Knowledge Management & E-Learning
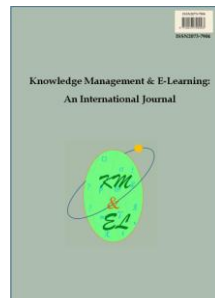
Learning paradigms in workplace e-learning research

Isabella Norén Creutz
Matilda Wiklund
The University of Ö rebro, Ö rebro, Sweden

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Isabella Norén Creutz*

School of Humanities
Education and Social Sciences
The University of Örebro, Örebro, Sweden
E-mail: isabella.noren@oru.se

Matilda Wiklund

School of Humanities
Education and Social Sciences
The University of Örebro, Örebro, Sweden
E-mail: matilda.wiklund@oru.se

*Corresponding author

Abstract: The objective of this paper is to explore the discourses of learning that are actualized in workplace e-learning. It aims to understand how learning is defined in research within this field. The empirical material consists of academic research articles on e-learning in the workplace, published from 2000 to 2013. The findings are presented as four metaphors highlighting four overlapping time periods with different truth regimes: *Celebration, Questioning, Reflection and Dissolution*. It is found that learning as a phenomenon tends to be marginalized in relation to the digital technology used. Based on this, we discuss a proposal for a more critical and problematized approach to e-learning, and a deeper understanding of the challenges and opportunities for employees and organizations to acquire knowledge in the digital age.

Keywords: e-Learning; Workplace; Discourse; Lifelong learning; Learning metaphors

Biographical notes: Isabella Norén Creutz is a doctoral candidate in educational science at the School of Humanities, Education and Social Sciences (Humes), Örebro University, and The Research School in Technology-Mediated Knowledge Processes (Örebro Universitet/Högskolan in Dalarna), Sweden. Her research interests include knowledge processes within the working life and the relation between technology and learning.

Dr. Matilda Wiklund is a senior lecturer in educational science at the School of Humanities, Education and Social Sciences (Humes), Örebro University, Sweden. She has published research in the fields of digital media in educational settings and media discourse on education. More details can be found at: http://www.oru.se/English/Schools/School-of-Humanities-Education-and-Social-Sciences/PersonalPages/Matilda-Wiklund .

1. Introduction

Different categories of computer and network technology supported education and training, known as e-learning, is increasingly used in workplace education (Cheng, Wang, Yang, Kinshuk, & Peng, 2011). Research on e-learning in the workplace has also proliferated in the last decade (Cheng, Wang, Mørch, Chen, Kinshuk, & Spector, 2014). e-Learning is claimed to have a great potential for creating a vision of life-long learning, and for meeting the requirements of knowledge-oriented workplaces and a global economy (Edwards, 1997; Tynjälä & Häkkinen, 2005; Svensson & Åberg, 2001).

Over the years, scholars and commentators have referred to e-learning as a new learning paradigm that will revolutionize the learning landscape and provide challenges to formal educational institutions. (Anderson, 2004; Lain & Aston, 2004; Hager, 2004; Macpherson, Elliot, Harris, & Homan, 2004; Remtulla, 2007).This raises questions about which discourses of learning are actualized in this emerging paradigm.

Our study addresses these questions by developing knowledge about how learning is constructed within the emerging research field of information and communication technology (ICT) and workplace education. In our analysis, the point of departure is that the language we use has a dual function in that it both reflects and creates truths about a phenomenon. The language we use in order to call forth an object or a phenomenon in relation to something else makes it possible for us to communicate in a meaningful way. At the same time, talking about something in a specific way establishes boundaries for an object or phenomenon and hence, what is possible to say or think about it (Howarth, 2005).

The most important development in industrial countries in the past centuries is technologies based on knowledge and information production and distribution. Expressions like information society, network society, and learning society (Castells, 1998; Edwards, 1997); signify a dual interdependence between the need for knowledge and information flow and ICT. The term knowledge-based economy suggests a close relationship and interdependency between a market and the cumulative knowledge of its agents, thereby giving new markers to what governs this kind of economy and new meaning to the concept of learning and knowledge (OECD, 1996). In the modernist discourse on the learning society, Edwards (1997, p. 184) argues that "a learning society is a learning market, enabling institutions to provide services for individuals as a condition for supporting the competiveness of the economy". Traces of the same discourses can be found in the vision of lifelong learning. Altogether, this is reflected in the idea of life-long learning according to organizations such as the OECD and the EU (Biesta, 2006b; Nicoll & Fejes, 2011).

