Chapter 14
The Relationship between Self-Regulated Learning and PLE Management

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ABSTRACT
Is Personal Learning Environment (PLE) a new concept for effective teaching and learning? Shouldn’t learning always be personalized and individualized? How may digital technology enhance PLE? Web 2.0 technology integration requires a higher level of self-regulated learning skills to create a PLE. This study examined each of the four aspects of learner self-regulation in online learning (i.e., environment structuring, goal setting, time management, & task strategies) as the predictor for level of initiative and sense of control with regard to PLE widgets management in PLE. This study has concluded that goal setting, time management, and task strategies in self-regulated learning can predict level of initiative in organizing PLE. Furthermore, goal setting and task strategies can predict sense of control in PLE management. Based on the study results, PLE Guidelines are suggested to support educators and learners to build and to manage their PLE.

INTRODUCTION
Web 2.0 has become synonymous with a more interactive, open, networked, and collaborative Internet for learning. Mott (2010) argued that many educators consider the Learning Management System (LMS) as being too inflexible and are turning to the web 2.0 for tools to support their everyday communication, productivity, and collaboration needs. Therefore, educators replaced the LMS with Web 2.0 tools, Blogs, wikis, social networking sites, Twitter, Google Apps, and other web-based applications to enhance human learning. As suggested by Siemens and Matheos (2010), learners nowadays have more freedom to...
access, create, and recreate their learning contents, opportunities, and environments to interact outside the institutional learning system. Educators who focus on “social,” “open,” and “network” aspects have used integrated multiple Web 2.0 technologies as the best strategy for learning (Dede, 2008) to support their existing online instructions. The integration of multiple Web 2.0 tools (i.e., multi-tools platform) have been recognized as the instructional tool with autonomy, diversity, openness, and connectedness (van Harmelen, 2006).

Mott (2010) contended that Personal Learning Environment (PLE) is the educational manifestation of the web’s “small pieces loosely joined,” a “world of pure connection, free of the arbitrary constraints of matter, distance, and time.” With the integrations of multiple Web 2.0 tools, PLE’s greater flexibility, portability, adaptability, and openness make it an emerging and innovative teaching and learning platform. Typical online learning delivered on LMS tends to require less learner-centered skills, create constraints on learning environments and learning continuity (Mott & Wiley, 2009), promote a culture of dependency among students (Powell, 2006), and decontextualize the tasks (Herrington, Reeves, & Oliver, 2005). On the other hand, Web 2.0 technology integration requires a higher level of learner-centered skills to create a PLE (Lee, Miller, & Newnham, 2008; Suess & Morooney, 2009; Weller, 2007) that will engage learners to create and manage their people network, resources network, and tools network. With the integration of PLE, Web 2.0 tools will offer a more personalized and open environment for students to learn, formally and informally (Camacho and Guilana, 2011).

As suggested by Dabbagh and Kitsantas (2012), the development and application of self-regulated learning skills is essential to PLE. Furthermore, self-regulation and technological personalization are essential issues in the current debates of the organization of education and the nature of the relationship between institutions and learners (Johnson and Liber, 2008). Self-regulated learning behaviors, such as skills and strategies utilized by a learner, may change as a function of a learner’s desire to achieve in their learning. In fact, PLE is effective in addressing learners control and personalization (McLoughlin & Lee, 2010). Kop (2011) emphasized that the learner’s ability in learning autonomy and self-directed learning is critical to Connectivism. The importance of PLE in modern education has been extensively discussed in literature and numerous guidelines to build PLEs have been suggested. However, since PLE is a personalized act, it is critical to understand the self-regulation skills of learners and how they relate to building PLEs so that the understanding of the PLE building process can be enhanced. This study empirically examined the relationships between various aspects of self-regulation and PLE widgets management in PLE construction. The purpose of this study was to investigate the following research questions:

1. How will each of the four aspects of self-regulation in online learning (i.e., environment structuring, goal setting, time management, & task strategies, respectively) predict the level of initiative in PLE widgets management in Personal Learning Environment (PLE)?
2. How will each of the four aspects of self-regulation in online learning (i.e., environment structuring, goal setting, time management, & task strategies, respectively) predict the sense of control of PLE widgets management in Personal Learning Environments (PLEs)?

**Personal Learning Environment**

New technologies enable individuals to personalize the learning environment via the integration of learning networks, people, resources, and tools, which will be called Personal Learning Environments
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