

## Wikipedia in University Program: Meta-analysing the Typology of Courses in the Lusophone Page

Filomena Pestana<sup>1,2</sup>, Teresa Margarida Loureiro Cardoso<sup>2</sup>

<sup>1</sup>*Rede WEIWER®, LE@D, Universidade Aberta, Portugal, maria.coelho@uab.pt*

<sup>2</sup>*Universidade Aberta (Open University Portugal), LE@D, Rede WEIWER®, Portugal, teresa.cardoso@uab.pt*

### Abstract

Due to the potential to foster the so-called digital capital, when pedagogically integrated in the curriculum, the Wikimedia Ecosystem allows to promote a broad set of skills, which we assume, in the scope of the WEIWER® International Academic Network, under the umbrella concept of Wikiliteracy. The Wikipedia in University Program is a part of that ecosystem to which we have been dedicating research, namely the projects that have been developed within that program. Hence, we considered to be important to meta-analyse the Portuguese page of the Wikipedia Program at the University specifically between the years 2011 to 2018. The study thus designed was inspired by the following central question: What do the courses of the Wikipedia University Program that are registered on the Wikipedia Lusophone platform tell us? In this text, we take a part of that research, aiming particularly to answer to the specific question: What formats/typologies are used to provide courses in those contexts? Methodologically, in the exploratory study, of a descriptive, meta-analytical and mixed nature, the MAECC®, Meta-model for Analysis and Exploration of Scientific Knowledge®, was adopted. Considering only the data from the Methodologies (macro) and Format/Typology (meso) categories, we can conclude that, of the 92 meta-analysed courses/projects, only 61 had the active link at the date of the data collection. Of these, only 58 included information applicable to our research purpose. Therefore, 4 formats/typologies were identified: “Edit-a-Thon” (5); “Dashboard” (1); Project page (19); Project page segmented into pages – “Main”, “Discussion”, “Resources”, “Help” (33). The typology of courses that emerges from the meta-analysis that we undertook in the online encyclopedia’s Lusophone page allows us to further illustrate, in a direct reference to the Wikimedia Foundation motto, that “Wikipedia belongs to education”.

**Keywords:** Wikipedia at University Program, Lusophone Community, Open Higher Education, Knowledge Mapping and Systematization, MAECC®.

### Introduction

Throughout its existence, Wikipedia has assumed an educational role as it can be considered an Open Educational Resource (OER) and therefore, when integrated either curricularly and/or pedagogically, it can be considered an Open Educational Practice (OEP). It is undeniable that it has become a phenomenon that transcends Wikipedia articles, allowing to identify a set of data and processes in its construction (Kopf, 2022; Pentzold et al., 2017). It is important to note that Wikipedia is the product of the collaboration of a community of wikipedians around the world, therefore, the “Discussion” and “See history” spaces, among others, enable to collect a set of data, namely, in the last example: “Search edit history” and “Editing statistics”. Corroborating this position, Pentzold et al. (2017, p. 1) state that “The online encyclopedia Wikipedia is both a cultural reference to store, refer to, and organize digitized and digital information, as well as a key contemporary digital heritage endeavor in itself”.

In this text, we specifically focus aspects inherent to the role it assumes in education, given that we aim at meta-analyzing a set of interventions carried out in different Brazilian and Portuguese higher education institutions, reported on the Lusophone Wikipedia page of the Wikipedia University Program (WUP), which is part of the Wikipedia Education Program (WEP). Our meta-analysis was carried out as part of the research agenda of the WEIWER® International Academic Network, based at LE@D, the Laboratory of Distance Education and Elearning of the Open University Portugal.

The text is organized into three parts: firstly, we summarize our theoretical contextualization, namely the relationship between Wikipedia and OER and OEP within the WEIWER® network, framed by the wikiliteracy, with a view to promoting the empowerment of the students (i.e., their digital capital); secondly, we present our methodological analysis system, the MAECC®; thirdly, we describe and discuss our data.