From a workplace perspective, the dividing line between an industrial society and this new era has probably never been more evident. The increased use of computers and the World Wide Web, especially its interactive and social aspects, sometimes referred to as web 2.0, has led to a situation where work tasks are largely characterized by the creation, processing, and dissemination of symbols, rather than the production of physical objects. According to some researchers, ICT has not only reshaped the traditional practices of formal education and work, but also our view of valuable knowledge and competence. For instance, this is reflected in discussions about new kinds of complexities in work tasks and the need to identify new kinds of competencies to deal with an increased information flow (Ananiadou & Claro, 2009; Galagan, 2000). Another significant change provided by digital technologies is that learning activities such as workplace training and education can take place in the digital world. Many scholars and commentators have highlighted the possibilities connected to e-learning technologies

concerning aspects such as cost efficiency, flexibility in time, place and communication. This has led to a situation in which technological development within the field has provided users with a range of options that makes it possible for individuals and organizations to plan learning activities in accordance with production or in terms of the time or place best suited to the individual learner (Gunasekaran, McNeil, & Shaul, 2002; Goodyear, 2006; Moon, Birchall, & Williams, 2005; Imamoglu, 2007). The increased use of e-learning in training of employees is thus claimed to provide new learning possibilities and implications for employees and organizations; a fact that motivates research in this area. Studying the different conceptualizations of learning is a productive way of approaching the wide, complex, and interdisciplinary body of research on e-learning in the workplace, and of contributing to the discussion on lifelong learning.

Hence, the overall aim of this study is to contribute knowledge concerning the relationship between workplace learning and digital learning technologies. A more specific objective is to deepen the understanding of how learning is defined in research within this field.

2.   Research purpose and methodological points of departure

Our approach to learning and e-learning, and our analysis of the empirical material collected for this study, should be understood in the light of the linguistic turn, a movement within the social and human sciences that emphasizes the connection between thought and language (Rorty, 1992). According to this view, language is important in terms of our mutual construction of reality. Language is seen as performative in the sense that it is through language that we, in constantly ongoing social negotiation, construct what we refer to as *reality*. This approach includes an interest in how textual construction is dependent on the specific historical and social context at hand. Our analysis rests on the assumption that text, speech and language construct reality (Burr, 1995). The methodological point of departure is thus that language matters. In this sense, language is never a neutral representation that mirrors reality, but; part of the ongoing social meaning-making process in which we construct the world around us including what is considered to be *good* or *valuable* knowledge (Foucault, 1980, 1993). A discursive analysis thus includes the exploration of conceptual truth-systems, conversations, and narratives, and the exclusion of certain voices from conversation. In the process of analysis, the researcher is involved in creating reality from a specific contextual aspect by disclosing certain patterns and or narratives in conversations or texts. (Bergström & Boréus, 2000; Howarth, 2005).

An additional theoretical and methodological point of departure for this paper is the concept of metaphors as proposed by Lakoff and Johnsson (1980). According to their perspective, metaphors can be understood as conceptual systems that play an important role in how we define our thoughts in ways that are useful for our interest in discursive truth regimes. Against this background, the aim of this paper is to explore discourses of learning that are actualized in research within the field of e-learning in the workplace. We explore these discourses in terms of conceptual truth systems expressed as metaphors of learning.

In the following sections, we provide a contextual framework for e-learning, lifelong learning, and workplace learning, followed by the results, conclusion and discussion.

3. Background

3.1. Learning at work

Within the field of workplace related research, the concept of learning occupies a central position from which learning processes, effects and conditions are viewed as vital parts in the development of management and organizations (Boud & Garrick, 1999; Ellström, Gustavsson, & Larsson, 1996; Ellström, & Hultman, 2004). Additionally, narratives about learning take place at several conceptual levels and depart from different approaches, such as in discussions of democracy and civil society, growth and employment, as well as in discussions about improved working conditions for employees. Researchers like Illeris (2010), Rubenson (2009) and Cropley (1979) point to the fact that workplace learning has become an important constituent in the process of *learning throughout the life span*. Hence, learning is considered to enhance economic progression, individual and personal development, and increase social balance in a globalized knowledge economy. In the perspective of workplaces, learning strategies, employee training and education are often described as key factors in commercial com-petitiveness in a global market. For individuals, the central idea of continuous learning is increasingly connected to employability (Rubenson, 2006; Svensson & Å berg, 2001; Cropley, 1979) and is considered an important factor in terms of the individual remaining attractive on a flexible labour market.

Ellström, Gustavsson, and Larsson (1996) and Nicoll and Fejes (2011) point to a conceptual shift that has taken place within work-related research regarding views on learning. This shift indicates a move away from learning as transmission of knowledge and, something that is adopted in a specific set of skills, to a view of learning that advocates the questioning of assumptions about knowledge and production activities. Another way of approaching learning has been to point to the informal aspects of learning activities. In the workplace, learning is often understood as an informal process that takes place somewhere between routine and reflection (Ellström, & Hultman, 2004).

