Building a Virtual Community of Practice of Researchers in Open and Distance Learning (ODL): an exploratory study

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Resumen: Este artículo describe un estudio centrado en un grupo de investigadores de un Centro de Investigación de Educación Superior de Portugal (R&DU). Queríamos ver si estos investigadores se consideraban una comunidad de aprendizaje, de práctica o de cualquier tipo, que surgiera del uso de entornos virtuales. Realizamos un estudio cualitativo exploratorio, integrado en una investigación más amplia. Comenzamos reflexionando sobre los conceptos de nuevas formas de aprendizaje que actualmente están surgiendo en la red. Luego realizamos una encuesta con entrevistas semiestructuradas a un grupo limitado de pares, a fin de crear un instrumento para validar la premisa de que un grupo de investigadores puede funcionar como una comunidad de aprendizaje o una comunidad de práctica. Los resultados mostraron que los investigadores destacaron la importancia de la interacción y la participación en las actividades del Centro, la falta de alineación entre pares y proyectos, y la necesidad de crear las condiciones para su funcionamiento como comunidad. Con los resultados de la entrevista, identificamos algunas áreas para el trabajo futuro, como la necesidad de crear una plataforma digital para fomentar las necesidades de una comunidad virtual de aprendizaje e intercambio

Palabras clave: Comunidad Virtual de Práctica; Comunicación; Intercambio de conocimiento; Red Social; Web social

Abstract: This article describes a study focused on a group of researchers from a Portuguese Higher Education Research Center (R&DU). We wanted to see if these researchers considered themselves a community of learning, of practice, or of any type, emerging from the use of virtual environments. We conducted an exploratory qualitative study, integrated in a broader research. We started by making a reflection on the concepts of new forms of learning that are currently breaking out in the network. We then conducted a survey doing semi-structured interviews with a limited group of peers, in order to create an instrument to validate the premise that a group of researchers may function as a learning community or a community of practice. Results showed that the researchers highlighted the importance of interaction and involvement with the Center activities, the lack of alignment between peers and projects, and the need to create the conditions for their functioning as a community. With the results from the interview, we identified some areas for future work, like the need to create a digital platform to foster the needs of a virtual learning and sharing.

Key words: Virtual Community of Practice; Communication; Knowledge sharing; Social Network; Social Web

1. Introduction

We are currently and increasingly facing a new virtual environment in which new learning realities emerge. In this new tangibility of the Network Society (Castells, 2011), "new forms of organization" (Wenger, 2011), “granularities”/“many” (Anderson & Dron, 2007) and “groups and networks” (Downes, 2007) arise in the referred virtual learning environments. The aspect of virtuality reinforced and facilitated the dissemination and sharing of knowledge that is “distributed across a network of people” (Downes, 2006, p.10), thus allowing benefits to each element belonging to them (Rocha & Pereira,

2017). As stated by Oliveira and Morgado (2019, p. 178) "Emerging digital environments (Facebook, Twitter, ResearchGate and Academia.edu, amongst others) have social and collaborative characteristics, allowing access to the excellence of specific areas of interest and of research, and being able to foster innovative ideas on a global scale, through the sharing of digital resources and the development of good educational practices, without space or temporal restrictions". Knowledge is thus also constructed in a social context through interaction (Dron & Anderson, 2014), either in a presential or online context. "Learning communities are groups of people involved in the process of learning, have some cohesion and are identifiable as different identities" (Dron & Anderson, 2014, p. 76).

Analyzing, in detail, some of these "Granularities", which will be our object of study, Communities of practice (CoP) emerge at the intersection of learning networks and communities, in cohesive groups of individuals sharing common goals, namely the creation of useful knowledge for the community (Dron & Anderson, 2014). CoPs and learning communities, initially in the physical environment (Wenger, 1998), gain new meaning when members share knowledge and gain rapid problem resolution and access to resources in the Network (Wenger, Trayner & De Laat, 2011). The digital revolution has changed the way we conceive knowledge sharing by giving members greater autonomy and ability to produce and publish in different media, requiring digital skills to access and disseminate information / knowledge (Oliveira & Morgado, 2019).

Higher education research centers as knowledge producing and disseminating units should be guided by the communication and sharing of the produced knowledge. Considering that, in the case of the present study, researchers are spread across different regions and countries, effective and permanent communication and knowledge sharing with all current, past and future members who are physically and geographically displaced is a necessity.
It is in this context that this exploratory study emerges, sharing the thoughts of some former researchers as well as the reflections and future clues for the creation of an effective virtual communication system, rooted in a virtual community of researchers, the ultimate goal of this project.

