Module One: Philosophy

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Introduction

According to Somekh (2006), learners use technological tools routinely, and this emphasizes the importance of introducing an educational and technological system that is appropriate for learners' uses. This means that studies of learning technologies must cover the use of familiar technologies such as mobile Applications (Apps) and mobile-learning (m-learning) that are often used by students. Therefore, investigating the uses of m- technologies can gauge how they support the learning of students. In addition, students' perceptions regarding the use of educational technologies should be the central focus as they are the users of these technologies (Baharom, 2013). In addition, Boud and Prosser (2002) asserted that many researches of m- technologies converting the learning methods and teaching strategies to new forms focus on teachers' rather than students' points of view. However, there is a need to know how learners receive learning via m-technologies and to embrace their perspectives in designing learning activities (Kukulska-Hulme, 2009).

My research interest concentrates on improving educational technologies through the voice of learners. I want to know how learners perceive the activities of m-learning in order to support and improve their learning process. According to Kennedy (2008), learners might have different thoughts and ideas about advantages and challenges of m-technologies that are used to support their learning, and their thoughts might be different from their teachers. In addition, the discussion of m-learning environment is centered on developed countries and there is a need for studying the uses of m-learning in developing countries (Traxler, 2009).

Therefore, students' perspectives regarding the use of m-technologies must be embraced in the design of m-learning technologies as they already have experiences of m-learning

activities. My purpose of this paper is to develop a conceptual framework that will guide and organize my entire research in order to achieve my research goals and answer my research questions.

Theoretical Perspective

A research paradigm is the philosophical motivation or intent for undertaking a research (Cohen & Manion, 1994). This opinion is similar to that held by Dezin and Lincoln (2008) who state that a research paradigm is a set of motivations and beliefs that guides the research processes. Therefore, most researchers select research methods that are thought applicable for a chosen research paradigm (O'Donoghue, 2006). Nevertheless, researchers have to extend their views of a specific paradigm throughout the entire research process. According to Crotty (1998), choosing the research paradigm would not just defend the choice of methods and methodologies, but it will reach into the assumptions about the reality of the research. Therefore, choosing a research paradigm reflects the researcher's believes about a particular view of the world that would appear in the each stage of the research.

The researcher's beliefs about knowledge lead to find the theory that is embedded in the researcher's ontological and epistemological beliefs. Maynard (1994) states that epistemology provides a philosophical ground that helps researchers to decide what kinds of knowledge are legitimate and adequate. In addition, Mertens (1998) illustrates that ontology is the nature of reality. Therefore, I see that both epistemology and ontology complete each other, and are necessary to shape the research paradigm that would be applied. Moreover, the two together guide the methodology selection for the study. Methodology is the "strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice

and use of methods to the desired outcomes" (Crotty, 1998, p.3). These are fundamental components of any research that are related to the choice of research paradigm.

Constructivism Paradigm

Constructivists see the truth as subjective. They believed that the world is lived experiences where meaning results from the interactions between individuals and actions, and among individuals themselves in contexts. Denzein and Lincoln (2005) state that the researcher's beliefs about how the world should be studied and understood guide his or her research. Therefore, many factors including the researcher's experience, background and motivations determine how researchers understand the truth. The researchers would investigate various details of a particular context and then reflect based on their understanding of the truth. According to Kim (2003), constructivists believe that truth has multiple meanings because it is affected by the cultural and social situation in which it happens. They refuse the claim that truth is uniform even if it occurs in different times and places. Cohen and Manion (1994) illustrate that realty is complex and has several interpretations. Hence, research findings within the constructivism paradigm would be influenced by the context in which the phenomenon occurs.

