

A Social Media Networked Learning Ecology Perspective

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Abstract

Learning Technology Professionals (LTPs) use social media as a networked learning environment (ecology) for their own professional learning. This is done through reading and contributing to blogs, wikis, Twitter, Facebook, social bookmarking, etc. The various elements of social media and the connections (people, information, resources) that link them together make up the networked learning ecology. Specifically, this research draws from the literature on learning ecologies (Barron, 2004, Brown, 2002, Frielick, 2004, Nardi and O'Day, 2000, Siemens, 2008b), networked learning (Banks et al., 2004, Goodyear et al., 2004, Jones et al., 2008, Steeples and Jones, 2002, Wasson et al., 2003), and on the growing amount of literature on social media in education. The individual concepts (social media, networked learning, learning ecology) of a SMNLE have been researched in the context of elementary and higher education, but there seems to be much less research in how these concepts individually apply to professional development and learning. Furthermore, the joint concept of a SMNLE has not been researched. In addition, there seems to be little if any research in the conception held by LTPs of the relationships, connections and links that exist in their SMNLE. By researching the conceptions of connections that LTPs hold, this research aims to add to the current body of research and provide insight into the experiences of those that are pushing the envelope about social media technologies involved in connecting with learning. The phenomenon I plan to research is that of the relationships within the networked learning ecology of LTPs. The phenomenon will be researched by looking at the variation in conception and perception of these connections by LTPs. In order to investigate the variation of meaning and ways of understanding the connections in their social media based learning ecologies, a phenomenographic approach for this research is being used. This allows for a description of the range of the perceiving and experiencing the phenomenon of learning ecology connections that LTPs experience. By using a phenomenographic approach, the research will be able to show how learning technology professionals conceive and perceive of the connections within a networked learning ecology.

Keywords

Phenomenography, networked learning, social media, networked learning ecology SMNLE framework.

Introduction and Research Context

Computers and computing technology have had an impact on how people carry out daily activities and tasks. This has become increasingly evident in the past two decades with the advent of the Internet and social media. Frielick suggests that we have seen “the rapid penetration of computing and information technology into every sphere of human activity, culminating with the Internet and digital convergence of all media.” (Frielick, 2004, p. 329) This includes how, why, where, and in which contexts learning occurs. (Säljö, 2010, p. 54)

The focus of this research involves Learning Technology Professionals (LTPs) and their professional development. LTPs are individuals like teachers, instructional designers, technical support staff, and others who work in some way with technology and education. They work at the forefront of the technological and pedagogical changes that are taking place, and they are “actively involved in managing, researching, supporting or enabling learning with the use of learning technology”. (Soyoz, 2010, p. 1) The Dearing Report (1997) was one of the first to describe LTPs as “new professionals” that were emerging in “hybrid and central roles to the institution” (p. 14).

Indeed, LTPs are located in positions that are a mix of new technology and established pedagogy. As these positions are relatively new, it can be difficult for LTPs to form a sense of identity within the larger community and establish a route for their professional development. The opportunities for professional development also are still developing. Steeples (Steeples, 2004, p. 6) suggests that LTPs are:

collectively a community with some very specific characteristics. They are often working in distributed ways: in small teams or in isolation (at least from other learning technology professionals). The profession is relatively new, rapidly expanding, with little formalized training, few widely-recognised qualifications and no established professional or regulatory bodies. The members of this community need to develop a diverse range of skills and knowledge that bridge between technology and pedagogy, often also requiring subject matter knowledge. This professional skills base is also rapidly evolving, since it needs to keep pace with changes in technology.

In 2001, the Joint Information Systems Committee (JISC) undertook research aimed at providing an in-depth audit of learning technology professionals within the U.K. Higher Education system (Beetham et al., 2001, p. 6). The report made several recommendations regarding the professional development of LTPs. The report indicates the need that LTPs have for professional development opportunities and ways in which they can stay up-to-date with the latest research and best practices. An interesting point raised by the report was the emphasis and value that LTPs place on collaborative learning and being able to build connections and relationships with their peers (Beetham et al., 2001, p. 6).

A Canadian review of eLearning identified a similar need for the professional development of LTPs. In talking about LTPs' use of new technologies, the authors suggest, "Professional education, development, and training for educators must ensure that teachers [LTPs] will be equipped to make optimal pedagogical use of new methods." (Abrami et al., 2006, p. 4) As these reports point out, it is essential that LTPs engage in continuous professional development, especially as current research and best practices in the areas of learning and technology continue to evolve on an ever-increasing scale. In order to do this, it is important to ask how LTPs build learning connections in a professional area that is still developing and what their perceptions are of these relationships.

Increasingly important areas of research include looking at how professional learners develop collaborative relationships with their peers (Orland-Barak and Tillema, 2006), and how they develop relationships and connect with resources online in order to support their learning. Three concepts that include connections and relationships as integral in their meaning and purpose are: social media, networked learning, and learning ecologies.

