Chapter 14
Designing Learning Ecosystems for Mobile Social Media

Jari Multisilta
University of Helsinki, Finland

ABSTRACT
Social media has gained interest not only in entertainment applications, but also with learning and business applications; however, there are not many research frameworks available for designing learning activities for learning ecosystems based on mobile social media. In this chapter, a framework for designing and analyzing learning activities in learning ecosystems that are based on mobile and social media is presented. The framework is based on Activity Theory (AT) and Experiential Learning Theory (ELT). In the chapter the existing research on e-learning, mobile learning, and multimodal learning are discussed and reviewed. The research on learning ecosystems based on mobile social media is also positioned to this multi-scientific research field. Finally, two examples of using the framework for designing, learning, and analyzing learning activities in mobile social media learning ecosystems are presented.

INTRODUCTION
Social media applications have gained popularity because of services like Blogger, Facebook, Flickr, Twitter and YouTube. The idea behind social media is that users are actively contributing to the services, for example sending their blog notes, images or videos to the service, creating tags and doing other types of social activities, for example commenting on and rating blogs, images and videos others have posted. Many social media applications are designed for entertainment purposes through the creation of unique individual experiences for the user. An interesting question is: Can mobile social media be applied to learning?

Social media applications can, at the very least, be seen as a way to support the learning process. Wikis and blogs are already used for doing col-
laborative learning activities in the classroom; moreover, many social media applications have been designed for desktop or laptop usage. It would be useful if there is support for designing social media applications for learning outside the classroom. Some social media applications have a mobile client or can be used with a browser in the mobile device. For example, using a mobile phone bundled with social media client software, users can post to their blogs or Flickr accounts. In the future, social media services will be designed based upon the needs of the mobile users. The mobility aspect in social media is emphasized also because of new type tablet computers, such as Apple’s iPad.

Social media services for learning applications can be designed using existing programming paradigms and tools, such as a client-server model, Ajax programming, user-centered design models, participatory design, and guidelines for creating usable web pages; however, it is believed that the design process as well as the designed system can be improved by designing learning activities with a theoretical and conceptual framework. Tynjälä and Häkkinen (2005) argue that “a major problem related to learning in virtual environments is that, in group work, certain phases of problem-solving may be so difficult that the productive sharing and elaboration of knowledge through electronic tools is almost impossible” (p. 327). Although the usability and usefulness of ICT systems and tools is a difficult, multifaceted problem, it is believed that it can be at least partly solved by using appropriate design methods and tools.

There has been a lot of discussion on learning theories for eLearning, web-based learning, and mobile learning (Mwanza-Simwami, 2007; Naismith, Lonsdale, Vavoula, & Sharples, 2004; Nichols, 2003; Oliver & Pelletier, 2006; Sharples, Taylor, & Vavoula, 2005; Trifonova & Ronchetti, 2003). One of the main questions in this discussion has been the need of a separate theory of learning for web-based or mobile learning. In this chapter the discussion is extended to learning with mobile social media and the need of learning theories for learning ecosystems based on mobile social media.

Nichols (2003) claims that “literature in eLearning is practice-based and is typically presented in a descriptive format” (p. 1). Research is focusing on reporting experiments, but with a lack of unified concepts and theory. This would mean that practitioners do not use learning theories when they are designing eLearning environments and eLearning activities. It is argued, that the use of a learning theory as a model, or framework helps the practitioners to analyze and design learning activities in learning ecosystems based on mobile social media.

According to Mwanza (2007) learning with mobile devices is still a new research area and more work is needed in order to understand the benefits and effects of using technology to support learning. From this point of view, discussing the characteristics of learning with technology and building theoretical concepts and frameworks for supporting the design and implementation of pedagogically meaningful applications for learning with mobile social media is justified.

Currently, there are not any research frameworks available for studying learning ecosystems based on mobile social media. In this chapter, a social media design framework that could be used for designing learning activities for next generation mobile social media services is presented. The model is based on Activity Theory (AT) and Experiential Learning Theory (ELT). Related frameworks based on the AT, namely the SEA Framework (Multisilta, 2008) and the framework for analyzing mobile learning according to Sharples et al. (2005) is also discussed. Activity Theory has been widely accepted for designing user interfaces (Barthelmess & Anderson, 2002; Fjeld, Lauche, Bichel, Voorhorst, Krueger, & Rauterberg, 2002; Kaptejin & Nardi, 2006; Oliver & Pelletier, 2006), pedagogical applications (Kukulska-Hulme, Traxler, & Pettit, 2007; Uden, 2007) and mobile learning (Sharples, Taylor, & Vavoula, 2007); however, AT has not yet been