2. Virtual Communities, Social Networks and Personal Learning Networks (PLN)

In the context of Information Society (Castells, 2001), or Knowledge Society (Hargreaves, 2004), technology is a crucial factor for rapid exchange of communication between peers and participants of communities. This reality makes possible the creation of networked communities where members share content made by them or others, taking charge of the construction of their own learning and nurturing of the community (Figueiredo, 2001).

Since in a generic way, as reflected above, the characterizing traits, in particular and with regard to the members, appear to be difficult to achieve, with technological development a new challenge arises. Indeed, though technology can substantially and substantively improve the way to communicate and even the sharing of knowledge and information, it is undisputed that it alone will not be able to change human practices, so we agree with McDermott's (1999 p. 104) statement: "If a group of people don't already share knowledge, don't already have plenty of contact, don't already understand what insights and information will be useful to each other, information technology is not likely to create it."

Although all information circulates and may even become learning, we think that communities and knowledge, due to a mutually compromised discussion around a practice are, par excellence, the way in which information through the thought of each one and of all its members becomes knowledge. In this context (Laine, 2006) virtual communities arise online as a result of mutual interest and needs from users, who become active participants to share knowledge or simply to learn more. As stated by Junior (2008), "virtual communities are successful technological instruments of online communication on the contemporary connected society". Communities usually gather because they have affinity, or people are close to each other and to share common goals and interests. Or just to explore dialogue with people from other places and experiences. The virtual dimensión does not demand a strict timing for the activities or tangible barriers.
With the emergence of Web 2.0 and online social networks (Facebook, LinkedIn, Twitter, etc.), virtual community dynamics has undergone exponential

development, potentiating the aggregation, communication and formation of groups, communities and networks, and creating degrees of relationship and connectivity between individuals and their online presence. Content sharing also gains new dimensions, namely with the open educational resources and new forms of publication (Silva, 2017).

Students and other stakeholders are using social media to make connections between them and universities, creating opportunities for informal learning and knowledge creation (Lin & Lu, 2011). Social media are a set of Web 2.0 tools geared towards the co-creation and sharing of content by their users (Kaplan & Hanley, 2010). To cope with this new reality, the Portuguese Open University, launched "Socializing Online Learning [SOL]", a social platform shared by the whole academic community, following the guidelines of the Pedagogical Virtual Model: promoting the social interaction between students and between students and the University" (Bacelar, Morgado & Rocio, 2017). The platform, based on the *Elgg* social engine, tried to increase dialogue among all agents involved in academic work, helping them build social relationships (Garrett, Thoms, Soffer & Ryan, 2007) and fostering a dynamic learning community.

In a knowledge society, technology and collective collaboration allow the increase of physical, cognitive and sensory abilities, and have the potential for social innovation and knowledge creation. Institutions in general, and higher education institutions in particular, in line with international trends, are aware of this phenomenon, thus developing strategies for their creation, centering on available platforms or developing communities and networks based on their own designed and customized specific platforms, such as the case of the SOL Network.

Research is not immune to this situation, demanding researchers today not only their presence on the network, but also the creation and management of their identity and digital presence, as well as the setting up of their Personal Learning Networks (PLN). PLNs are based on the principle of reciprocal sharing and trust, encouraging the interchange of information with the objective of sharing knowledge. This way, virtual communities aggregate professionals and researchers who have common interests to facilitate and promote the sharing of ideas and the creation of knowledge.

3. Virtual Communities of Practice and Learning

We share McDermott's opinion that "knowledge belongs to communities" (1999, p. 108). We learn through our participation in them – since knowledge flows through professional communities from one generation to the next one (McDermott, 1999, p. 108), it seems to us this is a fertile ground to host a group of researchers with similar interests. This knowledge exists with much more richness and abundance informally, in the work routines, in stories, and in all the artifacts that constitute the shared repertoire of a set of members that share their thoughts and experience as informal learning and as constructed knowledge.