Social Media

Social software, or social media, as it is more commonly known, is a means of social interaction facilitated through online software. In a study of the use of social media for professional development, Attwell (2007) found that computers and social media were being used widely for informal learning including participation in networks and distributed communities of practice.

McConnell (2000) in discussing the role of collaborative learning supported by ICT suggests "we are going through a fundamental shift in our thinking about teaching and learning: a paradigm shift from 'conventional' on-campus and off-campus (distance) learning to networked learning" (p. 189). According to Goodyear et al. (2004, p. 1), networked learning is "learning in which information and communications technology is used to promote connections: between one learner and other learners; between learners and tutors; between a learning community and its learning resources."

The key to this definition of networked learning is the supportive role of ICT in connecting learners with learners, and learners with resources. Jones, Ferreday, and Hodgson (2008) in talking about the role of connections in a networked learning context posit that, "This approach to learning suggests a relational view in which learning takes place in relation to others and also in relation to an array of learning resources." (Jones et al., 2008, p. 90)

Accordingly, learning is a relational concept that is best understood in terms of the connection, interactions and relationships between individuals, ideas, facts, resources, and communities.

The concept of a learning ecology is a metaphor for looking at the connections and relationships that exist within a learning environment. Baron (2006) posits that a learning ecology is “comprised of a unique configuration of activities, material resources, relationships, and the interactions that emerge from them.” (p. 195) A learning ecology framework focuses on the environment in which learning takes place. Nardi and O’Day suggest that the environment can be viewed as “a system of people, practices, values and technologies” (Nardi and O’Day, 2000, p. 49). In a learning ecology, the people, practices, values, technologies, and resources are constituents that “exist in relations of interdependence.” (Nardi and O’Day, 2000, p. 60)

Siemens suggests “Networks have underpinned human learning well before the proliferation of technology evident in society today.” (Siemens, 2008a) He emphasizes the importance of connections and relationships in our desire to learn and grow by stating that. (Siemens, 2006, p. 4) Dalsgaard and Paulsen (2009) agree with Siemens about the importance of connections, especially interpersonal connections. They point to social capital theory in stating, “human relations are an important and valuable resource.” (p. 3)

Brown (Stamp, 1998) proffers a learning ecology model that is a set of relationships. In explaining the importance of relationships in learning ecologies, Brown states that, “Relationships are crucial because they not only determine how work gets done, they play a role in how meaning gets constructed.” (Stamp, 1998)

Relationships are an integral part of the concepts of: Networked Learning, Social Media, and Learning Ecologies. For example, the following are my working definitions of all three:

- Networked Learning: a learning process that involves developing and maintaining connections and relationships between people and information.
- Learning Ecology: an environment that enables the development and maintenance of connections and relationships between people, information, and learning resources
- Social Media: media used to promote social integration, connections, and relationships between people.

Based on these definitions, I suggest that the phrase ‘Social Media Networked Learning Ecology’ (SMNLE) embodies the concepts of social media, networked learning, and learning ecologies by placing importance on connections and relationships between the various constituents of a learning environment.

I suggest there is a rich source of information contained in the perspectives and perceptions of LTPs regarding the relationships and connections in their SMNLE. Based on this, the following are the research questions that have guided this research. About the SMNLE where LTPs engage with their professional development and learning, what are the qualitatively different: A) levels of awareness that LTPs hold of the connections and relationships that can be found in their ecologies? B) Conceptions of the connections and relationships between the various constituents (i.e. social networking sites, Twitter, social bookmarking)? C) Degrees of usefulness perceived in the connections and relationships found in their ecologies?

Theoretical Framework

My research is based on socio-cultural and situated learning theory. The key assumption in both theories is that social interaction plays a key role in cognition and learning, and assumes learning to be socially and culturally constructed (Brown et al., 1989, Lave, 1988, Lave and Wenger, 1990, Vygotsky, 1978). Examples of this would be technology as a tool that mediates what we know and how we know it; and, the worldviews that we hold that actively shape our perceptions and interpretations of what we experience.

Socio-Cultural Theory

Socio-cultural theories posit that social interaction helps to develop our ability to learn and shapes our opportunities for learning. They also suggest that our social worlds have an impact on how we use knowledge to achieve specific goals (Brown et al., 1989, Lave, 1988, Lave and Wenger, 1990, Vygotsky, 1978). Vygotsky contends that looking at the individual is not enough to understand the individual's cognition and learning (Vygotsky, 1978). It is also necessary to look at the social world and environment of which the individual is part. Kublin et al. (1989) have articulated this point in that "Vygotsky (1934/1986) described learning as being embedded within social events and occurring as an individual interacts with people, objects, and events in the environment." (p. 287)

Because of the focus on social interaction and relationships in an environment, a socio-cultural perspective is particularly useful when looking at the connections and relationships that make up the SMNLE of LTPs. As we learn, we develop the ability to engage with, and be part of a particular environment (Lier, 2000).