Constructivists believe that meaning is constructed and researchers should emphasize specific actions (Denzin & Lincoln, 2008). In other words, researchers should focus on making meaning during the research process to fully understand the research topic or phenomena that is examined. Therefore, the interaction between the researcher and participants of the study is essential to make meaning of actions. My research interest is to explore and understand the perceptions of Saudi students regarding the use of m-learning activities. Therefore, the voice of participants regarding the suitable and successful applications of m-learning is important and

essential for my research. Cohen and Manion (1994) illustrate that the world is made up of human experiences and it is essential for a researcher to understand them. Researchers personally experience the knowledge rather than imposed from external sources. Nevertheless, participants' points of view are essential alongside the researcher's point of view in order to interpret the phenomenon under investigation (MacKenzie & Knipe, 2006). This means that understanding the values and attitudes of participants is fundamental for the study. It will not only show the acceptance of m-learning activities, but will show the effective methods to design and implement future learning technologies. Thus, the constructivism paradigm seems to be more appropriate.

Social Constructivism and Mobile Learning

There are various considerations that researchers and learning technologists should consider when introducing or designing a complex learning environment. According to Naismith (2004), the future researchers and learning designers will face some challenges to find a learning environment that supports collaboration, personalization, and student-centered learning (p.36). However, m-learning environments have some values that attract both learners and educators including individual feedback and support the collaborative activates. Therefore, the m-learning environment and the theory of social constructivism can fit together. M-learning is a learner-centered activity; however, it also serves as a social connection. According to Kukulska et al. (2009), the features of m-learning technologies support learning that is rooted in collaborative, social, and constructivist principles (p.16). Besides that, the social constructivism theory offers an opportunity for learners to engage in a process of dialectical learning such as discussion activities among students (Shih & Mills, 2007). In addition, m-learning supports the student led learning. Students can create particular contents and start to collaborate with other students outside the classroom. Cobcroft (2006) illustrated that extending the learning beyond the

classroom through mobile technologies would assist students to construct and make meaning within their real lives contexts.

According to Wilson (1996), the environment of social learning provides a variety of tools and resources for students to collaborate and work together in order to solve problems and achieve the learning goals (p.5). This means that the social constructivist-learning environment should promote learning activities such as collaboration, arguments, and discussion among students in order to engage them in the learning process. However, these learning activities cannot be limited to classrooms, they must go beyond that, and m-learning provides such learning environment.

In addition, the theory of social constructivism assumes that the knowledge is gained from social experience (Hannafin & Land, 1997). Learners construct their knowledge based on their interaction with subjects, and they use tools to connect their experiences (Baharom, 2013). This means that the use of mobile technologies as assisted tools leads students to experience and make meaning of the m-learning activities. They share and express their internal conceptualization and experiences about the topic through the assistance of m-learning activities.

Principles of Social Learning Environment

Creating a learning environment that encourages learners to construct knowledge is the main educational purpose of social constructivism (Brown, Collins & Duguid, 1998). According to Baharom (2013), there are four main principles for creating and implementing m-learning activities for higher education students through the lens of social constructivist theory. These principles are contextual learning, collaborative learning, multiple perspective learning, and reflective learning. The use of these four categories will guide the implementation or design for

the m-learning activities. However, the students' points of view should be considered alongside with these four principles.

Contextual learning. There are various ways in which learners construct meaning from given contexts (McRobbie & Tobin, 1997). Designers and teachers should take the advantages of different learning contexts to extend the learning beyond the class times. According to Duffy and Jonassen (1992), learning activities must provide assistance and contexts to aid learners in making senses of environments as they are encountered (p.5). In other words, learning activities should be designed to take the advantages of learners' multiple contexts. In addition, multiple contexts should provide authentic learning environments. According to Ryu and Parsons (2006), authentic learning environments support the combination of the real world activities with digital representation of information. This means that m-learning links associated information or contexts to learning activities in digital representation forms. Thus, students would be able to explore the phenomenon and recognize concepts via combined digital and physical objects. According to Traxler (2009), Authentic learning is a learning environment that contains problems of the real world and learning activities that are interesting and important to students (p.18). Activities of authentic learning enable learners to use their representations of the world in a formal learning environment. Thus, the authentic learning environment enhances students' learning by bringing meaningful and realistic activities to them.

