Technology Integration Curriculum Framework for Effective Program Evaluation

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ABSTRACT

This article explores whether and to what extent a doctoral program in Instructional Technology in the College of Education at a public Midwestern university reflects technology integration curricular framework principles, including those about the nature of the Net Generation learners and their learning process. This evaluation model is grounded on the constructivist and social knowledge construction theoretical framework. By outlining a systematic approach and procedures for conducting this evaluation, the researchers provide the groundwork for similar evaluations at other institutions. This framework could be used by potential students to determine whether specific academic programs provided by different academic institutions are well suited to their learning needs as digital natives.

Keywords: Constructivist Pedagogy, Digital Natives, Net Generation Learners, Program Evaluation, Student Learning, Technology Integration

INTRODUCTION

Proponents of the Net Generation or Digital Natives (Tapscott, 1999, Prensky, 2001a, 2001b; Papert, 2005, Dede, 2008) have argued that, because of their immersion in computer technology, this group of students has special needs that old pedagogies and epistemologies cannot meet. These proponents call for integration of technology into the curriculum in order to meet new pedagogical needs and learning expectations. Considine, Horton, and Moorman (2009) suggest that effective teachers should therefore, “help all students to analyze and evaluate each media message for text, context, and impact to produce more knowledgeable, creative, and cooperative citizens for the Global Village” (p. 10).

Tapscott and Williams (2010) argue that the Internet and other digital technologies present unique opportunities to tap the benefits of constructivist and collaborative pedagogies in modern technology-rich classrooms. Constructivism assumes that effective learning requires active engagement with subject content; collaborative learning environments; and opportunities for problem solving. Thus, constructivist peda-
gogical paradigm views learning as a process of conceptual change whereby learners construct new understandings of reality and is consistent with collaborative learning contexts (Miller & Miller, 1999; Tam, 2000).

The use of technology in education has introduced new ways for social interaction to take place in classroom environments. While interactive and open-ended authentic type of learning could benefit the digital natives, using new educational technologies includes not only a change in tools (Harris, Mishra, & Koehler, 2009) but also a seismic shift in assumptions about the nature of learners, the roles of teachers and educational institutions, implications for the curriculum and the answer to the famous rhetorical question, ‘what knowledge is of most worth?’ (Dede, 2008; Prensky, 2001a).

According to Dede (2008), the knowledge that used to be of most worth included “accurate interrelationships among facts, based on unbiased research that produces compelling evidence about systemic causes” (p. 80). In the current framework, knowledge incorporated not only facts, but also “other dimensions of human experience, such as opinions, values, and spiritual beliefs” (Dede, 2008, p. 80). Further, the knowledge that is of most worth is no longer just factual but also procedural: knowing how to learn how to navigate information, and how to evaluate it and be a critical consumer (Duhaney, 2005).

Digital Natives

Growing investments in technology coupled with the increasing access to technology resources characterizes digital native in our campuses. Digital natives interact daily in a digital economy and an information-based society (Otero et al., 2005) that has contributed to their perceptions of technology as “part of the natural landscape” (Tapscott, 1999, p. 7). Digital native generation possess sophisticated knowledge of and skills with information technologies (Bennett, Maton, & Kervin, 2008). Further, as a result of their experiences with technology (Prensky, 2006), digital natives have particular learning preferences or styles that differ from earlier generations of students, and expect technology to be an integral part of their learning experiences.

The digital native generation is the most racially and ethnically diverse group in history. These students are generally highly expressive, looking for and expecting instant gratification, easily bored, team oriented, craving the spotlight, and expecting to be rewarded for their efforts.

In addition, this generation of students prefers to be interactive: “They want to be users-not just viewers or listeners” (Tapscott, 1999, p. 3). Outside of school, a majority of digital natives use a variety of social networking media technologies, including TV, computer, Internet, PlayStation, digital cell phones, iPods, and more (Cox-Holmes & Lodde, 2006). Further, they are able to have better access of information in their home environments.

The digital native generation of learners is accustomed to non-linear, hypermedia thinking (Tapscott, 1999), learning at high speed (Prensky, 2001a), and through exploration that allows them to create knowledge by actively testing their ideas (Brown, 2000, as cited in Bennett et al., 2008). Therefore, the pedagogies appropriate for these learners are constructivism and situated teaching that scaffold students’ co-creation of knowledge (Dede, 2008, Duhaney, 2005). Prensky (2006) says, “Digital Immigrant teachers assume that learners are the same as they have always been, and that the same methods that worked for the teachers when they were students will work for their students now. But that assumption is no longer valid” (p. 4).

As much as evidence shows that there is a majority who fall into the categorization, or generalizations, of being considered part of the millennial generation or called digital natives, there are also some concerns for many within this population who may be falling through the cracks of this entire generation. According to Bennett, Maton, and Kervin (2008):

“Such generalizations about a whole generation of young people thereby focus attention on
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