A Learning Ecology Framework

A number of learning ecology frameworks have been proposed in the literature (Barron, 2006, Couros, 2008, Frielick, 2004, Siemens, 2008b). The main principles of interaction and connection within an environment are common amongst all frameworks, however the similarity ends there.

Frielick (2004) proposes a model/framework that looks at a perspective based on relational and systemic approaches to learning/teaching (p. 3). The framework is useful, especially in examining the "contextual relationships that characterise authentic and deep learning environments." (p. 4) However, the framework proposed by Frielick is not applicable to a social media based ecology system because the constituents (i.e. social networking sites, Twitter, social bookmarking) are different from those proposed by Frielick.

A second ecological framework proposed by Barron (2006) is based on the research that aimed at investigating how learning that takes place outside of school relates to learning inside of school and other formal learning organizations. From the research Barron suggests that "learning about an area of interest can be distributed across resources including personal contacts, text-based resources, Internet exploration, and more structured learning opportunities." (Barron, 2006, p. 194) Barron's learning ecology framework shares the common themes of connection, interdependency, and socio-cultural perspectives that are common to most ecological perspectives. (Barron, 2006, p. 196)

Siemens (2008b) has proposed a learning ecology framework that helps to develop the concept of personal learning environment. Siemens' framework suggests that a "model of learning must embrace the broad-spectrum of learning situations and recognizes the value of different modes of cognitive and social development that arise outside of institutional structures."(p. 8)

Another learning ecology framework has been proposed by Couros (2008) that represents an educator's professional and personal learning environment. The framework proposed by Couros comes closest to what is needed for a SMNLE framework. Many of the constituents of Couros' ecology are similar to what might be included in a social medial ecology. However, there are other constituents included in Couros' framework that would not be considered part of a SMNLE framework.

Research methodology

Phenomenography (Åkerlind, 2002, Åkerlind, 2005b, Åkerlind, 2005a, Åkerlind, 2008, Marton, 1981, Marton, 1986, Marton, 1994, Marton and Booth, 1997) emerged in educational research in the 1980s as a qualitative approach of investigating students' experiences of learning. Since this time, it has evolved as an approach used to identify and illuminate a phenomenon and to show the variation that exists in the perception and collective experience of the actors in the situation. In phenomenographic research, the epistemological stance is one of personal knowledge and subjectivity. It is for this reason that Phenomenography is useful in understanding the experience of people and in gaining insight into the range of people's conceptions, perceptions, motivations and actions, and the variation that exists between these.

According to Marton and Booth, “At the root of Phenomenography lies an interest in describing the phenomena in the world as others see them, and in revealing and describing the variation therein, especially in an educational context.” (Marton and Booth, 1997, p. 111) As an approach, Phenomenography provides a useful and unique way for researching and showing the variation that exists the related meanings and awareness (Åkerlind, 2005a, 6-7) of key aspects in how LTPs perceive the connections within their social media learning ecologies.

The intention of this research is to collect LTPs’ conceptions and experiences about the connections within their individual learning ecologies. Specifically, by using a phenomenographic research approach I look at LTPs’ ascribed meaning and the variation in awareness and ways of experiencing the phenomenon of learning ecology connections that support their professional development and learning. Marton and Booth argue that this research approach is “the anatomy of awareness as seen from an educational point of view” (Marton 1993, cited in Marton and Booth, 1997, p. 111).

Phenomenographic Research Aims

The implications for the approach to data collection and analysis are different when using a phenomenographic approach as compared to other qualitative methods. (Åkerlind, 2005a, p. 6) Åkerlind points to six phenomenographic research approaches employed throughout this research (Åkerlind, 2005a, p. 6-8):

1. Related, not independent meanings - During the data analysis, the different meanings that emerge are not constituted independently, but in relation to each other.
2. Awareness, not beliefs - From a phenomenographic perspective, different ways of understanding a phenomenon may be categorised according to the awareness shown of key aspects or dimensions of the phenomenon, where awareness of an aspect is indicated by the perception of the potential for variation in that aspect
3. Context-sensitive awareness, not stable constructs - The meaning of a phenomenon for an individual is constituted on the basis of their capability for experiencing the phenomenon, that is, the range of aspects of the phenomenon that they have at some time experienced, and the specific aspects of the phenomenon highlighted or perceived as most relevant in their current contextual circumstances.
4. Interpretive, not explanatory focus - The key aim of phenomenographic research is descriptive or interpretive rather than explanatory
5. Collective, not individual experience - Each interview transcript is considered, not in isolation, but in comparison to the other transcripts in the sample, and each way of understanding a phenomenon constituted during the data analysis is always developed in relation to other ways of understanding that phenomenon evident across all of the interview transcripts as a collective group.
6. Stripped, not rich descriptions - Rather than focusing on the endless variation inherent in the richness of individual experience, phenomenographic research focuses on identifying what is critical for distinguishing one way of experiencing from a qualitatively different way, in terms of the minimum features necessary for drawing such distinctions.