Therefore, I understand that multiple contexts and cultural settings of Saudi students should be used in designing or implementing m-learning activities in order for the learning to occur. M-learning can engage students across different contexts and it can support learning activities in different space and time. It provides an opportunity to link the learner's prior experience to many contexts. The context for m-learning environment should be also authentic to

support the construction of knowledge.

Collaboration learning. The core principle of a learning environment of social constructivism is collaboration. According to Dunlap and Grabingre (1996), group activities for learning is essential for learners to build their knowledge. They enhance their knowledge and share the meaning of the context through argument and reciprocal learning. Students learn from their peers alongside their teachers. The collaboration with peers allows students to test their information and build new knowledge (p.56). Thus, social interaction with others will be encouraged through collaborative activities.

During the collaboration activities, students share their viewpoints and ideas. They also collaborate to build new knowledge and solve problems (Duffy & Cunningham, 1996). As a learning technologies designer, I should provide students with varieties of learning activities that support collaboration and peer teaching. According to Dabbagh (2005), there are three different categories of activities for collaborative learning including collective knowledge construction, collective negotiation such as argumentation and debate, and reliance on other students and teachers as resources (p.36). Therefore, discussion and writing ideas with peers is a substantial feature of collaborative learning (McRobbie & Tobin, 1997, p.199). This brings to me the importance of collaborative activities for learning such as writing and discussion. As a researcher and designer, I should think about learning activities that encourage collaboration and interaction among students in order to maximize the learning capacity for them. Activities should allow students to share knowledge, reflect on contents, and solve problems that can be done in project-based form or peers activities.

Multiple perspectives learning. The theory of social constructivism assumes that

students' learning is based in several contexts. Constructing complex knowledge requires multiple recourses and contexts. Complex conceptions are ill defined and then need several illustrations and representations (Baharom, 2013). Therefore, if students are supported to connect related knowledge through multiple representations, they will construct knowledge from concepts that are being studied (Spiro, 1991). Students will be able to expose different perspectives, and m-learning activities can provide such opportunity. According to Hannafin and Land (1997), technology supports access to multiple tools and resources that lead to construct meaning through connecting new knowledge to prior understandings and conceptions (p.170). Moreover, Jonassen (1992) stated that using available tools to promote multiple views on reality in the learning environment is one aim of the social constructivist theory. This means that information doesn't come from single source in social learning environments, but it comes from multiple resources through different medias.

Designing effective learning activities for m-learning environments require providing learners with multiple sources for knowledge. According to Lefoe (1998), learning activities for social constructivist environment should encourage learners to look to others' perspectives. This is because exposure to multiple perspectives can help students to make meaning from knowledge being studied. Therefore, there are two major features for social constructivist learning environments including providing multiple medium of representations and giving access to multiple perspectives. Providing Saudi students with m-learning activities that present multiple views of the concepts set in an authentic context is one of my research goals.

Reflective learning. Successful learners have the ability to analyze and evaluate their learning process (Dunlap & Grabinger, 1996). According to Dabbagh (2005), reflection on learning is the thinking process of what has been learnt as a way of giving meaning to events or

situations. This process includes understanding and applying the new knowledge in different contexts. Thus, providing students with learning activities that enable them to reflect on their own learning process is essential in m-learning environments. These learning activities can increase students' awareness about their own learning process in order to apply gained knowledge in different contexts (Dabbagh, 2005). I believe that m-learning technologies could assist the reflective learning process through display, review, or model social interaction among learners.

According to Baharom (2013), social constructivist learning environments include learning activities that allow students to reflect on their experience and prior knowledge, and to restructure new knowledge. Moreover, m-learning environment gives the opportunity to provide self-evaluation, and immediate reflection (Traxler, 2009). Thus, a learning technology designer should provide a space for reflection in the activities of m-learning. For instance, the integration of SMS mobile application could allow learners to comment, discuss, or support the ideas of other students.