Perspectives on learning as integrated in work activities, collaboration, and organizational processes, leans on theories characterized by social interaction and participation. Lave and Wenger´s (1991) work, *Situated Learning. Legitimate Peripheral Participation*, is often quoted and referred to in workplace-related research on learning. By placing the focus on participation, Wenger (1998) elaborates on the concept of *Communities of Practice*, proposing that it is possible to *rethink* learning as an activity that is not isolated for either individuals or communities. Competing discourses on learning and knowledge exist in society and politics. In this social theory perspective on learning, communities of practice are understood as important aspects of our everyday lives, and we are all considered to belong to different such communities. Workplaces, where people share a mutual struggle with colleagues to find the best work practices for the accomplishment of different tasks, are one example. The development of identity plays an essential role in this view of learning. By sharing information, knowledge, and experiences, individuals have an opportunity to develop both personally and professionally.

3.2. Lifelong learning

The idea of lifelong learning was introduced in the 1960´s by UNESCO to satisfy society's growing need for education. According to Rubenson (2006) and Nicoll and Fejes (2011) the idea of lifelong learning heralds a shift from learning and education as

activities exclusively bound to the early years of life, towards a continuous learning throughout the lifespan. At work, formal and informal learning is woven into daily practices, thereby separating workplace learning from learning in schools. From this perspective, workplace learning becomes an important arena for the fulfillment of the lifelong learning vision. The first period of lifelong learning was characterized by a philosophical position that forwarded a humanistic view of the learning society where everyone could participate in the fulfillment of this vision. The emphasis was initially on *lifelong education, and in the late on1980s lifelong learning*. Rubenson (2009) refers to this period as the first generation of lifelong learning, and lifts this concept up as a guiding principle for the educational system during a time of major reconstruction. Lifelong learning proved to be an interesting model due to its promise to deal with new challenges caused by socio-economic changes in a global perspective (Edwards, 1997). Rubenson (2006) also talks about a humanistic tradition from which discussions about deepened democracy and improved conditions arose. For a while, the subject of lifelong learning was aired in policy debates, although this proved to be short-lived. The concept then returned at the end of the 1980s, this time in a new context. The ideology behind the second generation of lifelong learning was driven by a neo-liberal view of the economy and human capital. Rubenson (2006, p. 329) remarks: "it is of interest to note that while the first generation of lifelong learning talked about education as enabling individuals to control and adapt to change, the second generation saw learning only as a mechanism for individuals to adjust to society which was shaped without their input".

In recent discourses on lifelong learning, Rubenson (2009) points to *a softened economic version* in which issues concerning democracy and civic participation are once again on the agenda. Various socio-economic questions, such as the exclusion and marginalization of certain groups, needed to be addressed because they were considered a threat to global capitalism. The need for continuous learning, now as a project and responsibility for individuals, indicates a new role for lifelong learning in society. Here training and education play a *key role in easing the transitions into a knowledge economy*.

3.3. Understanding e-learning

In the research field of digital learning technologies, employee training and education, the term e-learning is commonly used when referring to web-based education and training. However, co-existing concepts, such as *on demand learning, flexible learning, distance education, online education, online learning*, and *web-based training*, are used in equivalent ways (Hrastinski, 2008; Svensson & Åberg, 2001). e-Learning can thus be defined in different ways and have different focus, which adds more density to the e-learning phenomenon. In some cases, the definitions are wide-ranging. For instance, Rosenberg (2006, p. 56) suggests that, "e-learning includes any system that generates and disseminates information and is designed to improve performance". This kind of definition seems to be representative of disciplines such as human resource management or psychology, while other definitions tell us more about the kinds of digital technology that can be used in e-learning activities, or for delivering learning content. Two examples are:

> *"e-Learning refers to the use of computer network technology, primarily over or through the internet, to deliver information and instructions to individuals" (Wang, Ran, Liao, & Yang, 2010, p. 167).*

> *"e-Learning is a wide set of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms, and digital collaboration.*

It includes the delivery of content via internet, intranet/extranet (LAN/WAN), audio and video tapes, satellite broadcast, interactive TV, and CD-ROM" (defined by ASTD in DeRouin, Fritzsche, and Salas (2005)).

e-Learning methods are often presented as synchronous or asynchronous. In so-called synchronous e-learning, participants and teachers meet in a virtual classroom in real time (Hrastinski, 2008; Svensson & Åberg, 2001). This approach to technology facilitates communication with participants worldwide; something that is often put forward as cost beneficial. In asynchronous e-learning, often referred to as flexible learning, learners can participate in training or education at any time. The learning material used in such approaches is pre-recorded and direct communication and feedback with fellow participants or tutor is not possible. The notion of flexibility could partly be understood in terms of the possibility for employees to schedule their own training or courses in accordance with the specific line of production (Almqvist, 2005; Welsh, Wanberg, Brown, & Simmering, 2003).

