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Learning in Multiple Communities from the Perspective of Knowledge Capital

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Abstract

In a learning system, multiple communities represent a networked structure of learning experiences. Individuals belong to multiple communities connected though complex relationships consisting of people, resources, rituals, and ties. Learning occurs as individuals traverse this network from one community to the next. This paper explores the question of how learning occurs in compound communities from the perspective of *knowledge capital*, that is, the communities' collective knowledge, skill, and perspective, as well as relationships and connections among members. Through interviews conducted with postgraduate students belonging to multiple communities, we identified issues related to conflict between communities, closed-congregation communities, privacy, and reputation. The results have implications concerning social and structural aspects of learning and instructional design in multiple communities.

Keywords: Online and face-to-face communities; multiple communities; knowledge capital; social capital; networked learning

Introduction

Multiple communities consist of a variety of communities and/or sub-communities within a community in a networked structure. In its basic form, a community includes people, resources, rituals, and ties, as well as nodes and holes between different communities. Hodgson and Reynolds (2005, p.20) regard multiple communities as "legitimate and constructive means of working with and across differences" in networked learning. Multiple communities have the potential to accommodate, enable, and encourage individual differences through a variety of communities. In particular, improvements in technological tools make multiple communities accessible and connectible for individuals who seek knowledge from different networked sources. In this article, inspired by Hodgson and Reynolds (2005), we use the concept of multiple communities as each of us is a member of many communities (Smith, 1988) and engages in social practices which consist of "diverse, located contextual practices which are linked in a social structure" (Dreier, 1999, p. 7). From this point of view, using the concept of multiple communities allows us to examine multiple social practices and identities, shifting "structure of personal relevance" (Dreier, 1999) as individuals move from one community to another and pursue their individual interests through a variety of multiple communities.

In the literature, one aspect of individuals' experiences in multiple communities has been dealt with from the network structure point of view. In the process of joining and becoming members of a new community, individuals bridge the structural holes between the communities of which they are currently members and the newly joined community. In this context, learners could be considered as boundary crossers (Engstrom & Cole, 1997). In technical terms, Ganley and Lampe (2009, p. 267) write,

> Structural holes are defined as a lightly connected bridge between denser sub-network elements. If, in their collection of networks, an individual has bridged one or more structural holes they are 'brokers' between the sub-networks; at the other extreme they are participating in 'closed' networks.

In reviewing multiple communities from the perspective of holes and brokers, it is also noteworthy that a closed or opened structure of a community may be important in explaining "bridge" or "brokerage" (Burt, 2000; Burt, 2005). "If the structural hole is large with very few actors crossing it, brokerage allows the entry of new ideas across a "bridge" or "brokerage" across sub-communities in a way that can facilitate information flow in the larger network" (Ganley & Lampe, 2009, p.267). Bridging also refers to *interconnecting* the communities through brokers.

Given the discussion above, from the network structure point of view, it could be asserted that learning in multiple communities requires a fuller understanding of the complexity of learning from diverse multiple communities which are connected in a

social structure. Due to the fragmented nature of multiple communities which are connected to each other with a variety of nodes through brokers, as the connectivity among these networks increases, the level of unintended engagement and knowledge acquisition also increases; therefore, this requires "a sense of direction for individuals" (Wenger et al., 2011).

Assuming that individuals learn as they travel within a complex structure of learning systems consisting of multiple communities, the very construct of communities is problematically deterministic. Learning in connected communities signifies a process of co-operation between co-participants in the communities; that is to say, they are dealing with different identities, experiencing conflict across the communities, integrating fragmented knowledge, and so on. Little seems to have been written about the experiences of learners whose learning practices are embodied in their multiple community participation, in particular in higher education settings (Veletsianos & Navarrete, 2012).

While examining the experiences of individuals learning in multiple communities, taking a perspective of knowledge capital as a framework is helpful since that concept inheres in the interactions and connections of structures, relations, and resources, and this offers an insight into the complex nature of learning in a network of communities. The connectedness emerges as a result of social relationships and social involvement and this generates social capital (Coleman, 1988), which is a form of knowledge capital. In that sense, we will use the concept of knowledge capital as a lens through which to examine learning experiences of multiple community members. Knowledge capital is important in multiple communities in the sense that it signifies the fragmented but collective knowledge, skill, and perspective of members, as well as the relationships and connections among them. Briefly, according to Wenger, et al. (2011, p.20) knowledge capital can take different forms, described as follows:

- *Human capital* refers to a skill, information, or perspective;
- *Social capital* refers to relationships and connections among members of a community;
- *Tangible capital* refers to shared resources;
- *Reputational capital* refers to the reputation of the community/network;
- *Learning capital* refers to a transformed ability to learn.

