

Chapter 58

Learner-Centered Technology Integration

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ABSTRACT

To transform teaching and learning in ways that better meet the needs of digital natives, there has been increased emphasis on the integration of technology into teaching and learning. However, despite generally improved conditions for technology integration, high-level technology use, associated with constructivist or learner-centered practices, is still low. Many teachers and instructors are not using technologies to their potential, often integrating the new tools into their old practices. In an attempt to better support teachers and instructors in using emerging technologies to design and facilitate learner-centered instruction (LCI), this chapter provides an overview of learner-centered instruction (LCI) and the technological pedagogical content knowledge (TPCK) framework. Then, the potential of emerging technologies to foster learner-centered instruction (LCI) and future trends are discussed.

INTRODUCTION

Today's students, often called "digital natives," grow up with technology. They integrate technology into almost everything they do and are constantly connected to their friends, family and

various resources via technology. Most of them have never known life without the internet. They have spent their entire lives using computers, cell phones, and other digital tools. Technology is an integral part of their lives (Oblinger, 2008; Prensky, 2007). To transform teaching and learning in ways that better meet the needs of these digital natives, there has been increased emphasis on the

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integration of technology into teaching and learning. Many educators and researchers in diverse contexts are exploring innovative ways to use emerging technologies in teaching and learning.

However, high-level technology use, associated with constructivist or learner-centered practices, is still low. Despite generally improved conditions for technology integration, including increased access to technology and increased training and resources, many teachers and instructors are not using technologies to their potential. Researchers report that teachers tend to use technology mostly for communication and low-level tasks, such as word processing, drill and practice activities, and exploring websites, rather than using technology to facilitate learner-centered instruction (Becker, 2000; Brush & Saye, 2009; Ertmer, 2005; Russell, Bebell, O'Dwyer, & O'Connor, 2003; U.S. Department of Education, 2003). In an attempt to better support teachers and instructors in using emerging technologies to design and facilitate learner-centered instruction, this chapter provides an overview of learner-centered instruction (LCI) and the framework for teacher knowledge for technology integration, which is called technological pedagogical content knowledge (TPCK). The potential of emerging technologies, such as Web 2.0, virtual worlds, and wireless handheld devices (WHDs), to foster LCI, will then be discussed. Finally, future trends and directions for professional development will be briefly discussed.

BACKGROUND

Learner-Centered Instruction (LCI)

Learner-centered instruction (LCI) focuses on both the learner and learning (APA, 1997; McCombs & Whisler, 1997). While LCI does not take only one form, learner-centered teachers tend to have the following general characteristics in common.

Personalized Learning Activities and Support

Learner-centered teachers have high expectations for all students and pay close attention to the knowledge, skills, and attitudes that students bring into the classroom. Taking into account the unique needs of individual students, they provide learning activities or tasks that are personally meaningful and challenging to each student. They allow students to work at their own pace and provide personalized support (Bransford, Brown, & Cocking, 2000; DiMartino, Clark, & Wolk, 2003; Reigeluth & Duffy, 2008).

Social and Emotional Support

Learner-centered teachers foster students' social and emotional growth as well as intellectual growth by creating a supportive and positive environment. They assume that all of their students want to learn and provide emotional support and encouragement to students (McCombs & Whisler, 1997; Reigeluth, 1999).

Self Regulation

Learner-centered teachers empower students by sharing power. They give students increasing responsibility for the learning process and provide an optimal amount of structure without being overly directive. They also include students in decisions about what and how they learn and help them develop learning skills and strategies beyond content knowledge (McCombs & Whisler, 1997; Reigeluth, 1999; Weimer, 2002).

Collaborative and Authentic Learning Experiences

Learner-centered teachers provide students with authentic learning experiences in which students can develop real-world skills, such as communication, collaboration, critical thinking, creative

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