## Theoretical Framework

As previously mentioned, the WEIWER® International Academic Network is integrated in LE@D, a research and development unit based in a Portuguese public higher education institution; WEIWER® has been promoting research taking Wikipedia as the object of study, namely studies on Wikipedia curricular integration, at different levels of education, thus resulting in master's dissertations, doctoral theses, post-doctoral reports, and scientific papers. The WEIWER® Network was created with the motto “Let’s Share, Learn & Discover?!” (Cardoso, Gamez, Pestana & Pinto, 2020), with the objectives of: disseminating OEP where Wikipedia plays a relevant role; disseminate research results in the field of training and open education with Wikipedia, to build new research; stimulate critical reflection on the curricular integration of Wikipedia, particularly in the context of continuous training for teachers and trainers; disseminate other projects of the Wikimedia Foundation ecosystem; foster collaboration in the field of OEP, specifically in the context of Wikipedia (Cardoso, Pestana & Pinto, 2020). Hence, the issues of the openness are evident, namely the issues associated with legal, technical and social openness, assuming, in this case, dimensions related to the cultural and pedagogical components (Pestana, 2018).

It is important to note that Wikipedia as an object of study and as a pedagogical strategy has become increasingly present at different levels of education in the world, particularly because the Wikimedia Foundation identifies partnerships with various educational institutions as a priority, as summarized in the motto “Wikipedia belongs to Education”. We have been advocating those mottos, for example, by providing workshops aimed at primary, secondary and higher education teachers, librarians, and students too (Cardoso, Mota, Cruz & Pestana, 2023).

Regarding the relationship between the projects of the Wikimedia Ecosystem (in particular, Wikipedia) and the digital capital, we are inspired by Addeo et al. (2023, p. 2), for whom the digital capital refers to “a set of internalized abilities and aptitudes [...] as well as externalized resources [...] that can be historically accumulated and transferred from one arena to another”, which “contributes to life opportunities enhancement by creating a bridge between online and offline realms”. From the perspective of DuBose (2023), the personal empowerment of working with students in “Wikipedia-based research projects” allows to achieve and develop the “Digital Capital”. According to the author, the participation of students in these projects enables the acquisition of a broad set of skills, which form, within the work carried out by WEIWER®, the wikiliteracy. The author also states that “[g]iven the uneven distribution of the digital capital required to represent one's community on Wikipedia, teaching community-based assignments using Wikipedia creates rich opportunities to extend an institution's digital capital to the community and promote student learning” (p. 55).

Moving to the literacies involved in the wikiliteracy, as we understand it, at WEIWER®, it can be mobilized in the OEP promoted by our academic network. Thus, the wikiliteracy is directly allotted to the Digital Literacy, in line with Reddy, Sharma & Chaudhary (2020) and Reddy, Chaudhary, Sharma & Hussein (2023), i.e., this literacy integrates the: Information Literacy; Computer Literacy; Media Literacy; Communication Literacy; Visual Literacy; Technological Literacy. To this set of literacies, we associate the Critical Literacy, which, in line with English (2023) and McKenzie (2023), allows to promote a critical stance, response or action in relation to a problem (Cardoso & Pestana, 2023). The critical literacy, despite being associated with most of the literacies previously identified (e.g. Information Literacy and Media Literacy), assumes a dominant and transversal position in the digital literacy, namely in the context of the wikiliteracy, a literacy associated with the Wikimedia ecosystem. In this context, according to McKenzie (2023, p. 3), “Wikipedia is arguably one of the best tools for teaching critical literacy as a result of its hegemonic position in the information landscape [...] coupled with students’ casual familiarity”.

After identifying the framework that supports the curricular and/or pedagogical integration of Wikipedia, in the following section, we present the methodological framework that supports the meta-analysis we ran of the WUP page in Portuguese.

## Methodology

The research carried out intended to answer the following main question: What do the WUP courses registered on the Lusophone Wikipedia platform tell us? Thus, five specific questions were considered, and, in this text, we specifically address one: What formats/typologies are used to provide those courses? From this question, the five corresponding objective is to identify formats/types of course provision.

Considering now the design, our research was developed in a mixed approach, combining quantitative and qualitative methods. Moreover, according to Pinto, Cardoso & Pestana (2019, p. 30), the systematization of knowledge, embodied in mixed or multimodal meta-analysis, allows document analysis from a qualitative and quantitative perspective to be reconciled with content analysis, “privileging the theories proposed by Van Der Maren (1996), categorized according to the following levels: description, understanding, explanation and formalization of knowledge, which promote the appropriation of critical and reflective knowledge on the topics in

question”. It is important to clarify our understanding of meta-analysis, drawing on the perspective of Gene Glass, who introduced the term for the first time in 1976. Thus, for Glass (1976, p. 3), “[m]eta-analysis refers to the analysis of analyses. I use it to refer to the statistical analysis of a large collection of analysis results from individual studies for the purpose of integrating the findings”.

