of an alien tree affected by human communication. Visual and audio elements enhance the narrative and provide learning input - in this case a cacophony of human dialects that affects the tree. Selecting the motion book as a platform was a strategic choice since it combines the language of comic books and interaction. The Fluxus world theme is also based on cultural references of interest to the target audience of the project such as features of MMORPGs (landscapes and avatars). Motion comic books are a new medium of graphic storytelling. They use a combination of static art, simple animation and sound to create a movie-like feel within the comic. McCloud (1994, p. 6) by defining the comic language refers to what happens between the panels, as the space in which the reader completes the actions that aren’t shown in order to form a logical story. In motion comic books, the space between the panels is taken away and replaced with animation; it doesn’t change meaning but alters the quality of the experience - “Its DNA is comic books. Lots of people have responded that it reminds them of video game elements or having cinematic sort of qualities to it (...)

It's an immersive reading experience" (Schmidt, 2014, para. 2). The interplay of words, pictures, sound, and animation convey an immersive experience. Similarly to directing the viewer's gaze into a painting, "Allure" adapts the graphic conventions of comic books - imaginative and supportive typography, strip panels, speech bubbles to guide the act of reading. The participation of the reader is direct in the meaning-making process. The progression in the narrative is dependent on interactions, exchanges and movements of the readers -"I frame, I unframe, I reframe: so the graphic texts passes from panel to panel, page to page across medial boundaries" (Denson, 2014, p. 271). For ESL learning purposes, it presents the potential to explore receptive communication skills and reinforce meaning through different modes of representation - "The text is interpreted in terms of pictures, sound, animation and these in terms of the text in an infinite sequence" (Sipe, 2012, p. 20). In terms of interpretation activities, students can identify biased or exploitative situations and then report and rephrase information provided visually in the sequence.

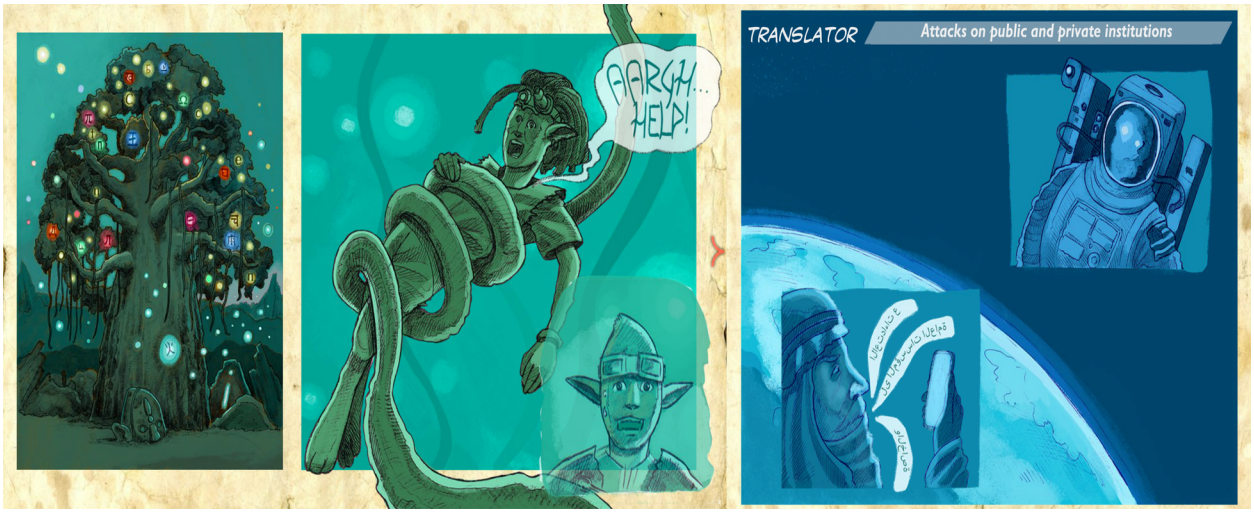

Figure 2. Screenshots of the sequence of the motion book

The second webisode - "Seek and you shall find" is an interactive video set in the Interlude platform. Interactive videos are engaging and seamless. They offer a multilayered video experience - "Viewers make choices that affect the video in real time for a completely fluid lean forward viewing experience" (Treehouse, 2014, para. 1). The webisode provides a set of narratives threads that users can choose upon, thus allowing for the creation of a personal experience of the story. The interactivity is based on the choose-your-own-adventure mechanic. Beyond providing multiple paths through a story, upon completion of the narrative experience, viewers can replay it using alternative options at various points."Seek and you shall find" is set in London, where we find the protagonist on a quest to find a portal piece after solving a clue. Both the setting and the interactions with secondary characters were intentionally integrated to exploit the topics of linguistic diversity and multiculturalism. The various narrative threads provide learning inputs such as discourses representing diverse cultures, genres, intentions, communication modes and language varieties. London is a multicultural city, home to a wide variety of ethnic groups. During her quest, the protagonist interacts with people from different cultural backgrounds. Besides authentic immersion in "World Englishes", visual and audio elements depict multicultural aspects of the city such as museums or world food markets.



Figure 3. Screenshots of the interactive webisode – selection menu and scene

One route through which the storyworld may be experienced is the location-based quest. A situated learning experience in geographic space that takes advantage of the locative storytelling application Aurasma. This mobile augmented reality application allows a storyteller to attach story elements (digital images, videos, instructions, clues) to a real world marker. The main goal is to make the story tangible to learners by using a learner-centered and active participation approach – "(...) what might be otherwise be salient but abstract information when read on a computer screen can become something potentially more impactful when consumed or engaged with on location" (Wagner & Erikson, 2013, p. 352). Through the location based quest "AWOL" participants are encouraged to help Cat by revealing vital clues and story details that ultimately lead to the discovery of one of the portal pieces and its kidnaped guardian. The quest is set to explore the topic media and is targeted to develop reflective reception - by accessing written and audiovisual information - but also participation. To complete the quest, students need to be active participants in the story. The interactive elements that construct this quest seek to engage students in solving puzzles and clues through which they can develop reading and listening skills such as scanning and inferencing. The triggers for this quest also require students to express themselves through thoughtful and purposeful online participation by interacting with Cat via her Facebook page and delivering reports on their findings to the police and newspapers.
For Spaulding (2012, p. 65) "the story that transmedia writers tell is only half the story - the much more interesting half takes shape when the world is opened and audiences can step up and play a part. It's a huge Internet of things out there". The following section provides an overview of the platforms through which learners can shape, expand and contribute to the storyworld.