Conclusion

To gain the potential advantages of m-learning environments that support students' learning, a focused research on students' perspectives regarding their use of mobile learning activities and applications is important. The social constructivist theory that is chosen for this study will structure the design and consider the educational practices of m-learning environments. The learning principles that will guide the evaluation of m-learning activities are generated from the social constructivist theory. In fact, writing this paper helps me to place myself in the research paradigms and to develop a strong framework for my research.

References

Baharom, S. (2013). *Designing mobile learning activities in the Malaysian HE context: A social constructivist approach* (Doctoral dissertation, University of Salford).

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational researcher*, *18*(1), 32-42.

Boud, D. & Prosser, M. (2002). Appraising New Technologies for Learning: A Framework for Development. *Educational Media International*, 39(3) pp.237-245.

Cobcroft, R. S., Towers, S. J., Smith, J. E., & Bruns, A. (2006). Mobile learning in review: Opportunities and challenges for learners, teachers, and institutions.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Sage.

Dabbagh, N. (2005). Pedagogical models for E-Learning: A theory-based design framework. *International Journal of Technology in Teaching and Learning*, *1*(1), 25-44.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2008). *Collecting and interpreting qualitative materials* (Vol. 3). Sage.

Dunlap, J. C., & Grabinger, R. S. (1996). Rich environments for active learning in the higher education classroom. *Constructivist learning environments: Case studies in instructional design*, 65-82.

Hannafin, M. J., & Land, S. M. (1997). The foundations and assumptions of technology-enhanced student-centered learning environments. *Instructional science*, *25*(3), 167-202.

Kennedy, G. E., Judd, T. S., Churchward, A., Gray, K., & Krause, K. L. (2008). First year students' experiences with technology: Are they really digital natives?. *Australasian journal of educational technology*, *24*(1).

Kim, S. (2003). Research paradigms in organizational learning and performance: Competing modes of inquiry.

Kukulska-Hulme, A. (2009). Conclusions: Future directions in researching mobile learning.

Lefoe, G. (1998). Creating constructivist learning environments on the web: The challenge in higher education. In *Ascilite* (Vol. 98, p. 453).

Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods and methodology. *Issues in educational research*, *16*(2), 193-205.

Maynard, M. (1994). Methods, practice and epistemology: The debate about feminism and research. *Researching women's lives from a feminist perspective*, *10*, 26.

McRobbie, C., & Tobin, K. (1997). A social constructivist perspective on learning environments.

International Journal of Science Education, *19*(2), 193-208.

Mertens, D. M. (1998). Research methods in education and psychology: Integrating diversity with quantitative & qualitative approaches.

Naismith, L., Lonsdale, P., Vavoula, G., & Sharples, M. (2004). Literature review in mobile technologies and learning. Futurelab. *Literature review in mobile technologies and learning: Futurelab*.

O'donoghue, T. (2006). *Planning your qualitative research project: An introduction to interpretivist research in education*. Routledge.

Parsons, D., & Ryu, H. (2006, April). A framework for assessing the quality of mobile learning. In *Proceedings of the International Conference for Process Improvement, Research and Education* (pp. 17-27).

Shih, Y. E. (2007). Setting the new standard with mobile computing in online learning. *The International Review of Research in Open and Distributed Learning*, *8*(2).

Somekh, B. (2006). New Ways of Teaching and Learning in the Digital Age: Implications for Curriculum Studies. In A. Moore (Ed.) Schooling, Society and Curriculum. London: Routledge, pp. 119-129.

Traxler, J. (Ed.). (2009). *Mobile learning: Transforming the delivery of education and training*. Athabasca University Press.

Wilson, B. G. (Ed.). (1996). *Constructivist learning environments: Case studies in instructional design*. Educational Technology.