From the meta-analysis, we considered for our study, in line with Cardoso (2007), the following procedural steps: (i) the selection and inclusion of all existing courses on the WUP platform; (ii) the definition of inclusion and exclusion criteria for defining the corpus of (meta) analysis; (iii) the development of coding categories, to cover most of the courses identified; (iv) the analysis and graphical representation of results and their distribution; (v) the combination of quantitative and qualitative reviews.

According to Cardoso (2007), phase 1 (Collection) was based on document analysis and culminated in the identification of documents to integrate the corpus. For this purpose, the inclusion and exclusion criteria of the documents to be (meta) analyzed and the respective research descriptors were defined and applied (e.g. the period between 2011 and 2018). The Treatment and Organization (phases 2 and 3) refer to consecutive reading stages, through which information was progressively emerging from each document of the corpus, induced by content analysis, in a constant dialogue with the data. In the analysis instrument developed, the analytical units were recorded, according to the defined categorical matrix. It is important to mention that we had MAECC® as support and, therefore, we incorporated its five macro dimensions (Characterization, References, Methodologies, Contributions, Implications). The identifying terms form the cores of meaning that emanate from the analysis, summarizing the thematic sets that characterize Portuguese-speaking research in the WUP domain, in the period of time considered. These are clusterings, of which the content, was coded and systematized according to the topic typologies that emerged from the meta-analysis; it was further stored in a relational database, a very important tool, as it allows, for example, to compare data chronologically and/or thematically (by source and date of the courses in which they appear and/or by topic), highlighting convergences or divergences, indicative of reciprocal or antagonistic meaning. The database created in Excel electronically supports the knowledge analysis meta-model. Finally, phase 4 (Diffusion) concludes the methodological sequence of this study.

## Context

The WUP is part of the WEP, as mentioned, and the Portuguese-speaking WUP page brings together all the courses developed under this program in Portuguese. The “*Boas-vindas!*” page, as the name suggests, serves to welcome those potentially interested in the program and is also aimed at those directly involved in the program – teachers, students and wikipedians. In addition to the welcome page, the program includes the “*Cursos*” (courses), “*Embaixadores de campus*” (campus ambassadors), “*Embaixadores online*” (online ambassadors), “*Recursos*” (resources) and “*Ajuda*” (help) tabs. In this text, we only consider the data included in the courses’ tab, because we focus a part of a broader study.

Thus, in the “Courses” tab, represented below, the courses taught in this program in Portuguese are aggregated and presented. At the time of defining the corpus to be meta-analysed, the last record was the course “Extension: Reformulation and construction of Wikipedia entries in the area of Theory of History”; but, as it dates from the first half of 2019, it was not included in the corpus.

The screenshot shows the 'Cursos' tab on the WUP page. It displays two tables of courses. The first table is for the 'Primeiro semestre de 2019' and the second is for the 'Segundo semestre de 2018'. The table for the first semester of 2019 has the following data:

| Universidade   | Disciplina  | Orientadores   | Início        | Fim          | Número de alunos |
|--|---|--|---------------|--------------|------------------|
|  Universidade Federal de Santa Catarina | Extensão: Reformulação e construção de verbetes da Wikipédia na área de Teoria da História. | <ul style="list-style-type: none"> <li>Professora Dra. Flávia Varella</li> <li>Professor Dr. Rodrigo Bonaldo</li> <li>Embaixador de campus: Alexandre Fiori</li> </ul> | março de 2018 | em andamento | 11               |

Figure 1. Print Screen of the “Courses” tab on the WUP page in Portuguese (<https://bit.ly/31jyHVv>).

The “Courses” tab on the Portuguese-speaking WUP page between 2011 and 2018 totals 92 courses, our corpus (for a thorough account of both these documents/courses and their coding – in addition to the name of the course, we identify the associated higher education institution –, cf. Pestana & Cardoso, 2020, pp. 363-364).