Hrastinski (2008) has studied synchronous and asynchronous e-learning in an educational setting. His results indicates that both methods are useful, albeit for different purposes. As stated above, e-learning in workplaces commonly takes place through asynchronous learning methods under the label of flexibility for employees and production. However, Hrastinski (2008) shows that it is important to understand the differences between cognitive and personal participation in synchronous and asynchronous e-learning. In the dimension of *personal participation*, students become more committed and motivated because rapid feedback from fellow students or their teacher is anticipated. This forum also invites chatting or other social activities. Hrastinski (2008) claims that in this synchronous environment, there is generally a less complex information exchange or discussions of less complex issues. On the other hand, the dimension of *cognitive participation*, is better suited to internal reflection and complex tasks and information. In workplaces, the pre-recorded asynchronous method is found to be the most widespread, even though it can be mixed with different blended learning activities to provide regular classroom learning with learning and training via different digital channels. This latter alternative seems to be growing in popularity (Rosenberg, 2006; Welsh, Wanberg, Brown, & Simmering, 2003).

The conceptual complexity that has been illustrated here-, indicates that the e-learning field is still in its infancy, although in this paper, e-learning should be broadly understood as an umbrella concept covering the various digital or/and network technologies that are used for planned learning activities in the context of the workplace.

3.4. A new learning paradigm

In the late 1990s and the beginning of the 21st century, the expectation was that new learning technologies would meet new requests triggered by changes in the economy and the growing need for a well-educated and competent workforce. From this perspective, progress and development within ICT in general was expected to lead to economic progression, individual and personal development and increased social balance in a globalized knowledge economy (Ananiadou & Claro, 2009; Hager, 2004; Schön, 1967; Yoo, Huang, & Lee, 2012). However, as the e-learning field has matured, critical voices have also been raised to the effect, that e-learning is a trend that will soon evaporate in competition with traditional forms of education and training. Pardo and Penalvo (2008) suggest that despite the ongoing technological developments within this area, doubts have begun to emerge with regard to user satisfaction and expected learning outcomes. In the all education or training efforts, whether face-to-face or online, the goal is to achieve

certain learning objectives: *the proof of having taught them does not suffice; we need to be sure that they have actually been acquired* (Pardo & Penalvo, 2008, p. 47).

4. Data collection and method

The material used in this study consists of peer reviewed academic articles in English, on the topic *e-learning in the workplace*. The literature search made use of the library services provided by electronic databases available at the University of Ö rebro in Sweden. The empirical material that was analyzed was collected by searching the databases ERIC, EBSCO, ABI/INFORM Global, Web of Science, and Psychinfo. The search was limited to publications between 2000 and 2013 to ensure current research.

A top-down approach was used, starting out from a large body of text and gradually narrowing down (Silverman, 2011; Wodak & Krzyzanowski, 2008), to structure a corpus of research material. This approach is in line with the objectives of this paper, namely to explore the learning discourses within e-learning research and their underlying conceptual truth systems. We began searching the databases by using several search phrases relevant to the field of digital learning technology. As indicated earlier, the terminology surrounding e-learning is broad and various concepts coexist; distance education, blended learning, distance learning, etcetera, which are sometimes used interchangeably. Several searches in databases using combinations of *blended learning* or, *distance education* in connection with *workplace* or *organizations* where made. In this process we found that the term e-learning was the most frequently used concept in work-related articles. Studies that were conducted in schools and other formal educational settings tended to use terminology of such as distance education and web-based learning.

The literature search was conducted in several stages. First, we wanted to get an idea of the kind of research that had been done on the topic of *e-learning in workplaces in general*. Second, we wanted to identify a set of generic keywords. Here, we elaborated on various search phrases, such as e-learning and workplace learning, web-based learning and workplace learning. It became clear that the research field was focused on school and formal education, especially with regard to learning. One disadvantage of using a specific search phrase, *like e-learning in the workplace*, is that some articles are missed. As the databases themselves use different search phrases for the same theme, we double-checked, by using different phrases (e-learning/distance education/distance learning and workplace and/or workplace learning), only to find that more or less the same articles appeared but in a different order.

A more systematic reading of abstracts matching the selected keywords followed. In this stage of the process, 248 qualifying abstracts were identified by scanning abstracts and looking for keywords such as e-learning, learning, workplace and employee training/learning and organizational learning. Looking at how the concept *learning* was presented with regard to e-learning in a corporative setting, 36 articles were then selected for a full reading. Additionally, references from selected articles provided valuable tips for further reading, the so called snowball effect. Some additional searching was done using the Google search engine in order to follow up on references that seemed relevant to our research question. As an effect of working with the articles for this paper we found the emergence of the concept *ubiquitous learning* to be central. This concept, together with that of mobile learning, provided possibilities of interest for the field and proved important for the fourth metaphor. A complete review covering *all* research areas associated with each of the chosen keywords is beyond the scope of this paper. However,

given that about a thousand articles were retrieved and assessed the review that we conducted can be considered comprehensive.