According to Illera (2016), we can find virtual communities since the 80's with Rheingold (1994). Technology allowed "to connect a large number of users in a common message exchange space" (Downes, 2007, p. 117) providing this new organizational form that inherits the richness of presential communities of practice transposed to a wider virtual space. Although not always used with the true sense and meaning given by the most renowned authors (Wenger, 1998; Wenger, McDermott & Snyder, 2002), the concept of Community of Practice constitutes a useful and advantageous way of incrementing group dynamics, as well as of stimulating the informal learning of groups, namely, regarding business activity, amongst others.

On the other hand, the advantages that CoPs give their members, as well as the organizations hosting them, in particular and in accordance with the statements of the authors with whom we agree with (Murillo 2011; Murillo and Spicer, 2007): (a) promote knowledge sharing (Stewart, 1996) and innovation (Brown & Gray, 1995); (b) act as the basis of core competencies (Brown & Gray, 1995; Mannille, & Foote, 1996); (c) may assume the ownership and management of knowledge (Wenger, 2004); (d) transfer best practices (Wenger & Snyder, 2000; Wenger-Trayner, Fenton-O'Creevy, Hutchinson & Wenger-Trayner, 2014).

Concerning the characteristics of a CoP as defined by Wenger (1998), we choose the explanation and translation presented by Figueiredo (p. 46), in the presentation "Education networks: the surprising richness of a concept":

• Meaning, which translates to the capacity (and need) we have to find meaning for the world: we learn by looking for a meaning for our individual and collective existence in the world;
• Practice, which expresses the shared experience of resources and perspectives that maintain our mutual involvement in action – we learn by doing;
• Community, or the social configuration where we define our initiatives and where our participation is recognized – we learn by building a sense of belonging;
• Identity, which emerges from the way learning transforms who we are and builds personal stories of who we are in the context of our communities – we learn through the process of construction of our own identity.

Regardless of the type, a CoP rests on a basic structure that "is a unique combination of three fundamental elements: a domain of knowledge, which defines a set of issues; a community of people who care about this domain; and the shared practice that they are developing to be effective in their domain" (Wenger et al., 2002, p. 27).

Indeed, having as reference the characteristics of a CoP according to Wenger (1998), this form of community is a most perfect and perfected stage of any community, since it is tacit that learning be given by the gift of a practice that is no longer individual and should become communitarian. According to Henri and Pudelko (2003), Virtual Communities of Practice (VCoPs) are "a higher degree of learning communities, in the sense that in communities of practice there is always some kind of learning", albeit a learning by "appropriation of new practices" (Illera, 2016, p. 122). In this regard, Gannon-Leary and Fontainha (2007) described VCoP as a "Network of individuals who share a domain of interest about which they communicate online."

Based on the belief that "when a practitioner becomes a researcher into his own practice, he engages in a continuing process of self-education" (Schön, 1983, p.299), "Communities of practice (CoPs) have become nowadays a major theme of teacher education and professional development, as they provide opportunities for collaborative professional growth." (Plastina, p. 1) In this regard, Trewern and Lai (2001, p. 45) define VCoPs as "groups of teachers who can get together and make use of communications technologies to access teaching resources, source new ideas, use communications technologies to share ideas or innovative teaching practices, and reflect on aspects of classroom practice."

We are aware of the risk of creating a VCoP instead of following the natural process advocated by the theory and defended by Wenger (2004) that CoPs should emerge spontaneously.
In fact, one of the challenges to this project could be the fact that the VCoP didn't emerge naturally; indeed, when a VCoP is created by someone, it is equivalent to an obligation and, in these cases, the members restrain their interactions.

In a study carried out with 7 communities (Rocha, 2013), a VCoP created by the employer did not thrive and simply did not even work. Also, a study of CoPs set up within a trade union in Canada concluded that "CoPs cannot be deliberately planned and configured" (Harvey, Cohendet, Simon & Dubois, 2013). On the other hand, when "extra-organisational CoPs spontaneously emerge (…) they constitute a constantly-available resource for enhancing professional practice, whereas organisations can encourage employee engagement with extra-organisational Internet-based CoPs to keep abreast of fast changing fields." (Murillo, p. I)

However, we believe that, in some circumstances, created CoPs are a viable alternative, according to studies, and an approach defended by several authors, namely Kwok Wing Lai, Keryn Pratt, Megan Anderson & Julie Stigte, in a study by the Ministry of New Zealand. Thus, and being sure that one of the factors to be enhanced will be that of communication, we believe that this will be a facilitating and motivating way for members to find a communication channel and, simultaneously and gradually, a way in which they will also be able to increase and foster their practices and even desires, benefiting from an effective means of exchanging experiences and good

practices. On the other hand, it is important to focus our attention in a specificity also referred by some authors, namely Illera (2016), regarding nonverbal communication. Since distance allows for the creation and strengthening of more consolidated ties (Quintas-Mendes, Morgado & Amante, 2008) through writing (a privileged medium in these environments), it is certain that a characterization must adapt to this specificity. It cannot and should not be an obstacle but is, however, an aspect that deserves careful analysis. As such, it is important to understand how each VCoP tries to adapt to this circumstance and how its members (did not) manage to find in virtuality the ways leading to the recognition of one's own community and other communities, albeit geographically and temporally separated.