Gateways to the Storyworld targeted to triggering Learning Outputs

Picking up on the digital spaces in which students interact, one of the entry points to the storyworld is Cat's Facebook page. Her posts seek to immerse students in her quests by sharing her impressions of the places she has been, the challenges she is facing and asking for opinions on issues related to the quests. In this manner, students are encouraged to be active participants in the storyworld and at the same time to expand their knowledge on the learning topics explored in the webisodes, motion book and location-based quest. Through different interactions with Cat on the social network, students are encouraged to develop accuracy on the linguistic level while using mechanisms of self-expression and at the same time shape their online identity – "thoughtful and purposeful online participation can help forge social connections and, through interaction, formulate and negotiate one's online identity" (Pegrum, 2009, p. 21). Cat's posts

can also be resources to address discourse issues such as argumentation and negotiation skills, pragmatic competence or netiquette in L2 – "Learners are expected not only to interpret the meaning conveyed through input but also to articulate their own opinions by deliberately choosing and imitating a particular convention or type of discourse" (Kurek & Hauck, 2014, p. 129).

The blog "Fluxus Log Archive" within the storyworld aims at being a repository of knowledge collected by humans about planet earth and its inhabitants. As co-creators of the storyworld, students can give their contribution to the repository. Posts on the blog include challenges that might encourage students to create, collaboratively or on their own, digital artifacts such as wikis, podcasts, videos or any other form of digital creation. This space is targeted to provide learning opportunities to engage learners in the topics, activate prior knowledge as well as develop media literacy skills. By not imposing restrictions on the selection of medium to be used and encouraging creative self-expression, students can channel previously acquired knowledge and skills; remix and recycle modes, genres and symbols to forge new interpretations and representations of the storyworld and their context. Moreover, Craig (2011, p. 84) highlights the fact that "the language processes and skills involved in media production, creating information, and using technology tools as a vehicle for sharing provides multiple opportunities to build both basic interpersonal communication skills as well as cognitive academic language proficiency skills".

At its core, the project is focused on enhancing learning through interactions on digital spaces. The Edmodo platform integrates social networking and communication features that promote involvement in collaborative and creative practices both in the classroom and outside leading to the creation of learning paths that address the students' needs and learning contexts. It is intended to be a space for the community of students and teachers to share resources and content related to Cat's storyworld.

Social networks entail visual and verbal connectivity. As collaborative software, they can support a common space around shared interests, needs and common goals for knowledge sharing and communication purposes. Ultimately the integration of these social media platforms aims at giving the students the opportunity to provide feedback regarding their learning experience on the whole.

FUTURE DEVELOPMENT AND CLOSING DISCUSSION

This paper presents a prototype that seeks to provide a transmedia learning experience. The project is grounded on the use of multiple interfaces that constitute a storyworld. While engaging students in multimodal activities, they explore subject matter related to the existing Portuguese 10th grade ESL syllabus. Transmedia learning defined by Raybourn (2013, p. 132) as a "scalable system of messages that represent a narrative or core experience that unfolds from the use of multiple media, emotionally engaging learners by involving them personally in the story" allows for the construct of a framework for an adaptative media-rich learning experience nesting curricular content.

The learning framework simultaneously allows students to provide their input and accounts for their prior knowledge and experience. The goal is to set a cross-platform learning experience that can increase retention and encourages the generation of students' learning outputs through interoperable tools and applications with specific functions within the storyworld - "transmedia learning campaigns can evoke emotions (…) that may motivate a learner to have better retention of and connection to the content even when explored across several media" (Raybourn, 2014, p. 474). The storyworld is constituted by elements distributed across different delivery channels in which each platform makes a distinct contribution to unveilling the story while giving expansion opportunities to users to generate content. Students are at the core of the experience. They are both the audience and authors of the storyworld.

The storyworld creates an ethos for learning when students explore different angles of the narrative through webisodes, a motion book sequence, and a location-based quest. The more invested in the storyworld students are, the closer they will feel to the content. Side stories and interactions with story characters, set through social media platforms, Facebook and Tumblr, as well as, with peers within the community of the storyworld, via the Edmodo platform, invite the student to participate in the storyworld while developing ESL communication skills and transliteracy skills. In essence, it promotes interactions

and the development of social skills as part of a learning process, through collaborative and networking platforms, while facilitating the acquisition, development and improvement of ESL skills.
Transmedia learning is still in its infancy, however, it is steadily gaining ground. Educators are gradually departing from teacher-centred approaches, and are tapping into how technology and learning environments can shape a learning experience. Meaningful experiences that students can relate to, through the use of digital resources, digital interactions, and experiences. There are sparse documented cases that may widen the understanding of the use of transmedia learning as a strategy – "there are very few integrated applications of transmedia learning in use today by researchers, instructors, or training cadre and therefore few examples of experimental data are available on its effectiveness" (Raybourn, 2014, p. 472). Kalogeras (2014, p. 214) amplifies this concern by pointing out "there is a need for more research on using entertainment properties to engage and educate learners and on combining the learning-by-doing and learning-through-story methodologies across diverse subjects".
As part of an ongoing research project, the presented prototype aims to deepen the understanding of the implementation of transmedia storyworld in ESL learning context - how it can communicate the complexity and context of a story and its learning content via the use of media platforms as well as achieve students' engagement and participation. The construction of a study case, based on the implementation of the prototype, with a control group of ESL students, may provide insights into the identification of patterns and contexts of the use of transmedia learning strategies. In particular transmedia learning strategies affordances for ESL learning purposes. Ultimately, to what extent it may add value to teaching or learning by enhancing the effectiveness of learning. The study case may also contribute to the establishment of design guidelines for transmedia language learning experiences.
In what concerns research of language learning strategies, Griffiths and Oxford (2014, p. 2) acknowledge the need for a sound theoretical base for the purpose of meaningful research. Nevertheless, they forewarn "that attempts at clarification should not (…) reduce the richness and a predictive potential of a phenomenon which is by its nature extremely complex" (Griffiths & Oxford, 2014, p. 3). Since a transmedia learning storyworld is multifaceted, and multimodality is a key aspect that grounds its experience, the authors argue that a holistic approach to the study is required. The exploration should not only target the reflection upon particular features of each platform but also how they function semiotically and combine in the context of the storyworld and support a learning experience. Context is a key issue when exploring language learning strategies. The prototype, since it is tailored to accommodate the characteristics of the situated target research population, carries the potential of measuring students' strategy use in a reliable manner. To provide a richer description of the transmedia learning strategy use, data will not only be collected through questionnaires but also through qualitative research methods-interviews and observation. By assessing the relevance and appropriateness of transmedia learning worlds for ESL learning purpose, the authors hope to provide a contribution not only for ESL teachers but also for educators of other subject areas. They also believe the interchange of research findings among educators will facilitate the mapping of the use of transmedia learning as a strategy and even lead to transformation of learning environments or perceptions of what they might be in the 21st century.