Although much has been written on knowledge capital especially in management literature, very few empirical educational research studies in the context of multiple communities have been conducted. Therefore, this research study aims to empirically examine knowledge capital in the learning experience of multiple community learners.

In light of the discussions above, two main research questions have been formulated:

1. How does knowledge capital inform the practices of multiple community members?

2. In general, how do the individuals describe their learning experiences with multiple communities?

Methology

Research Design and Participants

When investigating the communities in a network, researchers tend to utilise deterministic quantitative approaches based on a set of algorithms and social network metrics, especially for large networks. In this research, as our primary goal is to examine learners' experience from the perspective of knowledge capital, instead of using deterministic quantitative approaches, we adopted interpretive qualitative approaches, which enable us to analyse the experiences in depth and also to analyse an abstract phenomenon like knowledge capital or some aspects such as conflict among multiple communities. We put the focus on the individual because as Wenger et al. (2011, p. 9) put it, "through a personal network multiple networks are connected". Furthermore, very few formal research studies which sought to understand the individuals' feelings and trajectories of their learning stand out in the large body of literature relevant to networks of communities. In this research, as a starting point, we focused on individuals and through their personal trajectories of participation we aimed to examine learning experiences. Therefore, instead of examining stable and certain communities, we aimed to discover the individuals' learning experience with their ties to different communities.

We also intended to examine the individuals with their formal and informal (learning community) connections to find out their biographical learning experience, which is not limited to purely formal education. Although Colley et al. (2003) suggest that formal and informal learning are not discrete categories to differentiate an individual's type of connection to a community (formal or informal), in this research, these concepts are referred to separately when necessary.

Finally, this research deals with individuals' participation in multiple communities, which consist of networks of *online* and/or *face-to-face* communities. Given that individuals who learn from online communities may also belong to face-to-face communities and that some face-to-face communities also exist online, including both of the community settings helps us holistically understand the multiple communities. Also, in terms of biographical continuity, individuals learn without differentiating the communities of which they are members. Learning does not stop in a community while starting up in another community. "Different learning trajectories intersect and become relevant" (Silseth, 2012, p. 82) in an individual's life by participating in multiple

communities. In that sense, individuals acquire knowledge which can be described as a set of connections occurring from actions and experiences (Downes, 2007). In order to capture these connections, this research involves the communities without excluding either of the types.

With this in mind, 10 interviews were conducted with postgraduate (PgR) students studying at two universities at the School of Education in Turkey. All participants were involved in face-to-face and/or online multiple communities. The participants in this research were asked about the type of group/community in which they were involved in relation to their knowledge domain (PhD thesis). For ethical considerations, participants were coded as Participant 1, 2, 3, and so on.

Method

In carrying out this research, we aimed to seek and construct an image of reality rather than the reality itself (Charmaz, 2010). Realities are multiple, intangible mental constructions and also situational (Guba and Lincoln, 1994). Knowledge of reality is mediated and constructed with social negotiations and individual perceptions. In the light of this epistemological and ontological stance, this research is informed by grounded theory.

There are different approaches in grounded theory. In this research, Strauss and Corbin's (1998) approach was utilised. Accordingly, several choices have been made with regard to "conceptualizing or defining boundaries of the [research] area" and "making use of the literature" (Green et al., 2007, p. 476). At the beginning of the study, temporary research questions were formed in order to guide the data collection.

Coding Analysis

As knowledge capital is an abstract concept and difficult to measure, information from Wenger et al.'s (2003, pp.27-28) study, which demonstrates indicators for knowledge capital, was employed in this research. Thus, we benefited from a predefined coding paradigm (Kelle, 2007). These indicators were used to guide the analysis of knowledge capital. Utilising literature was helpful for us in terms of providing consistency between the concepts we used while interpreting the data. Some new themes emerged from the data and were added to the coding schema during the coding process.

