Chapter 5

Activity in a Mobile Learning Environment: Ubiquitous Personalized Learning Using Context and Social Presence Awareness

Ray M. Kekwaletswe
Tshwane University of Technology, South Africa

ABSTRACT

The practical contribution of the chapter is the understanding of activity in mobile learning environments and how learners use awareness to model their actions for the provision of personalized learning support. The chapter is about the advancement of the human-centric approach to personalized learning through enhanced learner-to-learner interaction – where context and social presence awareness is of vital significance to how learners decide and act on a learning task. It is an expedition towards understanding the phenomenon of mobile learning, where personalized learning and support is a result of social awareness activities of learners as they traverse varied learning contexts. Mobile learning, in this chapter, is signified by mobility of learners regardless of mobile technologies. Activity Theory, which draws attention to mediated activity within a social context, is used to explore how mobile learners use context and social presence awareness to facilitate their ubiquitous social interactions.

INTRODUCTION

The chapter posits that learning and personalized support decisions and actions are influenced by awareness, as mobile learners traverse varied learning contexts. Thus, the chapter shows that learners’ awareness of a social presence and context facilitates ubiquitous personalized support and on-demand sharing of knowledge. Knowledge is not a fixed commodity, but a function of our interactions with external resources including tools, media, and other humans (Ryder & Wilson, 1997). In this chapter, ‘other humans’ is inferred to mean learners or peers who share what they know. This suggests that human knowledge transforms as people socially interact with others and the surrounding environment. Consequently, the chapter is premised on the notion that knowledge is created and transferred through the dynamic interactions among individuals and between individuals and
Activity in a Mobile Learning Environment

their environments (Nonaka, 1994). Thus, mobile learning and sharing of knowledge are social and sensitive to context.

It is inferred from the notion of knowledge creation, sharing or transfer that learning and knowledge can be perceived to transform when context and social presence awareness interact. In this regard, context and presence awareness influence the interaction and the learning problems that could be solved and how they are solved. Although a great number of studies (e.g., Shariq, 1999; Polanyi, 1966; 1958) have shown that knowledge creation and transfer is essentially a human-to-human process or an outcome of social interaction (Nonaka, 1994), the relationships or roles of context and social presence awareness as catalysts for learning and knowledge sharing in a mobile learning environment has not been explored. This chapter contributes to that effect.

The chapter contributes by exploring and understanding how a mobile learner uses awareness to model his action and leverage personalized learning. It reveals the actual nature of ubiquitous mobile learning through social interaction where awareness of context and social presence is argued to be the underlying process of the activity. Essentially, this chapter is on how personalized learning support and knowledge sharing in a mobile learning environment is an outcome of social interaction coordinated by social awareness. Social awareness is synonymous with context and social presence awareness.

Context Awareness

Nardi (1997) defines context as what takes place in an activity system composed of object, actions, and operation. “Context is constituted through the enactment of an activity involving people and artefacts. Context is internal to people – involving specific objects and goals; and external to people– involving artefacts, other people, and specific settings” (op. cit., p38). To this point, context in this chapter is understood as the situation in which a learner or a group of learners find themselves. Subsequently, context is seen as that which can be used to characterize the situation of a learner. The chapter looks at context awareness where context is defined to include: learner’s location and environment, learner as the participant (including socio-cultural background), plus social interaction as well as activities. The “environment” category contains context factors that are outside of the control of a learner, such as the weather. The “participant” category includes the status (mental and physical) of the learner or other learners. The “activities” category covers learner, participant, and environmental activities. “Interactions” deal with those characteristics that pertain to relationships between individual learners, their activities, and the environment.

Social Presence

Short, Williams and Christie (1976) asserted that different communication media express varying degrees of social presence based on their ability to transmit nonverbal and vocal information. Thus, they initially introduced the Social Presence Theory as “technical social presence,” defining it as the capacity of the medium itself to present the “salience of the other person in interpersonal interaction” (p65). The claim by Short et al. (1976) that the quality of the communication media determines its social presence or richness was disputed by Ngwenyama and Lee (1997) who showed that the communication richness of a media is dependent on who uses the media and how they use it. In this chapter, social presence is re-defined and understood to be the mediated presence or the face-to-face presence of another learner who could provide personalized on-demand social support for a learning problem as the learner traverses varied learning contexts.
Related Content

Transaction Management in Mobile Databases
www.igi-global.com/chapter/transaction-management-mobile-databases/17200?camid=4v1a

Primary Research on Arabic Visemes, Analysis in Space, and Frequency Domain
www.igi-global.com/chapter/primary-research-arabic-visemes-analysis/70824?camid=4v1a

An mLearning Journey: Mobile Web 2.0 Critical Success Factors
www.igi-global.com/article/mlearning-journey-mobile-web-critical/67096?camid=4v1a

Modeling and Verification of Cooperation Incentive Mechanisms in User-Centric Wireless Communications
www.igi-global.com/chapter/modeling-and-verification-of-cooperation-incentive-mechanisms-in-user-centric-wireless-communications/86323?camid=4v1a