Once the corpus was defined, and based on both our research questions and objectives, the analysis instrument was developed, drawing from Cardoso (2007). And once the meta-analytical grid was stabilized, its final version included five macro categories, segmented into (meso) subcategories, and, in the case of the References and Methodologies categories, further segmented in micro subcategories (Pestana & Cardoso, 2020, pp. 365). So, regarding the macro category “Methodologies”, it includes 2 meso categories “Actors” and “Format/typology of course provision”. The meso category “Actors” integrates, in turn, the micro subcategories “Teachers”, “Students”, “Ambassadors”; the meso category “Format/typology of course provision” conciliated the existing closed and the open categories, thus corresponding to a mixed coding.

## Results

For this text, and from our broader research, we selected the following specific question: What formats/typologies are used to provide courses? In the context of the 92 courses displayed on the main page of the WUP “Courses” tab, it was only possible to access to the pages of 61 courses. Regarding the access to the level of information, only in four courses it was considered “Not applicable”.

Of the 58 courses with “Applicable” information, under the meso dimension “Format/Typology of course provision” (relating to the “Methodologies” macro dimension), it is possible to verify that the participating teachers and ambassadors adopted different strategies to implement the courses. Based on the evidence collected, it was possible to further systematize them in four typologies, coded with the letters “A” to “D”. Specifically, 5 courses were made available as an Edit-a-Thon (typology “A”), 1 course was made available using the Dashboard (typology “B”), 19 courses were made available through a page project (typology “C”), and 33 courses were made available on a project page segmented into a “Main” page, a “Discussion” page, a “Resources” page and a “Help” page (typology “D”), hence, in this case, provide more information.

The Edit-a-thon (typology “A”) corresponds to “Volunteers assembling to edit a crowd-sourced encyclopedia together, for hours” (Snyder, 2018, p. 119). According to this author, the concept emerged in 2011 and is commonly implemented in higher education institutions and libraries; these initiatives have enjoyed enormous support over time. She also highlights her experience, in several public libraries in the United States, “with Wikipedia [that] are distinct and include editing, adding citations, information literacy, and partnership-building. What binds them together is their embrace of Wikipedia – and its dynamic community of editors – because of the content opportunities, technical features, and collaborative community it offers” (2018, p. 215). The themes can be diverse, depending on the objectives that are intended. In the case of the work carried out by Cowles, Sheppard, Waltman & Kimball (2020, p. 268), intended to “Leveraging librarians' research skills to make Wikipedia a better, more evidence-based resource, this event and all following edit-a-thons focused on adding citations and content to health pages using trusted health information resources” from both the Network of the National Library of Medicine (NNLM) and similar organizations. To this end, “a cross-regional Wikipedia Working Group”, coming from different organizations in partnership with the “WikiProject Medicine” community, gathered to identify needs; “the team chose to focus the first edit-a-thon on improving content related to rare diseases”.

Di Lauro (2020) emphasizes the relevance of “Edit-a-Thons” to bridge female representation on Wikipedia, given that they “have become international vehicles for reconciling gaps in gender and cultural representation as educational institutions, libraries and museums work in collaboration with the online encyclopedia to increase the number of articles about notable women, and those related to women's histories and interests”. Secondly, he identifies an important deceased wikipedian and academic, who played a relevant role and is considered by the community as an example to be considered – Adrienne Wadewitz “bridges the traditional world of scholarship with the newer phenomenon of open online collaboration, and consideration of her Wikipedia career and associated initiatives illustrates the global potential and impact of digital platforms” (p. 1003).

As for the Dashboard (Typology “B”), it refers to a specific way of presenting the course, within the infrastructures of the Capacity & Learning Program, which in turn is part of the WUP. The “Programs & Events Dashboard”, according to the analysis carried out on its page, is the tool that integrates projects since 2015 (5 projects in this year); according to Wikimedia Meta-Wiki, it “is a tool which assists the management of wiki programs and events [...] Tracking functions for organizers to measure and report the outcome of a program”, thus, it is transversal to the Wikimedia Foundation ecosystem in the field of education. It is important to highlight that in 2016 this tool integrated 24 projects, 83 projects in 2017, 120 projects in 2018 and 117 projects until September 2019, therefore demonstrating adherence to this tool.

Before moving to the conclusions, we summarize below the mapping of the corpus and its meta-analysis, as inspired by Cardoso (2007), and earlier discussed.