Limitation of the Methodology

With the small numbers interviewed (10 participants), it was not possible to examine all aspects of the nature and dynamics of knowledge capital across multiple communities. There might be alternative supporting evidence such as utilising the communities to which the participants in this research belong. However, a majority of the communities which the participants refer to require membership and/or log in details, and gaining unrestricted access was not possible for privacy and ethical reasons. Also, although this research investigated the historical connection of the participants to their previous

communities, it was not possible to examine these communities retrospectively. Furthermore, as we primarily intended to focus on an individual's experiences and feelings and how knowledge capital informs learning in multiple communities, the individual interviews were helpful at our current level of investigation. In regard to focusing on individuals in networks of communities, as Backstrom and Leskovec (2011, p. 635) put it, "studying the networks at a level of individual edge creations is also interesting and in some respects more difficult than global network modelling". However, on this point, utilising the grounded theory approach was helpful in heuristically exploring the individuals' expeditions.

Finally, we chose postgraduate students in our research as they could be considered active knowledge seekers and by the nature of their work are involved in multiple communities. By choosing them, we intended to see the practices of multiple communities in higher education. However, this particular collection of subjects may limit the applicability of the research at different levels of education and student groups. Also, as Hofsteder (2001) states there are culture-specific dimensions, such as the culture of individualism/collectivism, power distance, and so on, which characterise and form the attitude and behaviour of the individuals. This research involves participants from Turkey and therefore the discussions we present could be culture specific. However, as we adopted a qualitative approach, we did not aim to generalise our findings to a wider population, but rather to examine the research questions in depth, or in other words, to generalise analytically (Yin, 2003).

Discussion: Knowledge Capital in Multiple Communities

As discussed earlier, Wenger et al. (2011) refer to different forms of knowledge capital as human, social, tangible, reputational, and learning capital. In the sections below, these concepts will be discussed in the context of multiple communities based on the participants' learning experiences. However, among these forms of capital, we will deal with learning capital within the scope of each form of knowledge capital because we aim to put the focus of this article on the concept of learning, and, therefore, instead of separating out learning from different forms of capital, we will attempt to show how learning capital within and across communities is achieved and comes out of different learning trajectories converging in compound communities in the context of each form of capital.

Before discussing the forms of knowledge capital in relation to multiple communities, it may be helpful to get a sense of multiple community participation and to visualize the communities with a view to revealing the relations between them. For this purpose, the participants in this study were asked to draw the communities in which they were involved, using circles and rectangles. Accordingly, they were asked to draw a big circle (for face-to-face communities) or rectangle (for online communities) to represent a community that has the biggest place in their lives and vice versa. They were also asked

to draw overlapping sets if there were any commonalities between the communities; for instance, if two communities shared the same aim, then they were asked to draw these communities with an intersection. An example of this can be seen in the figure below.

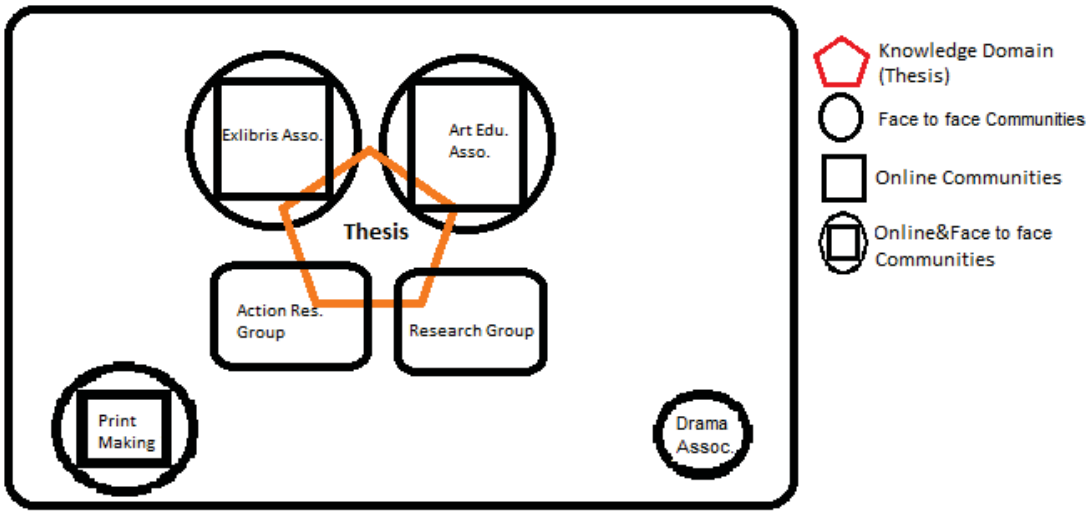

Figure 1. Multiple communities in which Participant 1 is involved.