REFERENCES

Bernardo, N. (2014). *Building Your Storyworld. In Transmedia 2.0: How to create an entertainment brand using a transmedial approach to storytelling* (Kindle ed., 798- 800). Lisboa: BeActive books.

Craig, D. V. (2011). Encouraging Participatory Culture and Language Learning: Assisting ELLs in Becoming Part of the Digital Youth. *TNTESOL Journal*, 4(1), 84-93.

Denson, S. (2014). *Transnational Perspectives on Graphic Narratives Comics at the Crossroads*. London: Bloomsbury Academic.

Dettori, G. (2011). Supporting knowledge flow in web-based environments by means of narrative. *Technology and Knowledge Flow: The Power of Networks*, 51, 66.

Fleming, L. (2013). Expanding learning opportunities with transmedia practices: Inanimate Alice as an exemplar. *Journal of Media Literacy Education,* 5(2), 3, 370-377.

Gomez, J. (2015). *The media is the message.* Retrieved July 14, 2015, from http://screenz.co.nz/the-media-is-the-message/

Griffiths, C. & Oxford, R. L. (2014). The twenty-first century landscape of language learning strategies: Introduction to this special issue. *System*, 43, 1-10.

Gronstedt, A. e Ramos, M. (2014). Learning Through Transmedia Storytelling. *Infoline*, 31 (1401).

Howe, N. & Strauss, W. (2000). *Millennials Rising: The Next Greatest Generation*. New York: Vintage Books.

Jenkins, H. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century*. Cambridge, MA: The MIT Press.

Kalantzis, M., & Cope, B. (n.d.). New learning: A charter for change in education. *Critical Studies in Education*, 83-94.

Kalogeras, S. (2014). *Transmedia Storytelling and the New Era of Media Convergence in Higher Education. New York*: Palgrave Macmillan.
Kurek, M. & Hauck, M. (2014). Closing the "digital divide" a framework for multiliteracy training. In Guikema. J (Ed.), *Digital literacies in foreign and second language education*. (pp. 119-136). San Marcos: Calico.

McCloud, S. (1994). *Understanding Comics: The Invisible Art*. New York: Harper Perennial.

Pegrum, M. (2009). Communicative networking and linguistic mashups on Web 2.0. In M. Thomas (Ed.), *Handbook of research on Web 2.0 and second language learning* (pp. 20–41). Hershey: Information Science Reference.

Raybourn, E. M. (2013). Addressing Changing Mindsets: Transforming Next Generation Leader Development with Transmedia Learning. In Hailes, T.C. & Wells II L. (Eds.), *Changing Mindsets to Transform Security: Leader Development for an Unpredictable and Complex World* (pp. 129-144). Washington, DC: Institute for National Strategic Studies (INSS).

Raybourn, E. M. (2014). A new paradigm for serious games: Transmedia learning for more effective training and education. *Journal of Computational Science*, 5(3), 471-481.

Rose, F. (2011). *The Art of Immersion: How the Digital Generation Is Remaking Hollywood, Madison Avenue, and the Way We Tell Stories*. New York: W.W. Norton.

Schmidt, B. (2014). *Madefire's Motion Book Tool Revolutionizes Comic Books For a Digital Age*. Retrieved July 14, 2015, from http://tobereadbooks.com/madefire-motion-book- tool-revolutionizes-comic-books

Sipe, L.R. (2012). Revisiting the relationships between text and pictures: *Children's Literature in Education*, 43(1), 4-21.

Spaulding, E. (2012). *Transmedia Storytelling: Principles, practices, and prototypes for designing narrative experiences with the audience.* Theses Paper 31. Carnegie Mellon University. Retrieved July 15, 2015, from http://repository.cmu.edu/theses/31

Starskey, L. (2012). *Teaching and learning in the digital age*. New York: Routledge.

Thomas, S., Joseph, C., Laccetti, J., Mason, B., Mills, S., Perril, S., & Pullinger, K. (2007). *Transliteracy: Crossing Divides*. First Monday, 12. Retrieved July 14, 2015, from http://www.ojphi.org/ojs/index.php/fm/article/view/2060/1908#t2

Treehouse (2014). *Welcome to a New World of Storytelling*. Interlude. Retrieved July 14, 2015, from http://interlude.fm/

Wagner, L. & Erickson, I. (2013). Augmented Reality and Neighborhood Narratives. In C. SteinKuehler (Ed.), *GLS 9.0 Conference Proceedings* (pp. 352-355). ETC Press.

Warren, S. J., Wakefield, J. S., & Mills, L. A. (2013). Learning and teaching as communicative actions: Transmedia storytelling. In Wankel, L., & Blessinger, P. (Eds.), *Increasing student engagement and retention using multimedia technologies video annotation, multimedia applications, videoconferencing and transmedia storytelling* (pp. 67-94). Bradford: Emerald Group Publishing Limited.

Weaver, T. (2013). *Comics for Film, Games, and Animation: Using Comics to Construct Your Transmedia Storyworld*. Burlington, MA: Focal Press.

Wolf, M. J. (2013). *Building Imaginary Worlds: The Theory and History of Subcreation*. New York: Routledge.

KEY TERMS AND DEFINITIONS

ESL: English as Second Language.

Language Learning Input: Language data, which a student is exposed to during the process of learning.

Language Learning Output: Language utterances a student produces during the process of learning.

Micro-narrative: Unit of self-contained narrative coherence vital to the construction of narrative meaning.