The analytic stage thus included 36 articles. Below are a set of analytical questions that guided the analysis and enabled us to identify metaphors carrying different truths about e-learning in the workplace:

1) How is the relationship between learning and e-learning described?
2) What is established as true, valid and desirable?
3) What is constructed as problematic?
4) Which solutions are proposed?
5) What are learning and e-learning established as?

5. Learning metaphors in e-learning in the workplace

5.1. An interdisciplinary clash of perspectives

There seems to be a need for comprehensives overviews of the broad and elusive field of e-learning in the workplace. Cheng et al. (2014) present a bibliometic analysis of literature on this particular subject. They cluster six themes in focus in the field: e-learning for continuing education, computer-assisted training for professional training, computer-assisted occupational health and safety development, computer assisted healthcare and nursing education, social media for informal learning, and knowledge management in workplace e-learning. Another example of such filed reviews is a narrative analysis of major public e-learning reports written by groups or organizations (research articles not included) published in the United States from 1999-2001 (Waight, Willing, & Wentling, 2004). The study asks the field some fundamental questions such as: which trends affect e-learning? What is the purpose of e-learning? , and what are the features of e-learning? The authors find that e-learning is described in terms of *anytime/anywhere, cost effective, having global reach, just-in-time, allows personalization, and improves collaboration and interactivity*. The report concludes that a paradigm shift has taken place in the way that education is perceived and delivered. Thus, the view of learning has undergone a fundamental transformation; a fact that motivates further research.

An experience from our study is that since e-learning includes both technology and learning aspects, the e-learning field in general has attracted the interest of various disciplines, such as education, psychology, computer science, informatics-, and human resource management. All these disciplines have different ideas about how to define the concepts of *e-learning, learning and knowledge*. That the interest in perspectives and objects of study differs between disciplines is illustrated earlier in the paper. This might not be totally unexpected. The fact that for example psychology researchers take an interest in cognitive or behavioral aspects of e-learning, is not particularly surprising, nor is the fact that researchers within the field of computer science investigate the technical aspects of e-learning. However, what is interesting, from the perspective of this study, is how this clash of perspectives generates various conceptualizations of learning, with implications for what learning could be about.

The analysis of the empirical material identifies four main periods of learning and what learning is about within the research field of e-learning in the workplace. Although there are no clear cut lines between these periods, they do show important differences

from the perspective of our study. These overlapping time periods are presented here in terms of four metaphors that point towards different discourses or truth regimes regulating what learning may be about. The four metaphors are: Celebration, Questioning, Reflection and Dissolution.

5.2. Celebration

Most of the articles on e-learning in workplace settings focus on the apparent benefits of using this technology to deliver training programs and facilitate learning. This is especially the case in the articles from the beginning of the 21st century. These benefits are defined as flexibility, cost and breadth of coverage, and disadvantages are largely disregarded (Macpherson, Elliot, Harris, & Homan, 2004). When it comes to employee aspects of the subject, research on e-learning within the corporate environment field tends to focus on individual learning models and/or employee motivation and attitudes (Williams, Nicholas, & Gunter, 2004; Goodyear, 2006; Good, 2001; Galagan, 2000; Lain & Aston, 2004). Over all, learning is not discussed from theoretical or philosophical points of departure. Learning is largely taken for granted as unproblematic and its outcomes as always positive. e-Learning thus, becomes *better* and *more efficient learning*.

> *"The widespread availability of the Internet has revolutionized the way organizations train their workforce. e-Learning methods: learning can take place on-demand, greater control over (individuals) learning. This increased control has the potential to improve training effectiveness" (DeRouin, Frizsche, & Salas, 2004, p. 147).*

Wang (2002) describes knowledge as important in terms of a *competitive advantage* for individuals and society;

> *"In the new economy, knowledge becomes the primary source for competitive advantage. Finding ways to help employees to become productive knowledge workers is thus imperative for any company seeking to sharpen its competitive edge" (Wang, 2002, p. 29).*

and as dissolving boundaries of time and place:

> *"Technology provides one answer to the design of effective workplace learning environments. e-Learning: make learning anytime, anywhere a reality which particularly appeals to the corporate world because it allows workers to learn constantly without time and/or geographic boundaries" (Wang, 2002, p. 29).*

In short, *celebration* actualizes an "effectiveness discourse" on learning. The metaphor of celebration comprises narratives of learning that rest on a discourse of effectiveness.