While drawing the communities, a majority of the participants remarked that the shape of the communities should be changed in such a way as to show them shrinking or enlarging over time, based on their personal changing interests and needs. Therefore, in terms of representing their current community involvement, they drew a snapshot of the communities.

These changing shapes give us a sense of the organic structure of the multiple communities which appear in an individual's life in different time periods and which have different levels of importance. As happens in most social networks, the multiple communities which Participant 1 describes grow and dissolve, and via additions of new edges, the communities merge, which signifies their dynamic nature (Backstrom & Leskovec, 2011). The fluidity in an individual's transition among multiple communities points to the mobility that is seen in online communities.

Furthermore, as can be seen from the picture drawn by Participant 1, the multiple communities overlap. Here, it is interesting to observe how knowledge is transmitted through overlaps of personal influence as we will elaborate in the next sections.

Overall, in particular given the structures of the communities as presented above, learning in multiple communities requires a different perspective for understanding of learning with communities. Through the data extracts, below, we aimed to discuss how

knowledge capital informs the learning experience of the learners within the framework of the structure and functionality of compound communities.

Human Capital

Participants' communities consisted of a group of individuals who specialize in certain skills and knowledge. Through rituals, the members practice their expertise. In the context of multiple communities, through the ties by which individuals are connected to different communities, knowledge transition is likely to occur, and these rituals may give the members new inspiration and new perspectives.

So, what type of knowledge do the multiple community members acquire, produce, and share? It was revealed in the interviews that the overlapping structure of the communities, as shown in Figure 1, leads to integration of formal and informal education. For instance, Participant 1 examined the print-making techniques in art education in her thesis. With regard to her knowledge domain, she is involved in the Association of Art Education, Exlibris Association, Green Door Printmaking, Action Research (email) group, and a research group in her department. She is also involved in the Contemporary Drama Association, but according to her, this group is not related to her knowledge domain and she is now an inactive member. As can be seen in Figure 1, from the circles which Participant 1 drew, there is a considerable relationship between her knowledge domain and the informal communities in which she is involved. In her case, informal multiple communities and her formal education feed each other.

As a concrete example, during the interview, she mentioned how her informal international community involvement changed her ideas in her thesis:

> When I found new print-making techniques, I asked myself 'why should not I use these techniques in my thesis?'. Because when I reviewed the theses done here, they are all about traditional techniques. I said to myself 'this (new technique) would contribute to my thesis.' However, in terms of this community's contribution to the education domain of my thesis, I should say that it did not help too much.

Although the community to which she referred did not meet her expectations about the educational domain of her thesis, she was involved in another community, the Association of Art Education. Therefore, the formal education she received did not provide her with a new perspective and neither did the international community she referred to; however, through her multiple community membership, she could acquire the knowledge she needed. This overlapping structure of multiple communities helped her produce alternative knowledge to her formal education.

A further knowledge type could be summarised as *interdisciplinary* knowledge. Although not in every case, each community represents a discipline. The participants in this research pointed out that one single community does not do enough for them to acquire the necessary knowledge for their knowledge domain. In a similar way, individuals may not acquire in-depth knowledge about a discipline by becoming a member of a discipline-specific community. As a result, they are involved in multiple communities, or in other words, sub-communities or different communities. However, knowledge construction through these multiple communities is problematic for some participants in terms of experiencing conflict across the communities and integrating fragmented knowledge, as discussed in the remainder of the section.

In terms of knowledge transition, the mobility seen in multiple communities is an important aspect. As individuals move from one community to another or within the sub-communities of a community, they represent a node between the communities and thus have the potential to facilitate knowledge transition among different communities. To make it more concrete, Participant 4 was working on children's literature by becoming involved in multiple communities such as the Language Association, a research group in the department, and the Children's Literature Association. In the interview, she referred to her multiple community involvement as a way of bridging the communities through the knowledge domain. For instance, at an annual conference organised by the research group in her department, she worked together with the members of the Language Association and made a presentation at the conference drawing on the knowledge she gained from the Association. The interesting point here is that once knowledge is transited into a community, it does not disappear in that network. A close look at the trajectory of the knowledge in multiple communities reveals that when brokers obtain new knowledge from a community and when they transmit the knowledge into a different community, they either adapt the knowledge to the community members' interests or transmit the knowledge in its original form. In regards to this, Participant 9 said that as a way of assuring the credibility of the knowledge she was disseminating, she passed on knowledge as it was in its original source without any changes. On the contrary, Participant 3 reported that he adapted the knowledge based on the community members' needs and interests.