Storyworld: A shared universe within characters, events, and actions of a given narrative exist.

Transmedia Learning: A storytelling method, in which students and educators expand a learning experience across different media platforms.

Transmedia Storytelling: The process of presenting a story or experience across different media platforms in which each content element is unique and contributes to a larger whole.

José Bidarra & Patrícia Rodrigues

Universidade Aberta

Transmedia Storytelling as a Framework for Effective Blended Learning Design

Innovative impact

This article discusses the use of *Transmedia Storytelling* in blended learning, based on recent research and the need for an effective learning design. The interest in digital storytelling for educational purposes has increased over the last few years, with researchers also identifying key pedagogical features of new media that make these inherently powerful learning tools.

Stories may have high impact in the development of resources for blended learning, and could well replace some forms of traditional teaching (such as expository lectures) but more likely they will remain just an alternative to other more conventional education methods.

The trend towards learner centred strategies and collaborative learning shows the way to learning designs that should incorporate factors of knowledge construction (predominantly in group activities), authentic learning, and personalized learning experience, which merges agreeably with the integration of other factors such as games, digital storytelling, science inquiry, and technologies that are able to engage "Millennial" students.

Introduction

Transmedia Storytelling is a process of "crafting stories that unfold across multiple media platforms, in which each piece interacts with others to deepen the whole - but is capable of standing on its own - giving the audience the choice as to how deep into the experience they go" (Weaver, 2013, p. 8). In a nutshell, Weaver compares the transmedia approach to storytelling to the creation of a handshake. The audience has the chance to return the handshake by consuming one piece and then deciding if they want to continue the conversation by seeing what else is in a given storyworld.

Transmedia Storytelling is also "a strategic process where the scale and scope are a whole lot more than the sum of all its parts" (Kalogeras, 2014, p. 177). At its core, a transmedia project relies on processes of leveraging media platforms to deliver a story and create an interactive experience. For Raybourn (2014, p. 475), transmedia storytelling design entails the development of character (interaction and personas), story (narrative and scenarios), worldbuilding (place), and audience (participation and emergent culture). In addition to these elements, in the case of a transmedia learning experience, it is also necessary to ground a learning framework. Taking into account the goals of a blended learning project, the framework of a specific storyworld must support the construction of knowledge via manipulation of the digital resources scattered through the platforms and integrate interaction triggers that can ultimately lead to an authentic learning experience.

Stories and learning

Stories are mystifying and forge emotional connections. Fiction, in particular, stimulates empathy with characters that seem real. As communication tools, they provide understanding and entertainment. Independent of the medium - books, web series, comic books, films or games, stories engage audience members in a narrative experience that becomes a unique enterprise that differs from individual to individual.

The internet has given rise to a new form of narrative "one that's told through many media at once in a way that's non-linear, that's participatory and often game-like, and that's designed above all to be immersive" (Rose, 2011, p. 3). Stories are universal nevertheless, the way they are told changes with the medium through which they emerge. As participatory media proliferate, storytelling does too. In this context, transmedia storytelling emerges as a mean of creation and expression of the "Millennial generation", a definition introduced

References

Gomez, J. (2015). The media is the message. Retrieved July 14, 2015, from http://screenz.co.nz/the-media-is-the-message/

Howe, N. & Strauss, W. (2000). *Millennials Rising: The Next Greatest Generation*. New York: Vintage Books.

Jenkins, H. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century*. Cambridge, MA: The MIT Press.

Kalantzis, M., & Cope, B. (n.d.). New learning: A charter for change in education. *Critical Studies in Education*, 83-94.

Kalogeras, S. (2014). *Transmedia Storytelling and the New Era of Media Convergence in Higher Education*. New York: Palgrave Macmillan.

Kurek, M. & Hauck, M. (2014). Closing the "digital divide" a framework for multiliteracy training. In Guikema. J (Ed.), *Digital literacies in foreign and second language education*. (pp. 119-136). San Marcos: Calico.

Raybourn, E. M. (2013). Addressing Changing Mindsets: Transforming Next Generation Leader Development with Transmedia Learning. In Hailes, T.C. & Wells II L. (Eds.), *Changing Mindsets to Transform Security: Leader Development for an Unpredictable and Complex World* (pp. 129-144). Washington, DC: Institute for National Strategic Studies (INSS).

Rose, F. (2011). *The Art of Immersion: How the Digital Generation Is Remaking Hollywood, Madison Avenue, and*

by Howe and Strauss (2000, p. 4).

As passive viewers become active users and participants, transmedia provides a set of tools and techniques that can reach and engage young audiences, often through multiple interfaces, platforms and devices. Gomez (2014) refers to the "Millennials" as the most published and social generation in the history of humanity. He argues they are also the "Transmedia Generation" since they can take different parts of a story, delivered across different platforms and assemble a whole that suits the level with which they want to engage with the material.

The exploration of the educational uses of transmedia practices has become a prevalent topic of discussion in recent years. From an educational point of view, transmedia learning environments allow to shift the balance of agency as students "become hunters and gatherers pulling together information from multiple sources to form a new synthesis" to become "active publishers of knowledge" (Jenkins, 2009, p. 46). They also allow to "broaden the mix of representational modes in which students express their knowledge and to build collaborative knowledge cultures" (Kalantzis & Cope, 2012, p. 84).

Learning resources

The learning framework we propose takes into account the following set of questions to assess the appropriateness of a narrative work for an educational setting, in this case, in reference to an e-module (Kalogeras, 2014, p. 178):

1. Can the story be integrated into an existing curriculum?

2. Is the story engaging, and can it help make learning more effective?

3. Does the story contain subject matter that is relevant to the module?

4. Do the hyperlinks found in the story provide valuable information in keeping with learning objectives and outcomes?

5. Can additional learning extensions be created by subject-matter experts/producers?

6. Can the students create stories extensions via digital stories to provide educational value?

Drawing from the multi-literacy training approach proposed by Kurek and Hauck (2014, p. 119), the students' interactions may be scaffolded around the following parameters: reception, participation, and contribution. This method "attempts to address learner literacy needs on various levels. Similarly to what is happening in a language classroom, the learner is guided from observation of the desired acts, through their interpretation to the final performance, with the teacher gradually withdrawing support" (Kurek & Hauck, 2014, p. 126).

