

7th World Conference on Educational Sciences, (WCES-2015), 05-07 February 2015, Novotel
Athens Convention Center, Athens, Greece

The Integration of Virtual Learning Communities into Universities' Knowledge Management Models

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Abstract

The paper's rationale is based on the premises that participation in virtual learning communities (VLC) can have many advantages for the students including: permanent access to information, high educational performance and increased creativity and also better developed professional identity (North and Kumta, 2014; Boulay and van Raalte, 2013) but only if they are integrated into a comprehensive knowledge management model, at the level of university. By using the technique of comprehensive interviews and the study of the literature, in the context of using Edmodo platform, and with the main aim of identifying new ways of integrating virtual learning communities into wider knowledge management model, the paper analyzes two such models that have the potential of to optimize students' professional identities. The most important contribution of the study is the conclusion that universities have a critical need to integrate more virtual learning communities in the educational activity and they need adequate tools to navigate in the increasingly more connected global society (Nistor, et al, 2013, McConnell et al, 2012). This need can be fulfilled by using modern educational strategies such as eMentorship and eInternship.

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Peer-review under responsibility of Academic World Education and Research Center.

Keywords: virtual learning communities; communities of practice; knowledge management models; professional identity

1. Introduction

The idea of this paper started from study of the European teacher training strategies have on the professional identity development, in the field of primary education. One of the most relevant conclusions was that the process of

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developing the new mental images related to identity could be done in a more efficient way by developing new models of knowledge management, that are actively using the potential of virtual learning communities. The universities have a great potential in creating and promoting virtual learning communities through a variety of ways in order to facilitate learning in an increasingly more connected global society and to the impact of new information and communication technologies in everyday life. We analyzed in this paper the specific case of preschool and primary education specialization with the aim of developing students' professional identity, which is one of the most important features of their training. Although the majority of examples are given for preschool and primary education, some of the knowledge management models presented below can be used in other fields as well.

The main aim of the study is to identify several ways of how virtual learning communities can be integrated in a larger knowledge management model in order to develop students' professional identity. This aim is the basis for hypothesis that virtual learning communities can be included in knowledge management models in order to optimize students' educational performance and is partially supported by evidence main benefits that the participation in virtual communities has especially for students and young professionals (Blanchard, Askay and Frear, 2010; Boulay and van Raalte, 2013; North and Kumta, 2014): a) occupational commitment (Meyer, et al., 2006; Redman & Snape, 2005; Ritekka, 2005; Van Knippenberg & Sleebos, 2006 apud Blanchard, Askay and Frear, 2010); the members of virtual learning communities may have an increased occupational commitment. Occupational commitment is defined as the commitment to the actual work an employee does (Meyer, Allen, & Smith, 1993); b) building better professional networks; according to Blanchard, Askay and Frear, by participating in a virtual learning community, members have the potential to interact with other similar professionals from around the country or region (Blanchard, Askay and Frear, 2010). This could widely increase the contacts a professional has to provide information for his or her job (Stewart 2005; Wasko and Faraj, 2005 apud Blanchard, Askay and Frear, 2010); Better student performance – students can increase their professional social capital through these networks (Oh, Chung, & Labianca, 2004; Putnam, 1996; Wellman, Haase, Witte, & Hampton, 2001 apud Blanchard, Askay and Frear, 2010).

2. Methodology

The methodological procedures used in this are two-fold: a) comprehensive interviews with 20 experts in education sciences from Romania and Germany (including 5 university managers), concerning the modalities virtual learning communities can be integrated in larger knowledge management models, at the level of universities; b) analysis of the literature in the field of knowledge management in the context of virtual learning communities used for professional identity development; this analysis was done using EBSCO Academic Premiere and ERIC databases. Also, in the aim of the study, we used the platform Edmodo (www.edmodo.com) to test the knowledge management models presented below with 60 students from preschool and primary pedagogy specialization from the University of Craiova, Faculty of Letters, Department of Communication, Journalism and Education Sciences, during the first semester of the university year 2014-2015.