However, knowledge transition between communities might not be smooth. For instance, conflict of identity can be seen, which in turn tends to influence knowledge transition across communities. With regard to this, Participant 4 refers to her friend who needed to hide her academic background because the community excludes individuals from different academic backgrounds. Therefore, she disguised her background, which created an obstacle to knowledge transition between the communities she was previously involved in and the one in which she is now involved.

A further point with regard to knowledge transition as a crucial process of learning concerns the nature of knowledge in multiple communities. Each community of which an individual is a member produces knowledge which pertains to that community. Here, multiple communities represent a variety of knowledge production, or in other words,

fragmented knowledge. It came out from the interviews that sometimes this fragmented knowledge was contradictory. So, how does an individual decide upon the truth when faced with contradictory knowledge produced by the multiple communities in which he or she is involved?

Participant 4 stated that while deciding on what was true knowledge among a wide variety of views, she needed to verify this with the people she valued in the communities. She said that "until these people confirm, I keep changing (my work), I can sense when all these people would say 'OK'". So, here, her connection with the key community members is a reference point for deciding what true knowledge is. The issue of *true knowledge* will be further discussed in the following sections.

In regard to seeking true knowledge among competitive communities, cohesive ties among members might be an important aspect. Participant 1 remarked that the communities in which she was involved could be regarded as local, perhaps therefore closed, and these local closed communities tended to reaffirm the knowledge they produced. These sorts of communities tended to lack cooperation with their counterparts. Possibly for this reason, Participant 1 wanted to get involved in international communities through which she could get a different perspective.

A further point concerns the instant-momentary appearance of the communities in an individual's life. Participants 3, 5, and 10 stated that whenever they needed information, they would seek forum-like communities, then get temporary user names to join these communities, and once they got the required information, they would leave the group or remain inactive until they needed information again. This momentary participation points to a temporary existence of multiple communities in an individual's learning, and in terms of human capital, momentary participation may constrain collective knowledge deriving from an absence of attendant social relations.

Social Capital

Social ties in a community are considered as a social resource and this social resource signifies social capital (Daniel, et al., 2003). In the context of multiple communities, individuals are connected to a variety of communities with different levels of social connectedness. In particular, given the dynamic involvement in communities, the concept of social capital is worth examining.

In the interviews, participants frequently referred to the people in the communities of which they were members, explaining the reasons for their involvement in communities or for leaving communities. Some factors such as trust, confidence, and reputation were mentioned when referring to "people" in the community. This is important, especially for online communities because, as Bolliger and Inan (2012) remark, social isolation and connectedness in online learning have been research concerns, and student isolation has been shown to be an important problem for online learners. Participants 3, 5, and 10 stated that in the online communities they were not aware of the other people,

they did not trust others, and this influenced their level of participation in the collective outcome. This is important because as Daniel et al. (2003, p. 115) state, social capital is "a common social resource that facilitates information exchange, knowledge sharing, and knowledge construction through continuous interaction, built on trust and maintained through shared understanding"; therefore, members' sense of trust and shared understanding have an important place in knowledge capital. Furthermore, with regard to trust, almost all of the participants remarked upon their intellectual property rights and possible ways that the "others" in these environments could (mis)use it. For instance, Participant 4 stated:

> There are things which can be used for good or bad purposes. Trust is established based on this. In fact, nothing written by me is deleted [in online settings]. They are all saved somewhere. Sometimes, I find this quite frustrating but I am always thinking about this. Perhaps, this leads to self-control in individuals.

What the participants in general refer to can also be explained in terms of privacy or security, but in the context of trust, the perception of the *others* raises a question about whether the lurkers, members who usually take passive roles in a community, tend to influence people's sense of trust, especially in large groups. Participant 2 says, "Generally, I do not trust the people I do not see face to face. I cannot say that I quite trust the people in the forums or administrators in the forums". He points out the unknown people in the online environments and says, "I do not hang around in those environments, because I do not know with whom, when and for what purposes to share (knowledge)".