In a specific project the learning sequence: reception, participation,

the Way We Tell Stories. New York: W.W. Norton.

Weaver, T. (2013). *Comics for Film, Games, and Animation: Using Comics to Construct Your Transmedia Storyworld*. Burlington, MA: Focal Press.

and contribution, implies selecting platforms that would allow for the progression from reception to contribution. Platforms that would on one hand provide learning inputs (e.g. YouTube, iTunes U) and, on the other, trigger the creation of learning outputs and engage students into taking an active role (e.g. Facebook, Twitter). The different gateways to a storyworld are set forth via a common interface - a website, the hub of the storyworld. The navigation across different platforms allows for a cumulative or complementary exploration of the story elements, linear or non-linear. Participants can determine their level and form of immersion in the storyworld.

Conclusion

Looking forward, we argue that traditional pedagogy has to be reformulated, not just accommodating transmedia storytelling and the latest technology for blended learning but also enabling rich social interaction, enhancing group work and communication within educational settings. We would define learning today as a multidimensional construct of learning skills and cognitive learning results, for instance, including procedural, normative and strategic knowledge, and attitude. Learning is, from this perspective, about building up knowledge, skills, beliefs and attitudes that together, form an identity as someone who is a capable consumer, and perhaps even producer of scientific knowledge. Some may also speculate that this "identity-level" is a good way for educators to think about transfer. Perhaps if students experience the development of identities as competent performers in science, acquiring knowledge, skills, and beliefs congruent with those valued by various scientific communities, they will take on these practices outside of formal school contexts. Finally, we concede that a lot has still to be done, but we contend that social networking, digital storytelling, gamification, and other similar strategies, are all crucial to the future of open and distance learning.

Learning English Through a Transmedia Storyworld

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Abstract: Transmedia storyworlds present the potential to be used as multimodal sandboxes within which learners can gain a higher agency to produce language. Part of an ongoing research project, we describe in this paper the design and implementation of a transmedia learning storyworld. Through the discussion of a learning experience based on the storyworld, we explore challenges and issues related to the development of transmedia learning practices in English as Second Language context.

Introduction

Competence in English as Second Language (ESL) encompasses not only grammatical but also communicative, symbolic (Kramsch, 2009), and relational (Kern, 2000) aspects, which are controlled by sociolinguistic, pragmatic and cultural variables. Language practice should not, therefore, be dissociated from the students' needs, language use, social and cultural contexts. In the 21st Century, this translates into considering the mediated and participatory environments in which language learning processes occur. It implies a critical reflection of present interactions and means of self-expression performed by students in the mediascape and designing learning frameworks that prepare them to be active participants as well as proficient communicators in the global community of the present and future. In other words, educators are called to ponder over new forms of media literacy pedagogy, which reflect the context of a participatory culture (Jenkins, 2006).

Engaging in a transmedia storyworld implies taking an active role, to be a co-creator of that storyworld and expanding it through a unique contribution. Acting as a learning ecosystem, transmedia storyworlds provide a strong foundation for the development of many different types of literacy, such as information literacy, visual literacy, and media literacy. We argue that the creation of a Transmedia Learning (TL) experience, in this case via a storyworld, may provide a fertile ground for the development of ESL learning practices suited for the 21st Century students while developing the commonly labeled as 21st Century Literacy (Brown, Bryan & Brown, 2005).

By combining theory and practice through the experimental development and application of an ESL transmedia learning storyworld in a Portuguese formal learning environment, one seeks to ignite the discussion of the affordances and constraints that such participatory space might involve. The second section of this paper provides insight into the rationale and the underlying theoretical framework for the research project. The next section is dedicated to the discussion of the research framework selected for this project, while the fourth provides an insight into the design of the storyworld and provides guidelines into how to embed a learning layer into it. On the fifth section of this paper, you will find an overview of the elements that scaffold the experience of the storyworld. The two following sections report on the application of a prototype version of the transmedia storyworld. From fieldwork to analysis and reflection, the last section of this paper presents the challenges and issues emerging from this experience and provides an overview of aspects that need to be addressed in future work.

The Learning Potential of Transmedia Storyworlds

If storytelling mirrors, across time, the social and cultural contexts and technological ventures of communities, the same dialectic relationship should be observed in the creation of learning arenas. In the context of a participatory media landscape, transmedia storytelling emerges as a mean of creation and expression in the 21st Century. It is a process of "crafting stories that unfold across multiple media platforms, in which each piece interacts with others to deepen the whole - but is capable of standing on its own - giving the audience the choice as to how deep into the experience they go" (Weaver, 2013, p. 8). “Where transmedia was once an option, now it is a necessity. A way of life” (Pringle, 2016).

Communicating in the present mediascape implies having the ability to interact across multiple media platforms and social networks. Reflecting this reality transmedia storyworlds rely on users' engagement and social interactions - a shared culture disseminated by them across the spaces of the storyworld. Given their affordances, transmedia storyworlds provide the space "to connect students

with diverse content and each other" (Raybourn, DiGiovanni & Jones, 2015, p. 2). They are particularly appealing by combining storytelling with the use of technology and means of self-expression in the online world the students are attuned to - "Learners are telling us how they like to learn if we listen to them. They are storytellers and builders […] They want to create, and leave their mark on the world" (Raybourn, 2016, p. 173).

More than targeting different skills and being proficient in an array of knowledge areas, technologies or media, it is necessary to develop a broader view of what literacy encompasses in the present mediascape. It is about focusing on the meaning-making processes across different cultural contexts and platforms students engage with - "Transliteracy consists of skills, knowledge, thinking, and acting, which enable fluid 'movement across' in a way that is defined by situational, social, cultural, and technological contexts" (Sukovic, 2017, p. 8). Educators need to put into perspective the "set of skills, practices, values, priorities, sensibilities, and learning/ sharing strategies developed and applied in the context of the new participatory cultures" (Scolari, 2018, p. 15) by students.

The experience of a transmedia storyworld heavily relies on users' engagement and social interactions. For students, it poses an opportunity to seek out content through active hunting and gathering processes while crisscrossing various media platforms (Jenkins, 2011) and evaluate ideas with others. It is a collaborative experience of exchange of knowledge, a symbolic play between peers. Especially appealing to educators, Fleming argues that TL worlds allow to combine the affordances of digital technologies with learners' real-life experiences and apply learner-focused pedagogies (Fleming, 2013, p. 371). On the same note, Warren, Wakefield and Mills highlight the educational value of the transmedia story by pointing out that transmedia can be perceived as "a continuous learning process […] Multimodal experiences allow students to seek, weigh, and communicate answers and knowledge is found socially constructed based on existing knowledge." (2013, p. 69).