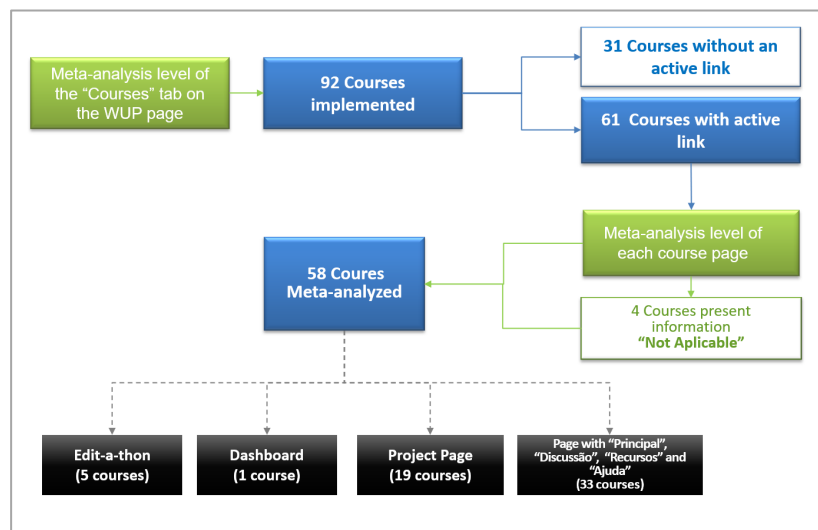


Figure 2. Summary of the various levels of corpus analysis.

## Conclusions

From our broader research, we selected, for this text, the specific question: What formats/typologies are used to provide the WUP courses on the Lusophone Wikipedia page? Of the 92 courses comprising our corpus of (meta) analysis, only 61 have an active access link. However, we meta-analysed 58, those with information, thus identifying four typologies of courses: “A” – “Edit-a-Thon” (5); “B” – “Dashboard” (1); “C” – “project page” (19); “D” – “Project page with the ‘Main’, ‘Discussion’, ‘Resources’, ‘Help’ pages” (33).

As a limitation, we recognize that the data collection was carried out in two stages: the first associated with the analysis and processing of data collected from the page in the WUP “Courses” tab; the second stage was the result of analyzing and processing the page of each course per se, which was, in some cases, impossible given that the link to the respective course page was inactive. As a result of these two phases, on the one hand it was possible to list a vast set of evidence, on the other, we were faced, in some cases, with little information.

So, in future studies, it is important to identify the reasons that underlie the fact that a project like Wikipedia, clearly associated to openness, has such a large volume of courses closed for consultation. Hence, we suggest interviewing the participants in each of those closed courses. For future research, we also suggest continuing the meta-analysis of the courses on the Lusophone Wikipedia between the 2019-2023 period. And it would be important too to meta-analyse the courses on the “Dashboard”, as many universities have migrated to this space. Because the typology of courses that emerges from the meta-analysis that we undertook in the online encyclopedia’s Lusophone page allows us to reinforce, in a direct reference to the Wikimedia Foundation motto, that “Wikipedia belongs to education”.

## References

- Addeo, F., D'Auria, V., Delli, A., Punziano, G., Ragnedda, M. & Ruiu, M.L. (2023). Measuring digital capital in Italy. *Front Sociol*, 8. <https://doi.org/10.3389/fsoc.2023.1144657>.
- Cardoso, T.M.L. & Pestana, F. (2023). Wikipedia and MediaWiki: Two Key Elements of a Wikipedogogy Practice. In M. Rodrigues, M. Figueiredo & J. Torres (Eds), *Proceedings of the XXV International Symposium on Computers in Education | SIIE 23* (124-128). Instituto Politécnico de Setúbal. <http://hdl.handle.net/10400.2/15203>
- Cardoso, T.M.L. (2007). *Interação verbal em aula de línguas: meta-análise da investigação portuguesa entre 1982 e 2002*. (PhD Thesis, Universidade de Aveiro, Aveiro, Portugal).
- Cardoso, T.M.L., Gamez, L., Pestana, F. & Pinto, J. (2020). A Wikipédia no Movimento da Educação Aberta: Coreografia Reflexiva a partir da Rede Académica Internacional WEIWER®. In C. Hardagh, E. Fonfoca