In the context of social capital in multiple communities, the statement above leads us to think that the unknown people to which Participant 2 refers could be considered as individuals who benefit relatively less from high social capital because they tend to obtain knowledge from different communities, rather than actively participating in one single community. This in turn might lead the individuals to gain superficial knowledge as Participant 7 stated:

> I search for knowledge on Google. I do not become a member of a forum, nor do I ask questions in a community in order to acquire knowledge. However, based on my experience, I should say that I cannot obtain in-depth knowledge about my field without becoming involved in a group.

A final point concerns a variety of relationships and the rituals experienced in multiple communities, which may mean self-actualization for individuals. In an interview, Participant 8 referred to pursuing her wishes through multiple communities that existed

for different purposes. Thus, she could be a part of events and relationships based on what different communities offered.

Reputational Capital

In this research study, reputational capital is seen in the form of status of a profession (Wenger, et al., 2011) and fear of isolation.

In the interviews, Participant 1 gave her reason for joining a community: It was the *only* community working on Exlibris, in which she was interested. Based on her statement, it can be said that the community's reputation is derived from its monopoly; and thus the community members can establish a profession. From this angle, its reputation can be regarded as appealing for the individuals in this field, and it has the potential to provide a base for members to get to know each other and consolidate social capital. In relation to this, its members tend to bring their existence into the community, as Participant 1 stated: "I can send my Exlibris to this society in order for them to exhibit my Exlibris as a member. Thus, my picture represents myself and I somehow can bring my existence into the community through them".

Her statement raises the questions of whether the monopoly of a community in a specific discipline increases the social capital of a community and what the situation would be like if there were multiple communities.

When there are multiple communities for a specific discipline, fear of isolation may be felt by the individuals working in that field. In other words, the tendency to be a part of massive communities may create a sense of isolation for the individuals who are not involved. For instance, Participant 2 referred to his reason for becoming a member of a large-size social network (academia.edu) as his intention to bring his academic identity into existence through these communities. He explained his intention when joining this network with the words, "being followed and also follow important people in his field". With regard to this, Barabasi (2002, p. 106) remarks that "nodes always compete for connections because links represent survival in an interconnected world". However, it is important to note that fear of isolation may not be felt by all individuals. Unlike Participant 2, Participants 4, 5, and 10 stated that they actually enjoyed working individually or joining these groups as lurkers.

With regard to the credibility of the knowledge produced in a community, it is interesting to note that reputational capital has the power to establish true knowledge. To make it more concrete, reputation confers authority in a community, and the standards of *knowledge* and *truth* are established by those with authority. This proficiency, obtained by becoming a member of this kind of community of practice (CoP), leads them to gain a reputation among knowledge seekers. Consequently, individuals tend to accept the knowledge produced by these CoPs. The following notes from the interviews with the Participant 5 are examples of this:

> Participant 5: [in seeking for knowledge] Actually, I do not prefer the sites such as forums, because there is no authority in these places and everybody can say anything. Then, it becomes difficult to decide whether the presented knowledge is true or not.
>
> (...)
>
> Researcher: There are doctors on the internet. Do you rely on what the doctors say?
>
> Participant 5: To me, the credibility of the website is important. For instance, there is a website like doctorlarsitesi.com (English translation can be thedoctors.com). These sites are more serious and more credible. I also question these sites but this questioning is more about whether my illness is rightly diagnosed rather than whether what they say is true or not.

The example shows that a community's proven professional status makes it credible for the individuals.

In the context of multiple communities, reputational capital may also point out negative learning experiences. For instance, Participant 4 referred to her multiple community experience while writing her thesis. She was a member of both the Language Association and the Literature Association, and she stated that the communities have conflicting, competitive views. Her field, children's literature (teaching literature to children), required her to engage in both communities from the transdisciplinary perspective. However, these communities refuted each others' ideas, creating a bad reputation for both, and as a multiple community member, Participant 4 feels the need to hide her identity when she engages in discussions in both communities.

Resource/Tangible Capital

For almost all of the participants in this research, sharing resources is a common reason for becoming a member of a community, even for the participants who usually prefer to work individually.

Resource capital has the potential to influence the intellectual development of community members. In particular, being a member of multiple communities helps individuals utilise a variety of resources, improves their knowledge, and strengthens cooperation through resource sharing. With regard to this, Participant 3 referred to his community participation in which the other members were also members of different communities. He said that he had the privilege of accessing articles through his friends, which contributed to his research by enhancing the bibliography of his thesis.