5.3. Questioning

The metaphor *questioning* was formulated to cover articles expressing a growing scepticism towards the use of e-learning in a corporative setting. However, this scepticism, is not directed at digital technology as a phenomenon, but rather that e-learning is still portrayed as a remedy for the challenges faced by employees and businesses in the knowledge economy by providing efficient and limitless (in time and place) learning solutions. The failure of many e-learning programs has led research explore new technological design-opportunities. Additionally, a greater emphasis on cognition and trainee, characteristics puts the individual at the core of learning and leads

to more successful e-learning (Cheng, 2012; Lim, Lee, & Nam, 2007; Cheng et al., 2011; Yoo, Huang, & Lee, 2012; Park & Wentling, 2007). Park and Wentling claim that:

> *"When people are faced with a computer that is the primary tool in e-learning, they might show various kinds of attitudes and a wide range of self-efficacy toward computers. It has been demonstrated that these attitudes and self-efficacy influence the results of any activities completed via computer, and it has been shown that self-efficacy has either a direct or indirect relationship with training outcomes in general" (Park & Wentling, 2007, p. 314).*

Research articles within this period mainly focus on usability, technical failure, employee attitudes and how to improve the actual use of e-learning in different corporative environments and at organizational levels. The dominating critical notions that are discussed are mainly concerned with issues such as the lack of implementation methods, and foreseeing the importance of employees' motivation to participate in successful e-learning programmes (Imamoglu, 2007; Wang, Ran, Liao, & Yang, 2010; Ho & Kuo, 2009; Lim, Lee, & Nam, 2007; Moon, Birchall, & Williams, 2005). The theoretical models that are most commonly used are those that explain and predict individuals´ attitudes and acceptance of information systems, such as the technology acceptance model TAM which was used in several articles (Cheng, et al., 2011) This finding is supported by results from Roca and Gagné (2008), state that: "*User´s acceptance is the most important determination of continuance intentions when using any technology*" (Roca & Gagné, 2008, p. 1586).

In short, the metaphor *questioning* stands for a growing scepticism in the field of how to implement e-learning, find better technical solutions or improve employee's attitudes. Perspectives on learning are either absent are secondary in relation to technological or motivational theories and implications. The actualized discourses of learning lean on a growing scepticism of technical failure and employee motivation and how this might be dealt with in order for e-learning to be effective.

5.4. Reflection

Over the last decade, a growing concern about the development of e-learning in workplaces can be identified. This is due to the fact that pedagogical and organizational issues are largely absent in both the research and the literature. Interaction has been recognized as an influential factor for learning. This development could be viewed in terms of a response to contemporary research studies and literature on workplace learning with an emphasis on socio-cultural perspectives on learning. The need to understand learning behaviour in order to meet the needs of learners is stressed in the articles included in this e-learning metaphor. Tynjälä and Häkkinen (2005), and Remtulla (2008, 2010), argue that there is a lack of theoretical underpinnings regarding knowledge and learning in research on e-learning at work, and that a sociocultural perspective could be combined with cognitive theories of learning to develop successful e-learning solutions. Servage (2005) gives critical consideration to the "vagueness" of e-learning terminology and proposes, that an uncritical use of language reflects uncritical approaches to e-learning (Servage, 2005, p. 304). In this metaphor, the solution to e-learning dilemmas will be solved through sociocultural perspectives on learning:" Despite a growing, global cohort of learners that is socially and culturally heterogeneous, there is a conspicuous paucity of research when it comes to investigations based on a socio-cultural treatment of e-learning. However, when it comes to the juxtaposition of people, technology, culture, and learning, the outcomes may be influenced equally by what and how people think, feel,

conceive, and perceive and not just hardware, software, and instructional design" (Remtulla, 2008, p. 147).

In short, the metaphor *reflection* covers texts that propose a solution to e-learning dilemmas by using different socio-cultural perspectives on the relationship between technical artefacts and human interaction.

5.5. Dissolution - towards a fourth metaphor

In later years, research within the field is more focused on developing communicative features in software and methods. The starting point is the consequences that arise as a result of the use of computers moving from traditional offices to social and public sites through our use of mobile and portable devices. e-Learning has been accompanied, or rather extended, by concepts such as mobile-learning (m-learning) and ubiquitous-learning (u-learning). Both concepts elaborate on the dimensions of time and place and the meaning of knowledge in ways that could provide new insights into the e-learning field. In this study, this is found to indicate a movement towards a fourth metaphor, that of dissolution.