3. Results and discussion

After we applied the methods present below, we proposed several integrated knowledge management models that can include virtual learning communities which could be used, in each context, with respect to professional identity development. One of the most important models is Wiig's (Figure 1), that has the underlying principle that 'knowledge should be differently organized, accordingly to the way it will be used' and 'in our own mental models we have the tendency de deposit our knowledge using semantic networks' (Capatana, 2009). Based on several studies (Strunga 2009; Strunga, 2014) and the analysis of the literature, we propose a new classification that integrates Wiig's model with the mental images model concerning the professional identity at the university level. The latter has five different levels: pragmata, phronesis, episteme, eidos, and nomos. Each of types reflects a certain perspective people have on the profession, especially regarding to knowledge, knowledge use and creation.

Virtual learning communities can be integrated in the university's knowledge management model in order to facilitate the development of consciousness about knowledge and the multiple ways knowledge can be used, from

novice to master level. For each level the virtual learning communities can also represent a specific professional habitus, for example (Wiig, 2004):

The novice level: virtual learning communities are used but the interaction between students and professors (and also between students) is superficial. The members of the group enroll on the platform but they don't participate in the main discussions. This is also the level of pragmata, common sense stage of the professional identity development, focused around central mental image and social representations that are related more to personal interpretations, traditions and customs and less to science. Some virtual communities, especially those that include individual who are not highly motivated permanently remain at this stage. This is the case with many groups founded on the basis of external pressure, without a careful needs analysis of the participants.

The beginner level is characterized by the existence of individuals who know where to find knowledge (and where it can be obtained) but who have difficulties in finding ways of making use of it. This is the case of many academic groups in which the curriculum reflects a certain parallelism between students and teachers mental images. The curriculum is constructed according to what a professor considers that is important, leaving the students disconnected to the way knowledge can be used in everyday experience, especially in professional context. On the other side, the professional identity stage related to this level is phronesis which is focused on immediate practical situation without a proper integration of scientific research into the activity. For example in the case of preschool and primary education specialization, students find out from other colleagues that the scientific notions taught at the university have no real use in daily educational activities with the pupils. Real knowledge for them is practical knowledge i.e. discussing with parents, managing children's behavior, coping with the educational bureaucracy etc. This approach, although natural, can become problematic if students and teachers remain blocked in this professional identity development stage. In the case of virtual learning networks, students developed communities of practice in which they discuss about national exams, teaching requirements, and informational about schools.

The competent level refers to individuals that know, but have difficulties in using the knowledge they accumulated. In this case, students actively participate and develop knowledge but they lack the ability to transfer what they know into real life situations and classroom activities. The corresponding professional identity stage is episteme, rational structured and scientific, saturated with theoretical constructs, developed directly from phronesis (practical experience). At this level it becomes apparent the necessity of eMentoring and eInternship in the case of virtual learning communities. eMentoring can bring together senior teachers/experts and students in online environments in order to discuss how they can use their knowledge better. Students lack, in this stage, exactly what seniors have: a lifetime experience in their specific field. It is absolutely important to highlight the importance of intergenerational education in this context, especially when students develop a common mental picture regarding their field, under the supervision of an experienced mentor.

The expert level describes individuals that keep knowledge in mind, understand where it can be applied and work with knowledge without external intervention. This type of knowledge is very closely associated with the group's image related to their profession. Experts integrate theory and practice very well and they transfer one successful strategy from one situation to the other. The professional identity stage corresponding to this level is eidos. This concept was first used by Plato in the sense of „forms” but in the context of professionalization can be understood as identity mental image, complementary to professional habitus. Eidos (plural: eide) is a specific type of mental image, that develops when the professional culture becomes sufficiently developed in order to allow the anchoring (used in the sense proposed by Serge Moscovici for social representations) of teacher's professional habitus. If having a habitus is not a process of which social actors are usually aware, eidos can have a conscientious character (Strunga, 2014). Virtual learning communities become in this case, expert communities that include specialist from one field, discussing about issues of current research, project funding opportunities, and various approaches to practical issues. In other studies (Strunga, 2014), we have identified four characteristics of eidos: a) transactional character, facilitated through communication with individuals that are both in the same professional group but also from outside, by which the professional representations are constructed; b) imagistic character, represented by symbols, values, attitudes, mental and conative patterns; c) educational character that is related to the potential of pedagogical valorization, by specific educational interventions (e.g. at the level of curriculum, evaluation, instruction) and d) *transversal character*, illustrated by the continuity between macro dimension (social pole) and micro dimension (the individual psychological pole).