Instead of the prevailing abstract knowledge-based, teacher-centered paradigm; a student-centered language learning approach would allow taking into consideration the settings in which the second language is acquired and used by the students. Taking the latter into account, this research project explores the hypothesis that acting as a media ecosystem, a transmedia storyworld designed for learning ESL can be perceived as a multimodal sandbox within which learners can gain a higher agency and develop their communication and (trans)media literacy skills. The following section presents the research goals and the selected methodological approach.

Research Framework

This research project emerges from a combination of two educational challenges. Firstly, the urgency of developing and mapping instructional practices that meet 21st Century students' needs and account for the contexts in which they explore knowledge acquisition processes, engage and learn. Secondly, learning a language is still a challenging task. It is difficult to identify which variables play a significant role in the acquisition of a second language - "there is great variability in the outcomes of any given language learning intervention that cannot be easily explained" (Reeves & McKenney, 2013, p. 20).

A transmedia language learning experience can be classified as a "wicked problem" in what concerns research. One that Coyne (2005, p. 6) described as recurrent and subjected to redefinition and resolution in different ways over time. To cope with wicked problems, Kelly (2010, p. 76) recommends the adoption of design-based research distinctively when pedagogical content knowledge is scarce. Thus this research project, through iterative cycles of analysis; design and development; implementation; evaluation and reflection, seeks a more comprehensive exploration of its underlying topics. Instead of a narrower Manichean dualism of whether or not it works, the research focus is on how it can work and why (Reeves & McKenney, 2013, p. 4).

A TL storyworld is multifaceted, and multimodality is a critical aspect that grounds its experience. Hence, we argue that a holistic approach to its study is required. It does not concern the analysis of particular features of each platform solely but also how they function semiotically and support a learning experience, in particular how they can convey meaning and support activities that foster the development of communication skills. Given the diverse and complex nature of the interactions that might emerge from the application of a transmedia storyworld within formal learning environments, without the implementation of a case study, the research process would be hindered by not

accounting for the participants' response to the storyworld and transmedia navigation aspects. Context plays a critical role in the exploration of language learning strategies. Hence, to provide a richer description of the application of the storyworld, data was not only collected through quantitative but also through qualitative research methods such as observation, interviews, feedback sessions and collection of learning artifacts developed by participants.

Worldbuilding and Design of the Learning Layer

Connecting Cat's (CC) storyworld is targeted to Portuguese 10th-grade students, 16-year-old teenagers and was designed to be the setting of exploration of contents and curricular goals of ESL, level B1, according to the Common European Framework of Reference for Languages. The storyworld seeks to provide space for the exploration of the curricular topics: media culture, multiculturalism, linguistic diversity and use of technology and was designed so that students could expand it while enhancing the development of communication and media literacy skills.

The storyworld's backdrop is an adventure story in which the protagonist, Cat, seeks portal pieces on different places to ultimately build a portal to connect humans to a tribe of alien warriors. The story allows for the exploration of a mystical dimension, in this case, an alien warriors' world, as well as the real, through the unfolding of the main character's events.

Two parameters informed the selection of the platforms: their potential for the development of learning activities in the context of ESL and also online spaces and media consumption preferences of the target audience. Drawing from the multiliteracy training approach proposed by Kurek and Hauck (2014, p. 119), students' interactions within the storyworld were scaffolded around the following parameters: reception, participation, and contribution. "Similarly to what is happening in a language classroom, the learner is guided from observation of the desired acts, through their interpretation to the final performance, with the teacher gradually withdrawing support" (Kurek & Hauck, 2014, p. 126). Regardless if students explore the storyworld in a linear or non-linear manner, the narrative units that bring this storyworld to life, are comprehensible on their own and encapsulate the required context to explore the learning content.

Considering the learning sequence: reception, participation, and contribution implied selecting platforms that would allow for the progression from reception to contribution. Platforms that could provide learning inputs and others that could trigger the creation of learning outputs and engage students in taking an active role. The different gateways to the storyworld were set forth via a common interface – *CC*'s website (Rodrigues, 2016), the hub of the storyworld.

Core Elements of the Storyworld

The following is a brief description of the core platforms of CC. The first three are targeted to provide learning inputs students can explore.

Who am I is a webisode that establishes the essence of the story - characters, setting, and challenges. The main character is confronted with the revelation of her secret alien identity and mission. The webisode integrates a clue to other two narratives. *Who am I* can be explored to raise awareness of diverse types of linguistic discourse and discursive practices in the second language. Students can critically evaluate discourse and develop conversation skills using the webisode as a setting.

Seek and you shall find is an interactive video. The interactivity is based on choose-your-own-adventure mechanics. Both the setting and the characters' interactions were intentionally integrated to exploit the topics of linguistic diversity and multiculturalism. Students are called to embark on an adventure set in London while exploring learning inputs such as discourses representing diverse cultures, genres, communication modes, and language varieties.

Allure is a motion book sequence that exploits the culture and life of the alien tribe, the Fluxus. The user is invited to track the warrior Shakid from the moment he morphs from a cat, in the real world, into a Fluxus warrior, follow a rescue mission and his return to the real world. The events of *Allure* were intentionally designed to target the topic of linguistic diversity. *Allure* adapts the graphic conventions of comic books and combines static art, simple animation, and sound to create a movie-

like feel within the comic. As a result, it presents the potential to explore receptive communication skills and reinforce meaning through different modes of representation.