It is also important to try to understand and reflect upon the aspect of immediate contact that presence offers. Considering that any CoP in a pure state, such as defined by Wenger and Snyder (2000), considers and envisages that the members can meet personally with each other, by personal and/or professional inevitability, also informal (corridors, etc.), it is important and even determinant to pay attention to the way in which the members of a VCoP do it also through other channels, even if we consider that communication in this context is mostly asynchronous. It is our perception that both mutual commitment and shared enterprise are likely to exist even in a virtual environment. We cannot ignore one-to-one messages sent through the community's instant messaging system (when there is one) or by e-mail. The members can, if they so whish, build the same complicity away from the public exposure to the whole community. In addition, informal meetings and conversations may also take place in the two ways previously described above, to which we add community chat, as well as synchronous meetings through videoconference (independent of the time zone) in the same place (a virtual room). We thus understand this possibility as a strategy to strengthen communities, as special attention should be given to the communication tools available.

4. Research Goals and Context

According to Coye (2018), the international mobility of academics and researchers is less studied than the mobility of students, mainly due to the great incentives given by European programs, especially in recent years. The present research focuses on a Portuguese research and development center (R&D) specialized in the research area of open and distance education in the networked society, in the cyberculture phenomenon in its several dimensions, and in Technology-Enhanced Learning. Founded in 2007 when the university changed the teaching model for a entire virtualization (Pereira, Mendes, Morgado, Amante & Bidarra, 2007), it is a R&D financed by the Portuguese Science and Technology Foundation with a portfolio of over 40 national and international projects. In 2018, the R&D counts with 50 researchers (integrated and collaborators). One of the R&D's strengths is the hosting of national and international researchers, who currently amount to a total of 23. This group of international temporary researchers who seek the unit to develop research, collaboration and establish international research networks (Jacob & Meek, 2013) is composed by post-doctoral researchers, doctoral researchers, short research visitors and internships, in some cases with support of scholarships from their counties especially, from Europe and Brazil. They come for distinct time periods and, in some cases, maintain a further connection and ties with the center after the end of the research work and this period of scientific mobility. In some cases they come for collect data and return to their country, the "mobility safari model" or placed -contextualized knowledge referred by Ackers (2013, p.128).

The exploratory study now being presented is part of a project (PCR – Platforms, Communities and Networks) whose objectives are: a) to understand the dynamics of integration and reception of the R&D's temporary researchers/visitors; b) to analyze the processes, channels and new methodologies of communication and knowledge sharing in the context of the researchers' community; c) to create and implement a community of practice of the R&D's visiting researchers.

5. Methodology

Methodology selection (Quivy & Van Campenhoudt, 1992) should vary depending on what is intended with the research, on the nature of the study, and on the problem in analysis. Given the specificity of this study, we will use a qualitative approach, a research field in its own right (Denzin, & Lincoln, 2011), based on a semi-structured interview done to a specific group of researchers.

According to Bogdan & Biklen (1994), interviews can be used in qualitative research as a predominant strategy for data collection, being the inquiry by interview the most frequent strategy "to collect descriptive data in the language of the own subject" (p. 134). It also seemed to us that of the three types of interview advocated by Ghiglione & Matalon (1993), the semi-directional or semi-structured interview was the most appropriated to our purposes, since it allowed us to elaborate a script - "a small list of guiding questions to the problems" (Ghigilione & Matalon, 1993, p. 81). In this sense, 6 researchers were selected for the first phase from the temporary researchers' profiles with the purpose of sharing their experience in the period in which they belonged to the research unit. The interview was based on the goals set for this exploratory study, with the aim of obtaining data for the creation of a questionnaire to be applied to all the members belonging to the center.