Cope and Kalantzis (2009) claim that digital learning platforms for the novice and the expert represent a possible meeting place or venue, where the construction of knowledge is constantly mediated and re-negotiated between individuals. The learner or novice can get involved in all kinds of knowledge, and learning can be experienced by anyone (Cope & Kalantziz, 2009). In other words; knowledge does not just belong to certain individuals or professional identities, but; *anyone* can access an enormous flow of information and knowledge through the Internet. The fact that portable devices follow us everywhere entails new social and communicative practices with their own logic, such as expectations of constant online availability that creates new communication patterns where text messages, symbols and images are preferred. This approach suggests a different rhythm to learning, in addition to increased availability and adaptability of the individual's needs, which it is integrated with other activities related to home, work, leisure and entertainment. By blurring the boundaries of the private and the formal, learning and entertainment, Burbules (2004) suggests that ubiquitous technologies provide new arenas for creativity, problem solving, communication, collaboration, experimentation and inquiry, where there is no direct separation between action and reflection.

As the term suggests, *m-learning,* refers to learning through the use of mobile technology, and includes various hand-held and wireless computer devices, like lap-tops and smart phones. The concept has different meanings for different communities, and covers a range of use scenarios including e-learning, educational technology and distance education focusing on learning with mobile devices (Ally, 2009; Solvberg, & Rismark, 2012). According to Traxler (2007), the concept of mobility is important because it offers a perspective that differs dramatically from personalized conventional e-learning, in that it supports learning that recognizes the context and history of each individual learner and delivers learning to the learner whenever and wherever they want:

> *"Mobile devices create not only new forms of knowledge and new ways of accessing it, but also create new forms of art and performance, and new ways of accessing them (such as 'pop' videos designed and sold for* iPods*). Mobile devices are creating new forms of commerce and economic activity as well. So mobile learning is not about 'mobile' as previously understood, or about 'learning' as previously understood, but part of a new mobile conception of society. (This may*

contrast with technology enhanced learning or technology supported, both of which give the impression that technology does something to learning.)" (Traxler, 2007, p. 5).

In the field of computer science, the concept of technology as embedded in any device or in any location, is defined by the term *ubiquitous computing* (Wennersten, 2007). The term was coined by Mark Weiser who claimed that *the most profound technologies are those that disappear*. The idea was that by integrating computers seamlessly into our everyday practices and everyday lives, we would shift focus from the machine to the notion of human mind and psychology: "*The goal is to achieve the most effective kind of technology, that which is essentially invisible to the user*" (Weiser, 1993, p. 75). Ubiquitous computing also implies that technology can be used *anytime* and *anywhere*, suggesting that technology contributes new dimensions on how to integrate the physical and virtual and bridge distance in time and place. One of the latest conceptual developments within e-learning is *ubiquitous learning* (u-learning). Cope and Kalantzis (2009) develop the anywhere/anyplace perspective further by suggesting that ubiquitous learning is a *new educational paradigm* that has partly been made possible by the affordances of digital media, where learning is expanded to include the idea that learners can engage with knowledge about *anything*, and that this learning can be experienced by *anyone*. However, this approach to digital learning technologies has not yet been fully established in workplace, related literature and research, mainly it is discussed more as an aspect of school and formal education. Pardo and Penalvo (2008) point to the interesting paradox that follows educational affordances of digital educational technologies, which is that: the more knowledge that is mediated through technology and the more we implement our systems and improve learning environments, the lower the achieved learning outcomes in schools. Pardo and Penalvo (2008) continue to problematize the fact that *since e-learning is characterized by technological mediation* (Pardo & Penalvo, 2008, p. 47), there is a tendency to direct concerns of failure towards technological factors alone. Instead they propose that, solutions to dilemmas could be found within new roles for teachers and students, such as, that of the teacher and disciple.

In this view, schools are seen as hubs, which according to Pardo and Penalvo (2008) bring together and coordinates various learning resources. These hubs are connected to other places of learning and other learning activities, which are partially or completely separated from the teacher's control or influence. Solutions to learning dilemmas are thus not sought after in technology, but in a shift in roles for teachers and school. Bronfman (2008) draws parallels with the concepts of *tacit dimension*, and *horizon*, with the implicated meaning that when things vanish into the background, we are free to use them without reflecting and are therefore able to focus beyond them on new goals.

Burbules (2004) develops the perspectives of anywhere and anyplace further, and introduces the concept of *spatial ubiquity*. Traditional distinctions between formal and informal education have, in this perspective, been erased now that physical space no longer set limits on our knowledge acquisition. When information and knowledge can easily be stored and accessed through portable digital tools, there is no actual need for cognitive processes such as learning or memory to be internalized for us to function in everyday situations.