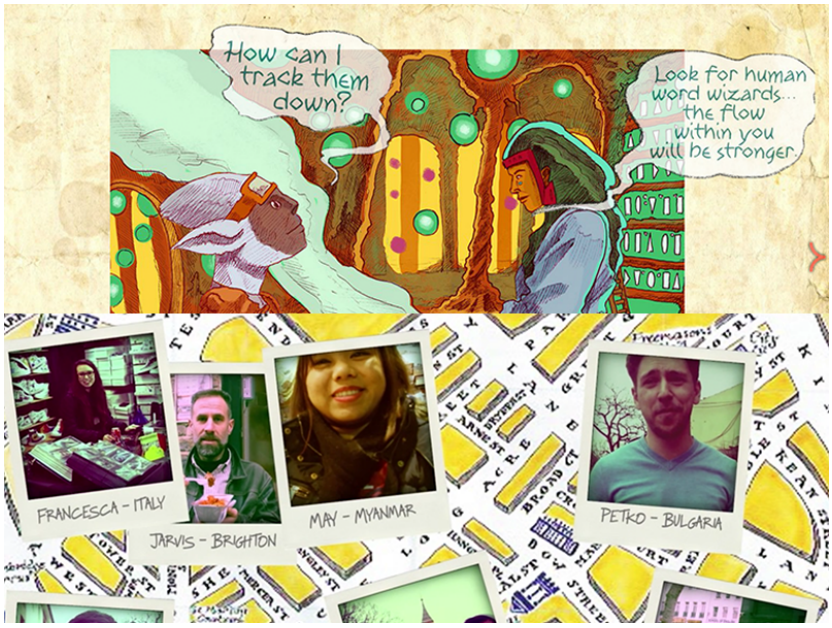

Figure 1. Screenshot of a frame of *Allure* (artwork by Delfim Ruas) and example of menu options of the interactive video.

The storyworld also integrates three platforms targeted to triggering the production of learning outputs.

The Fluxus Logs is a blog that aims at being a repository of knowledge "seeds" collected by humans about planet earth and its inhabitants. As co-creators of the storyworld, students can give their contribution to the repository. Posts on the blog include challenges that might encourage students to create, collaboratively or on their own, digital artifacts such as wikis, podcasts, videos or any other form of digital creation. More than engaging students in the topics, the goal was to activate prior knowledge as well as develop media literacy skills. By encouraging creative self-expression, students can channel previously acquired knowledge and skills; remix and recycle modes, genres, and symbols to forge new interpretations and representations of the storyworld and their context.

Cat's Facebook posts seek to immerse students in her quests by sharing her impressions of the places she has been. In this manner, learners are encouraged to be active participants in the storyworld and at the same time expand their knowledge on the learning topics explored in the webisodes and motion book sequence. There's also the learning opportunity to develop accuracy on the linguistic level while using mechanisms of self-expression. Cat's posts can be explored to address discourse issues such as argumentation and negotiation skills, pragmatic competence or netiquette in the targeted second language.

The Ed Tribe (or Community) is a platform specifically targeted to the use of the storyworld in learning contexts. It is set in the Edmodo online space - a platform which integrates social networking and communication features that promote involvement in collaborative and creative practices both in the classroom and outside. It is intended to be a space for the community of students and teachers to share resources and content related to the storyworld. The learning activities can be shared, remixed and enhanced by educators or students.



Figure 2. Selection of posts of the *Fluxus Logs*.

Application of the Storyworld's Prototype

The storyworld prototype version was tested in three 90-minutes ESL classes with 24 tenth-grade students at an urban secondary school in Portugal. The classes were co-taught with the teacher, and the researcher took part in the experience as an observer and participant. Throughout the three sessions, student and teacher observation and interviews were conducted, and learning artifacts collected.

Prior to the first session, the students answered a questionnaire concerning their social media consumption habits and their presence in the online world. The goal was to collect data that might help to target their needs as participants of storyworld. Regarding platform preferences, the students prefer to use Facebook to interact with peers - more than 90%, but some frequently interact on the Tumblr and Instagram platforms (36%). 70% play multiplayer online games and prefer action, and adventure games such as *League of Legends* or *GTA V*. Collection of this data allowed posteriorly to improve upon the first version of the storyworld by including access points to the storyworld in platforms more relevant to the students.

Participants engaged with the storyworld by producing digital artifacts and through a quest set via QR codes and augmented reality triggers. Students were allowed to explore the storyworld in an independent manner. To track the students' experience of the storyworld, a hash number was generated and saved on the client side. The majority of the students preferred to explore the motion book sequence and the interactive video. During feedback activities, students exchanged information about the story and tried to map the events of the main character. All groups were able to track the main events of the protagonist.

Research Insights

During the sessions, it was possible to identify patterns of usage and which platforms within the storyworld were the most engaging for the students. Participants also provided their insight on how the storyworld could be expanded via the integration of an Instagram account for the main character through which they could track Cat's quests and the creation of a blog through which they could post their Cat adventures. The majority of the students found the storyworld useful in terms of developing their communication skills. More than 70% elected the quest as their favorite activity during the sessions. To what regards the story, participants provided positive feedback. All enjoyed the story, and most showed interest in finding more details and unlocking more events of the adventure story.

Concerning media platforms, participants expressed mixed opinions. In the feedback questionnaire, participants were asked to rate them according to the following criteria - quality, engagement, and

learning value. The questions were presented as statements with Likert-type responses. Students could indicate how much they agreed or disagreed with each statement on a scale from 1 to 5 (being the highest).

Table 1. Students' feedback concerning the platforms of the storyworld.

	Quality	Engagement	Learning
Webisode 1	3	4	3
Motionbook	4	5	4
Interactive Video	4	4	3
Blog	4	4	4
QR/ AR Quest	4	4	4

Despite the fact that students provided positive reviews to the site regarding navigation and interface, they suggested more visual cues should be added. These concerns were addressed and resulted in the integration of supplementary structured menus in a new version of the site. The comments provided by students during the feedback activities complemented the preliminary quantitative data collected through the forms indicating that the majority of the students enjoyed the overall experience of exploring the storyworld and considered it to be an appealing approach to learning about subject matter.

A significant amount of challenges emerged during the sessions. Often participants expected direct guidance from the teacher or researcher to explore the storyworld. While developing their digital artifacts for the *Fluxus* blog, they were not aware of intellectual property rights when selecting resources for their works. Some participants struggled with the creation of artifacts, perhaps due to a lack of experience in producing creative work in the online world.

Closing Discussion and Future Work

In this paper, we started by discussing the need to address the disconnection between instructional practices and the way students make sense of the world in the present. We tapped into the idea that TL storyworlds given their affordances can leverage the design of a learning culture attuned to the singularities of the media ecosystem students inhabit – "Next generation learning ecosystems […] will be story-driven, incorporate learning across different media, and allow the learner a variety of entry points into a system of experiences" (Raybourn, 2016, p. 174).