Following ethical and deontological principles, all the interviews were made through informatic tools (Skype and Colibri). We considered that content analysis (Holsti, 1969) was the most adequate form to treat the testimonies and information gathered, allowing us to make "inferences by systematic and objective identification of the specific characteristics of a message" (Bardin, 2009, p. 108). We started by a "floating reading" (Bardin, 2009) in order to establish a first contact with the documents, from which emerged the five big categories that could be replicated in the six interviews: Motivation, Initial Welcoming, Integration, the Research Center and Researcher Community. The final codes resulted from consensus among all authors.
In order to preserve the confidentiality of the identity and of the information of each research subject, we coded each respondent with the letter "E", adding a number corresponding to the order in which the interviews were performed.

6. Results

The researchers interviewed (E) were questioned about their perception of the research center and its activities, about their own work and activities, and about the contacts established. They were also invited to provide clues on how to improve the aspects they considered less positive.
1. Interview categories
From the codification of the interviews we obtained five major categories: Motivation, Initial Welcoming, Integration, the Research Center and Researcher Community (Figure 1).

A. Motivation
Regarding Motivation, the researchers explain the reasons why they joined the research center: "the intention was to immerse in local research and culture, because my research involved higher education in the perspective of convergence culture, in particular, in Open University of Brazil" (E 6); "by doing research at the University site, we realized that it provided disciplines within this evaluation ambit. And it was the first approach, it was in this line (...) and what they were teaching and that integrated with our interests" (E 3).

B. Welcoming
The initial welcoming phase is important to researchers: "When I arrived and had a group, I had that support, including in social issues, knowing, going out, get a coffee" (E 5); "Had a great welcoming, I was very happy at the beginning. I felt very well welcomed, Professor X offered a very special welcoming and through her I got to know many other colleagues" (E 2).

C. Integration
Regarding the integration of the researchers in the center, it is evident that there is a general unfamiliarity with the center's general activities and events, and a lack of communication among them. Researchers did not have the notion of integration on a macro (University) or micro (the research center) levels:

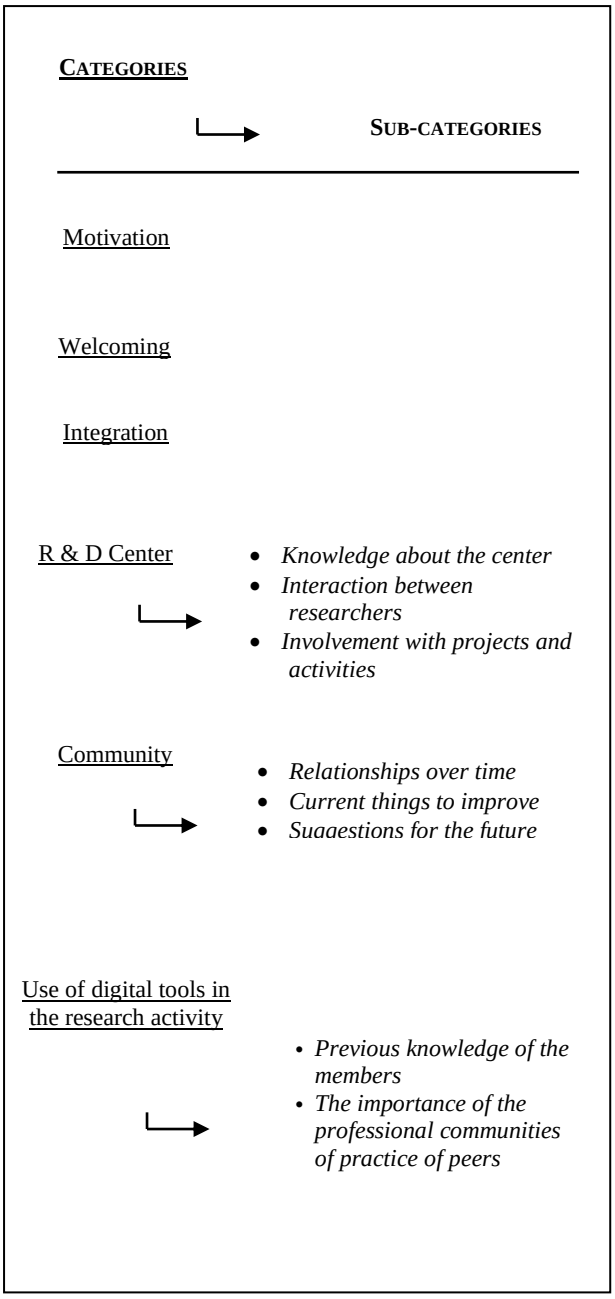

Figure 1. Categories

"I participated and all but it didn't feel like I was part a research community that belonged to the Center" (E 5); "We still need to find a way of communicating that promotes great involvement" (E 2).