The master level, according to Wiig, is the complete internalization of the knowledge. Not only the master has a profound understanding of the events from his or her environment (and their repercussions on the educational activities) but he/she understands the importance of professional associations and professional status (Wiig, 2004). The corresponding professional identity stage is, in this case, *nomos*, a notion that refers, in the case of teacher profession, to the development of professional standards, deontological and ethical codes and professional competences and qualifications frameworks. Virtual learning networks become, in this context, platforms for capacity building, with the aim of developing partnerships between international and national institutions, a place where methodological guidelines are elaborated and where the most advances knowledge is created and disseminated. The professional fields that lack the master level, or a well-developed *nomos*, are prone to internal dissensions and to the threat of being encapsulated by other professional fields, better equipped to dealing with current scientific research, more flexible and structured. One possible downside of this stage are the conflicts between various professional associations on overlapping activities, as it is sometimes the case with psychology and pedagogy, in Romania, particularly, where teachers' professional status decreased over a long period of time. When *nomos* is not developed, from the public opinion standpoint, it looks like everyone can do that profession (e.g. teacher), even with poor credentials minor qualifications.

Table 1. Levels and types of knowledge (Wiig, 2004)

Level	Type	Description
1	Novice	Extremely low consciousness (even not at all) about knowledge and the way it can be used
2	Beginner	He knows about knowledge existence and where it can be obtained, but he doesn't know the way it can be used
3	Competent	Knows, but the possibility of using knowledge is limited
4	Expert	He keeps the knowledge in mind, understands where it can be applied, works with knowledge without external intervention
5	Master	Complete internalization of knowledge; a master has a profound understanding about the events in his environment

The second model is adapted after Choo, and highlights the relationship between the university's knowledge management model and the virtual learning community. We can identify three main processes:

- *Sense making*, derived from the stream of experiences the participants have in the virtual learning community; from the many different individual mental images, some common representations emerge, concerning the aspects related to the profession. Sense making is underdetermined by the key values participants have, particularly regarding school, children, education and also their motivation. As the figure illustrates, this elements is heavily influences by external knowledge (outside the university environment), especially from the local community, job market, businesses and entrepreneurs, other universities, European higher education area, regional and national culture etc. New knowledge is quickly integrated in the current knowledge though a process called anchoring in social representation theory and manifested in a new adaptive behavior.
- *Knowledge construction* – students and professors permanently interact, generating new knowledge. This process is greatly influenced by the university's curriculum and the features of the virtual learning communities. For example a virtual curriculum will include multimedia resources accessible on various devices: computers, tablets, and smartphones. Students can participate to the discussion by bringing out contributions from different online sources, using a variety of input instruments. The knowledge can be constructed also by people who are from different states and geographical region, creating the premises for regional or European mental images.
- *Decision making*, materialized in regulations, procedures, routines, work processes by the use of automated systems. This process appears on multiple levels in virtual learning communities: first, there are decisions concerning the managerial dimension: learning management system, the interface, curriculum, assessment of students, evaluation of the platform's efficiency, interaction between students, professors and possibly other participants; second there are individual and group decisions: the level of participation, the academic work to be done in the context of educational activities, networking with other peers, etc.

4. Conclusions and recommendations

In order to build efficient virtual learning communities, the universities must develop adequate knowledge management models, based on professional identity development. Virtual learning communities are a perfect solution for eMentorship and eInternship programs because they're offering flexibility (time, space, work) and possibilities of transnational cooperation in times when people are using post-pc devices and Internet for everyday tasks. However, using high tech in internship isn't a guarantee for success, it's only a premise (Strunga, 2014); also extremely important are the relationship between the university and professional association, organizations that can provide valuable expertise and mentors. They also can consolidate students' professional identity, opening possibilities for entrepreneurship and innovation. In the same time, it is very important to construct a virtual curriculum, accessible to students from the learning community that can facilitate learning, motivate the participants and stimulate the curiosity of the community's members. In conclusion, we consider that there is an urgent necessity of implementing new virtual learning communities and environments in Romanian universities with the main aim of developing a better professional identity for primary and preschool teachers

Acknowledgement

This paper was co-financed from the European Social Fund, through the Sectorial Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/138907 "Excellence in scientific interdisciplinary research, doctoral and postdoctoral, in the economic, social and medical fields -EXCELIS", coordinator The Bucharest University of Economic Studies.

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