- & N. Camas (Eds.), *Processos Formativos, Tecnologias Imersivas e novos Letramentos: Convergências e Desdobramentos* (218-233). Editora Collaborativa.
- Cardoso, T.M.L., Mota, E., Cruz, A. & Pestana, F. (2023). “Learning with the School Library”: the case of the WEIWE(R)BE Programme in the Digital and Virtual School Ecosystem. In A. Chova, A. Martínez & I. Torres (Eds.), *EDULEARN23 Proceedings* (2282-2287). IATED Publications.
- Cardoso, T.M.L., Pestana, F. & Pinto, J. (2019). Rede académica WEIWER: a Wikipédia como objeto de estudo? In *PRISMA.COM*, 40, 107-117. <https://doi.org/10.21747/16463153/40a12>
- Cowles, K., Sheppard, M., Waltman, E. & Kimball, W. T. (2020) Crowdsourcing and collaboration from Coast to Coast: NNLM’s #CiteNLM Wikipedia Edit-a-thons. *Journal of Electronic Resources Librarianship*, 32(4), 267-275. <https://doi.org/10.1080/1941126X.2020.1821991>
- Di Lauro, F. (2020) ‘If it is not in Wikipedia, blame yourself:’ edit-a-thons as vehicles for computer supported collaborative learning in higher education. *Studies in Higher Education*, 45(5), 1003-1014. <https://doi.org/10.1080/03075079.2020.1750191>
- DuBose, T. (2023). Can Anyone Edit? Digital Capital and Student Writing on Wikipedia. *Prompt: A Journal of Academic Writing Assignments*, 7(2), 50-59. <https://doi.org/10.31719/pjaw.v7i2.144>
- English, C. (2023). Understanding Rural Communities: Crafting Local Inquiries as Praxis for Pre-Service ELA Students in Teaching Composition. *The Rural Educator*, 44(2), 1-13. <https://doi.org/10.55533/2643-9662.1311>
- Glass, G. (1976). Primary, secondary, and meta-analysis of research. *American Educational Research Association*, 5(10), pp. 3-8.
- Kopf, S. (2022). *A Discursive Perspective on Wikipedia: More than an Encyclopaedia?* Palgrave Macmillan.
- McKenzie, B. (2023). Dungeons and dragons and digital writing: A case study of worldbuilding. *Journal of University Teaching & Learning Practice*, 20(2). <https://doi.org/10.53761/1.20.02.10>
- Pentzold, C., Weltevrede, E., Mauri, M., Laniado, D., Kaltenbrunner, A. & Borra, E. (2017). Digging Wikipedia: The Online Encyclopedia as a Digital Cultural Heritage Gateway and Site. *ACM journal on computing and cultural heritage*, 10(1), 1-19. <https://doi.org/10.1145/3012285>
- Pestana, F. & Cardoso, T.M.L. (2020). Wikipedia in University Program: What Does the Metaanalysis of the Courses’ Page Tells Us? *European Distance and E-Learning Network (EDEN) Proceedings 2020 Research Workshop | Lisbon*, 359-367. <http://hdl.handle.net/10400.2/10968>
- Pestana, F. (2018). A Wikipédia como recurso educacional aberto: um contributo para o Programa Wikipédia na Universidade. (PhD Thesis, Universidade Aberta, Lisboa, Portugal).
- Pinto, J.; Cardoso, T.M.L. & Pestana, F. (2019). Competência Digitais, Qualificação e Empregabilidade: Mapeamento dos documentos em Português com acesso aberto indexados no RCAAP em repositórios portugueses. *RE@D, Revista de Educação a Distância e Elearning*, 2(1), 26-45.
- Reddy, P., Chaudhary, K., Sharma, B. & Hussein, S. (2023), Essaying the design, development and validation processes of a new digital literacy scale. *Online Information Review*, 47(2), 371-397. <https://doi.org/10.1108/OIR-10-2021-0532>
- Reddy, P., Sharma, B. & Chaudhary, K. (2020). Digital Literacy: A Review of Literature. *International Journal of Technoethics (IJT)*, 11(2), 65-94. <http://doi.org/10.4018/IJT.20200701.oa1>
- Sengul-Jones, M. (2018). “I’m a Librarian on Wikipedia”: U.S. Public Librarianship with Wikipedia. In M. Proffitt (Ed), *Leveraging Wikipedia: Connecting Communities of Knowledge* (215-233). American Library Association
- Snyder, S. (2018). Edit-a-Thons and Beyond. In M. Proffitt (Ed), *Leveraging Wikipedia: Connecting Communities of Knowledge* (119-131). American Library Association.