D. Research & Development Center

Regarding the knowledge, they have about the research center, it is evident that it is neither profound nor enlightened. This information is mostly conveyed from person to person. We highlight in this category three subcategories:

- *Knowledge about the center*

"I got little knowledge during these 2 months I was there about those activities in that broad perspective you approached" (E 2); "I knew it was something in the University, but I didn't felt part, a researcher belonging to the Center, you know?" (E 5).

- *Interaction between researchers*

"I still feel, yes…! Still lost inside the context [the research center] you talked about." (E2); "The way we got together was being in those Talks [Research Center scientific dissemination event], as well the conferences given in the course of 2015." (E6).

- *Involvement with projects and activities*

"Yes, we participated in the Conference Challenges [event] we also participated in internal training for teachers from University Z"(E3); "And what I thought interesting was the monthly seminars we did, where I could share my research, but at the same time, know what other doctoral students and other students were doing. (E1).

E. Community

Regarding the perception about their own community, their connection and sense of belonging, the interest from the respondents in maintaining and deepen the connections between researchers is evident. We highlight three subcategories:

- *Relationships over time (including present and future relationships, even without being an active member)*

"I think I would like to be more integrated with the colleagues and if you ask me how ah...I still don't know" (E 2); you"discuss the projects and then when it goes to the qualification of your projects, then it's over, then the connection with the colleagues is over" (E 5); "after we participated there was no continuity" (E 6).

- *Current things to improve*

"…we talk about the projects but then when they go to qualification, it's over, the connection with peers ends." (E5); "After our participation, there is no continuity." (E6); "I give an example: one area of research I'm connected to is project X, which Y [Senior Researcher] is responsible for. It has a specific site. But then… we know the site because it was shared with us, ok? If we go to Moodle, the platform where Research Center hosts "Restricted

Research Center" we do not have any connection to the site…" (E3).

- *Suggestions for the future*

"One suggestion is that all students could stay in that portal [to be created] also staying in touch, because we have in Brasil the LATTES platform." (E1); "Collaborative work is important, and creating discussion forums is important, makes researchers work, reflect, and then make their contribution. I think these matters about forums are important. Whatever platform they are in, synchronous or asynchronous." (E4).

2. Use of digital tools in the research activities

As for the digital tools they use in the interaction with the R & D center, they refer mostly to Facebook and Moodle. Moodle is the official LMS, and on Facebook there are substantial informal groups from the university created by students of all degrees and also academics, and for the most part not institutionally supported. *WhatsApp* is also referred as a possible tool for communication.

" Facebook could be a network that we would use in a closed manner…" (E1), "there is a community on Facebook (…) but has no development so people can still be connected to the University." (E 6);

"…Yes, using the Moodle platform, the privileged environment for connecting." (E3),"; "The others, more far away, they had the Moodle environment, to exchange information. (E5); "...WhatsApp could be a network that could be used easily..." (E2); "In *WhatsApp*, I don´t have anybody. So, I think that network should be enlarged." (E4).

7. Final Considerations

The analysis of results from the interviews shows that the researchers find support for the research practice.

As technology is a facilitator (and not an obstacle) of communication, we think there are inherent conditions for researchers to break social isolation in a new dynamic of connectedness, making them feel integrated in a community where everyone participates with their experience. This way it is possible to create a real community where distance is not an issue.

From the analysis of the interviews made to the researchers, we may conclude that, in regard to the Research Center, there is a path to walk in order to facilitate not only the integration in the center's structure but also the creation of processes of belonging to the community. The way to that integration mainly requires the whole community to not only know the projects developed, but also to undergo the experience of everyday life in the community and of the of social relationships among researchers, so they can feel "closer" to each other and create proximity links.

We could see from the interviews that the researchers found it easy to use the technological resources at their disposal, but the tools were not aligned with each other. On the other hand, there is evidence of faults in the communication between the researchers and the research center, and between the researchers and the host institution. In that sense, we may consider that there is not a body of knowledge created by, and common to, all the researchers. Moreover, the analysis of the results pinpoints some aspects that seem decisive in order for a virtual community of practice to be dynamic and able to thrive:

• The role of technology – these communities of practice in virtual environments are only able to exist due to the relevant role of technology, which allows them to overcome geographical distance and be closer and interact with the levels and frequency that they do in a technologically mediated environment.