Within the concept *temporal ubiquity*, Burbules (2004) suggests a new way of perceiving lifelong learning. In our reading, Burbules (2004) emphasizes an unconditional adaptation of digital learning technology to the needs of individuals and their habits, instead of the opposite. Seen from this perspective, lifelong learning is

extended to include a perpetual learning opportunity and a different way of viewing continuous growth and development of skills and knowledge. In this respect, there is much more to lifelong learning than the upgrading of employees´ skills or to remaining employable in a changing labour market. Here, lifelong learning is no longer regulated by, or dependent on, a specific age or time of life, a special formal learning institution, or externally oriented motivations. Instead, Burbules (2004) argues, lifelong learning in the digital age is about a new way of relating to the world: *to be is to learn*.

In short, the emerging metaphor of dissolution points towards the possibility of learning and knowledge being removed from the boundaries of time and place.

6. Conclusions and discussions

The need for companies, organizations and their employees to continually upgrade and maintain skills and knowledge is currently broadly reflected in the idea of lifelong learning. According to the OECD, digital learning technologies such as e-learning have come to play a crucial role in this vision. At the same time, researchers and practitioners claim that these processes fulfil the requirements for the creation of knowledge-oriented workplaces fit for a global economy. It would seem that the notion of learning and what it is about is both an intriguing and important question.

This study´s overall objective has been to examine the different discourses that arise when the concept of learning is actualized in the digitalized educational context of workplaces according to research. The analysis took its methodological starting point in a discourse analytical approach based on the assumption that speech and language construct reality, and that this construction is ultimately dependent on specific historical and social contexts. In this article, we explore those discourses in terms of conceptual truth systems expressed as metaphors of learning. The first three metaphorical areas described in this text (celebration, questioning, and reflection) partly coincide with what has been described as the second and third generation of lifelong learning, which is framed between the utopian view of education and development for all, and the demands of the global economy.

The results presented in this paper indicate that the overall context of e-learning is described in terms of *design, learning models, effectiveness, employee motivation*, and attitudes towards the use of technology. Learning is often left undefined or is positioned as a marginal issue in relation to the specific issue studied. The finding that learning is not explicitly problematized in most of the studies indicates that the relationship between e-learning and learning, including lifelong learning, is an open question that is in need of further exploration. This general ambiguity in the view of learning could also be a result of a lack of theoretical underpinnings, which is noted by some researchers. In this study, e-learning is largely found to be a vague and complex concept that deals with everything *but* learning. Does e-learning merely *reflect* the ongoing shift from lifelong education to lifelong learning? Biesta (2006a) poses the question: "what´s the point of lifelong learning if lifelong learning has no point". He suggests that a transformation has taken place towards viewing lifelong learning mainly in economic terms and far less in relation to the personal and the democratic purposes of lifelong learning. Discourses of learning in e-learning are found to bring forth a common-sense view of learning. From this perspective, learning and knowledge could be *containers* that could be filled with anything (Biesta, 2006b). The rise of the learning economy has resulted in a situation where lifelong learning itself has become implicitly regarded as an individual task, rather than a shared project. This shift has transformed lifelong learning from a right, to a duty

and a responsibility. Discourses of workplace learning rest on truth regimes where learning is about competitiveness and economic growth. What are the implications for qualitative and meaningful learning experiences when learning is referred to as *learning just-in-time*, that e-learning *facilitates learning* or provides *cost effective* or *flexible learning solutions* for employees and organizations in order to compete in a global market?.

The results of this study indicate that an extended and reflective view of learning and what learning is about in e-learning is needed in research on e-learning in the workplace. We have found a theoretical gap between perspectives on knowledge and technology that could be bridged by more collaboration between disciplines. In later years, as described, e-learning has been accompanied or rather extended, by concepts such as m-learning and u-learning. These concepts, as we perceive them, may be understood in terms of a response to the complex history of e-learning that has been characterized by euphoria and disappointment. Additionally, they mirror a necessity for e-learning to be transformed into something new and different in order to realize its full potential. In e-learning, m-learning and u-learning, the fluidity of time and place are central, although the focus is different due to developments in the technologies. Hence, a central point of departure in u-learning is that we need to rethink our approach to teaching and learning. This means, for example, that the entire character of schooling need to change and traditional boundaries challenged and given new direction. Other forms of learning and teaching methods might be used that traditionally have not been regarded as formal education. In the per-spectives on u-learning, learning in a global future, means more than having access to e-mail contacts in other countries, participating in exchange activities with other countries, or learning about other cultures. It is more about recognizing and understanding the fundamental interconnections between disparate people, places and processes, and how these affect local and individual choice. It is about the omnipresence of "flow" in the sense of global, transnational networks, flows of people, information, ideas, etcetera, and an understanding of how everything is connected within this network. The fourth metaphor – dissolution – suggests a possible way of rethinking the concept of e-learning in the workplace and of expanding the notion of knowledge and learning in order to develop a deeper understanding of the learning implications and possibilities in workplaces in the wake of the digital age.

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