By presenting the design features of an ESL TL storyworld, we brought to the fore possible guidelines for the development of TL experiences. Through the account of the application of a transmedia storyworld, we sought to explore the learning opportunities and also observe constraints inherent to the implementation of TL practices in ESL learning environments. Taking into account this preliminary research cycle two overarching observations emerge: this specific storyworld is shapeable to accommodate the needs of its users; on different and varying levels and modes CC was able to engage participants in ESL learning activities. Both are merely exploratory considerations and need to be further tapped into in order to be validated. It is also relevant to highlight that TL experiences take time to develop. They require a tempo that curriculum-based instruction and standardized assessment do not allow to happen. It is necessary to set the tone and nourish students' connections around the content and the storyworld even more so when they are not accustomed to developing TL practices in school. This was visible in students' interactions and participation during the development of activities related to CC in the sessions.

Based on students' feedback taking part in the sessions it was possible to enhance the storyworld. To further support teachers three explorations guides were added to the already existing resources in CC. These, however, do not constitute a set of fixed plans, they are instead suggestions, and starting points teachers can adapt according to their educational contexts and students' needs. The second version of CC is currently being explored by three classes in two different schools in Portugal. Unlike the first experience, in this second cycle of research, activities related to the storyworld are set following the multiliteracy training approach - reception, participation, and contribution. The primary goal is to combine theory and practice with experimental development work to reflect upon structures of interaction and deepen the understanding of possible instructional and learning practices that might

be explored through the storyworld. CC is also currently being used with younger students at alower level in an ESL formal learning environment in Greece. It is expected that outputs emerging from its application in this context will enrich and contribute to the design of diversified ways to explore CC, in particular, and TL storyworlds in ESL contexts in general.

It is necessary to develop a holistic perspective to analyze the validity of TL experiences in formal settings. Teachers' perceptions of transmedia learning practices are as important as the students - a matter that is also being addressed during the second cycle of research. A designed based-research project, as the one presented here, resembles an unfinished mosaic. Hopefully, future insights concerning the issues this research project attempts to address will, in turn, provide different pieces to expand it.

References

Brown, J., Bryan, J., & Brown, T. (2005). Twenty-first Century Literacy and Technology in K-8 Classrooms. *Innovate: Journal Of Online Education,* 1(3). Retrieved from http://nsuworks.nova.edu/cgi/viewcontent.cgi?article=1189&context=innovate

Coyne, R. (2005). Wicked problems revisited. *Design Studies*, *26*(1), 6. doi: 10.1016/j.destud.2004.06.005

Fleming, L. (2013). Expanding Learning Opportunities with Transmedia Practices: Inanimate Alice as an Exemplar. *Journal Of Media Literacy Education*, *5*(2), 371, 373-374. Retrieved from http://digitalcommons.uri.edu/jmle/vol5/iss2/3/

Jenkins, H. (2006). *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century (Part One). Henry Jenkins*. Retrieved from http://henryjenkins.org/blog/2006/10/confronting_the_challenges_of.html

Jenkins, H. (2011). Transmedia 202: Further Reflections [Blog]. Retrieved from http://henryjenkins.org/2011/08/defining_transmedia_further_re.html

Kelly, A. (2010). When is Design Research Appropriate?. In T. Plomp & N. Nieveen, *An Introduction to Educational Design Research: Proceedings of the seminar conducted at the East China Normal University, Shanghai (PR China), November 23-26, 2007* (3rd ed., p. 76). Enschede: SLO - Stichting Leerplan Ontwikkeling.

Kern, R. (2000). *Literacy and Language Teaching*. Oxford University Press.

Kramsch, C. (2009). *The multilingual subject: what foreign language learners say about their experience and why it matters*. Oxford, UK: Oxford University Press.

Kurek, M., & Hauck, M. (2014). Closing the Digital Divide: A Framework for Multiliteracy Training. In J. Guikema & L. Williams, *Digital Literacies in Foreign and Second Language Education: CALICO Monograph Series Volume 12* (pp. 119, 126). San Marcos, Texas USA: CALICO.

Pringle, R. (2016). The Storyteller, the Fixer - An Immerse response. *Immerse*. Retrieved from https://immerse.news/the-storyteller-the-fixer-866fe492fa49

Raybourn, E. (2016). Toward Culturally-Aware, Next Generation Learning Ecosystems. In S. Schatz & M. Hoffman, *Advances in Intelligent Systems and Computing* (pp. 173-174). Springer, Cham. Retrieved from https://doi.org/10.1007/978-3-319-41636-6_14

Raybourn, E., DiGiovanni, F., & Jones, M. (2015). Transmedia (Social) Learning in the Wild: Exploring a Continuum of Support for Transitioning Service Members. *Interservice/Industry Training, Simulation, And Education Conference (I/ITSEC)*, 2. Retrieved from https://www.osti.gov/servlets/purl/1324584

Reeves, T., & McKenney, S. (2013). Computer-Assisted Language Learning and Design-Based Research: Increased Complexity for Sure, Enhanced Impact Perhaps. In J. Rodríguez & C. Pardo-Ballester, *Design-Based Research in CALL: CALICO Monograph Series Volume 11* (pp. 4 , 20). San Marcos, Texas USA: CALICO.

Rodrigues, P. (2016). Connecting Cat. Retrieved from http://ccat.site

Scolari, C. (2018). *Teens, media and collaborative cultures: exploiting teens' transmedia skills in the classroom* (p. 15). Barcelona: Universitat Pompeu Fabra. Retrieved from http://hdl.handle.net/10230/34245

Sukovic, S. (2017). *Transliteracy in Complex Information Environments* (1st ed., p. 8). Chandos Publishing.

Warren, S., Wakefield, J., & Mills, L. (2013). Learning and Teaching as Communicative Actions: Transmedia Storytelling. In L. Wankel & P. Blessinger, *Increasing Student Engagement and Retention using Multimedia Technologies: Video Annotation, Multimedia Applications, Videoconferencing and Transmedia Storytelling* (p. 69). Bingley, UK: Emerald Group Publishing Limited.

Weaver, T. (2013). *Comics for Film, Games, and Animation: Using Comics to Construct Your Transmedia Storyworld* (p. 8). Burlington MA: Focal Press.