• Previous knowledge of the members – the previous knowledge of the members promotes the construction of a core group, more connected and consistent, providing a greater number of strong ties in the community.

• The importance of the professional communities of practice of peers – it seems to be evident the imperious need of sharing and discussing the issues inherent to each professional career. However, in face of that inevitability, communities of practice formed by peers proliferate outside the business environment as informal professional organizations.

However, researchers identified some difficulties, namely in the integration process, related to the lack of communication. We believe that we identified some items to inform on the construction of an instrument to collect the opinion of all the researchers of the center. We hope that this instrument will help us design and develop a technological system for the

communication and integration of a Virtual Community of Practice of researchers.

8. Next Steps

Our exploratory study is in an initial phase of a larger research on Networks, Communities and Social platforms. We wanted to know the researchers´

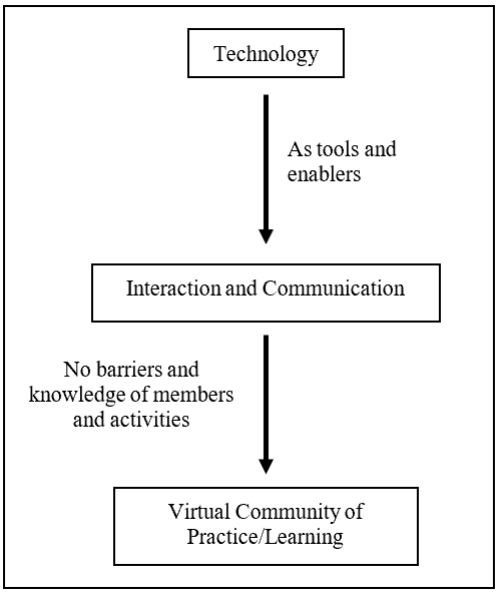

Figure 2: Needs and requirements for a VCoP

opinions about the research center and the way they could come together as a learning community or as a Virtual Community of Practice, in order to increase interaction, communication and the sharing of knowledge, as well as a improve the dissemination of information about the activity of the research center. We envision a need to design and develop a digital platform that can link the researchers of the research center, breaking institutional and geographic barriers (Lammers, Curwood, & Magnifico, 2012) and thus enabling and fostering a virtual learning community.

In the next phase we want to build an instrument to get information that may be useful to the design of a digital platform that can sustain a virtual community of researchers. We will deploy a survey focused on online learning communities and VCoPs and the international mobility of researchers.

With the results from the survey we expect to start looking at digital tools that can solve some problems and needs identified by the interviews. From our exploratory study, we recognized the need of a platform that can foster communication among peers in a shared space, giving a sense of belonging to the institution and the research center. Also, a future platform must be able to gather the researchers around common interests, like research projects, with the plasticity of creating various spaces for specific work inside a larger community. The platform should also make clear the researchers' contributions to the research center (Figure 1).

We also want to explore the use of gamification to enhance motivation of researchers´ use of the future platform, in line with other studies about research communities (Kidwell et al., 2016). If we follow the VCoP perspective, it must be designed according to several patterns (Lai, Pratt, Anderson & Stigter, 2006) to allow the intended objectives to be achieved: (1) it should be cultivated to grow naturally and to allow and encourage development, diversity and viewpoints; (2) it should support sociability and participation – allow members to participate and build social relationships and trust; (3) it should attract a diverse membership, and encourage lurkers to participate; and (4) it should include technology designed with functionality to support sociability and knowledge sharing.

For our VCoP to be successfully implemented, some members will need to perform key roles. One of them is to guarantee the growth of the community and the replacement of members who, for a variety of reasons, leave the community (Mohajan, 2017). Another important aspect is to have community leaders display a strong presence, participating in the interactions and the knowledge construction, nurturing reflection and modelling "cooperative practice and professional self-mobilisation." (Platina, p. 11).

Finally, facilitators will play an important part by connecting members, facilitating interaction and collaboration, and making sure that the community's activities are engaging and relevant. According to Baker & Beams (2016), "facilitators can cross boundaries between organizational units and broker knowledge assets".

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