Participants

The number of participants required when using a phenomenographic approach varies based on the research. As the categories in phenomenographic research are not claimed to be exhaustive, this approach typically utilizes relatively fewer participants than other qualitative approaches. (Marton and Booth, 1997, p. 125)

On the other hand, there should be enough participants to allow the categories to accurately depict the variation in the collective experience of the researched population group. In selecting the number of participants, the goal should be that the data presents descriptive categories that “should be complete in the sense that nothing in the collective experience as manifested in the population under investigation is left unspoken.” (Marton and Booth, 1997, p. 125) Åkerlind also points to the importance in depicting the collective and solo voice by stating that the “aim is to simultaneously portray the whole as well as the parts in a single outcome space of variation. This is seen as having powerful heuristic value in aiding our understanding of the phenomenon.” (Åkerlind, 2005a, p. 8)

In order to provide sufficient and complete enough data that the group's collective experience can be said to apply to the wider population, the intention was to search for approximately 15-20 participants locally, nationally, and internationally. Personal contacts, online e-mail listservs and social media outlets like Twitter and Facebook have been part of the search for participants.

Data-collection

A number of techniques can be used when conducting phenomenographic research. These can include, but are not limited to: analysis of personal texts, conversations, focus meetings, observations, written responses, drawings, artefacts, and historical documents (Bruce, 1996, Hyrkas and Paunonen-Ilmonen, 2001). For this research, semi-structured interviews (Cohen et al., 2003) were selected as the data collection technique. Scott and Morrison (2006) suggest that semi-structured interviewing is useful when the interviewee is "a person who is actively constructing his/her own world, and to draw upon the interview text to develop insights into such worlds." (p. 134-135) Bruce argues (Bruce, 1996) that semi-structured interviews produce a richer and more useful phenomenographic data-set than other techniques such as written questionnaires.

Typically, semi-structured interviews are more flexible than structured interviews and involve only a few set trigger questions. The trigger questions can, for example, "focus on the background to the phenomenon, how the interviewee dealt with it, why he/she did it that way, what she/he was trying to achieve and what the outcome was." (Trigwell, 2006, p. 371) Related additional non-structured follow-up questions can then be asked based on the interviewee's response. The basis for all questions is to elicit interviewee's experience with the phenomenon. Åkerlind states that the aim at all times during the interview is, "to provide opportunities for the interviewees to reveal their current experience of the phenomenon as fully as possible without the interviewer introducing any new aspects not previously mentioned by the interviewee." (Åkerlind, 2005a, p. 10)

Data-analysis and presentation

An initial inquiry takes place that involves reading and re-reading the transcripts. The initial inquiry also involves listening again to the recorded interviews. Following this initial step "utterances found to be of interest for the question being investigated are selected and marked." (Marton, 1986, p. 42) It is anticipated that following these steps helps to reduce the data to a pool of groupings that represent the participants' individual and collective way of experiencing the phenomenon. At this point in the research, quotes are marked and selected that help to narrow down the phenomenon into a "pool of meanings" (Åkerlind, 2005b, p. 325). The critical attributes of the pools of meaning are then made explicit (Marton, 1986, p. 42-43). Essentially all quotes are grouped together by arranging, rearranging, and narrowing into defined outcome categories. Åkerlind (2005b) suggests that outcomes are "represented analytically as a number of qualitatively different meanings or ways of experiencing the phenomenon" (p. 322) and that these are called "categories of description" (322). These categories represent the participants' various conceptions, perceptions, and experience of the phenomenon.

The categories are then linked and organized into a hierarchy. The hierarchical structure provides an interpretation and clarification of the relative relationship in how the phenomenon is experienced by the participants. The structure and relationships are mainly defined by the similarities and differences that exist. The hierarchy can be ordered based on complexity (Marton, 1994). The hierarchical structure forms what Marton and Pong (2005) call the "outcome space" (p. 335). The main focus of the outcome space is to report the relationship and variation in the participants' experience of the phenomenon by "representing all possible ways of experiencing the phenomenon in question, at this particular point in time, for the population represented by the sample group" (Åkerlind, 2002, p. 2).

Conclusion

Much of the current research and literature on Networked Learning has focused on students and their learning. There has not been much research done on how learning technology professionals develop and manage their own informal relationships with learning materials and peers in a learning environment. The aim of the research is to conduct an in-depth exploration of LTPs' experiences and ways of understanding the connections in their social media based learning ecologies.

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