Furthermore, while dealing with resource capital, the aspect of *privacy* stands out in the multiple community members' lives. Privacy is important because it may mean intimacy and security for some people. However, in online settings, it is not easy to control privacy when sharing resources such as a private picture and a personal message. Therefore, when it comes to sharing resources online, individuals need to make strategic decisions. During the interviews, participants stated that when they intended to share resources online, they sometimes needed to create sub-groups, decide who to assign to these sub-groups, and then share with these assigned groups. Here, there is a significant relation between privacy and knowledge management.

In the context of multiple communities, Participant 8 stated that a reason why she shares resources, such as an image, which she obtains from a community with the other communities of which she is a member is that she wishes to disseminate her ideas, as embedded in the resource. Here, particular to resource sharing in multiple communities, sharing a resource might signify disclosing and disseminating the position and ideas of an individual via a tangible resource in which a message is coded.

Conclusion: Learning Experience in Multiple Communities

This research has addressed the experiences of learners in multiple communities from the perspective of knowledge capital in the context of a network structure of multiple communities. The highlighted points of knowledge capital can be summarised as follows.

By examining human capital, we mainly focused on the knowledge and skills gained through the involvement in multiple communities. In investigating the knowledge aspect of human capital, the context of multiple communities required us to take a different epistemological approach. Myers, Zhu, and Leskovec (2012, p. 33) depict information in networks as follows: "...information can reach a node via the links of the social network or through the influence of external sources". Community boundaries, ties, and nodes bring a different perspective into constructing an individual's learning. The type of knowledge is both formal and informal, which reflects real life, and remains alive in the network even after an individual leaves the group. Accordingly, through brokers, knowledge tends to be disseminated in the multiple communities and is either adapted or directly used by other community members. Knowledge transition is complex in multiple communities as discussed earlier, drawing on the interviews. For instance, while learning with competitive communities, individuals may experience conflict in the search for true knowledge. As a result, they may need to hide their identities as they enter each new community. Although they learn from each discipline- and/or purpose-driven community, in the big picture consisting of multiple communities, learners may experience conflict and this may bring about a chaotic learning experience. Furthermore, knowledge is distributed in the cooperative outcomes

of a variety of communities, and individuals may experience difficulties in acquiring and integrating this fragmented knowledge.

In terms of social capital, it was revealed in the interviews that cohesive ties among community members may lead them to behave as kinds of closed-congregation communities and to produce the same type of knowledge from the same perspective. On the other hand, cohesive ties means trust to the individuals and this is important for connectedness, which is one of the central issues in online learning and credibility of knowledge (e.g., some interviewees referred to the people whom they trust and therefore perceive them as a source of credible knowledge). In the context of multiple communities, social capital may also refer to self-actualization, which is a result of engaging in a variety of overlapping communities in the pursuit of self-interest and wishes through relationships.

In terms of tangible/resource capital, the issue of privacy stands out in the individuals' learning experiences as they need to make strategic decisions in disseminating resources, knowledge, or any materials in order to avoid unwanted results of sharing. In general, for privacy purposes individuals tend to form sub-communities and deliver or share the resources according to the characteristics of each sub-group, which in turn makes large communities 'manageable' for individuals.

A final point of knowledge capital concerns reputational capital. In this research study, for some of the interviewees, through involvment in a community, they intended to connect to a network of experts (knowledge authorities in a field) and thus bring their professional identity into the network. Reputation also meant validation of knowledge for the interviewees. Rather than a published source, the participantss tend to rely on the knowledge delivered by professionals reputed in certain communities.

Overall, we aimed to summarise the learning in multiple communities from the perspective of knowledge capital. In terms of implications of the findings, each of us is a member of multiple communities, and it is inevitable for individuals to learn from relationships with other members as they become a part of the communities' rituals. The knowledge produced in these communities may mean self-actualization, trust, conflict, privacy, and chaos for an individual. In that sense, it requires the instructional designers to take a different perspective and epistemological position in designing face-to-face and online (blended) courses given all the complex dynamics. Finally, we will conclude our article in the words of Hodgson and Reynolds (2005, p. 22): "...online work offers higher education the prospect of structures that can facilitate multiple communities as a way of recognising and supporting difference and learning from difference."

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