Chapter 45

Adult Learning in a Digital Age:
Effective Use of Technologies for Adult Learners

Krista Steinke
Florida Atlantic University, USA

Valerie C. Bryan
Florida Atlantic University, USA

ABSTRACT

This chapter argues that the technology implemented for teaching and learning in the higher education setting should serve a specific set of purposes in order to increase student engagement and to maximize learning outcomes. The practice of using technology alone to increase student engagement is ineffective. Before deciding which tools to implement, faculty need to first consider how the technology will meet the needs of the students. The same is true at higher levels of organizations. Before requiring faculty to implement technologies across a school, administrators should research the effectiveness of the technologies, specifically to determine whether the technology will increase student achievement and have an overall positive impact on the organization. Time is perhaps the most important factor in this scenario. Leaders must weigh the pros and cons of using time, a valuable resource, to teach new technologies to faculty, and, further down the line, for faculty to teach to students. In short, it is not effective to implement a new technology simply because we can.

INTRODUCTION

The proliferation of information and the paradigm shifts occurring with technology have had vast impacts on the students and faculty in academia. With the growing use of technology in organizations, it is sometimes difficult to determine which technologies are beneficial and which are not. According to Bates and Pool (2003), "If there is one major trend in teaching in higher education today it is the move toward more learner-centered teaching" (p. 43). In this chapter, the authors argue that the implementation of new technologies should be based on a determination regarding the

effectiveness of the technologies and how they can be used to promote self-directed learning in higher education. The authors provide a discussion about the common pitfalls and the alternate solutions that can be implemented through technology through the lenses of technology theories and adult learning theories.

BACKGROUND

A number of theorists discuss the implications of using technology to enhance the capacity of learning organizations (Bryan, 2006; Bates & Poole, 2003; Clyde & Delohery, 2005; Davies, Fidler, & Gorbis, 2011). The way that we deliver instruction has changed, but has it changed for the better just because we are using technology? Do all learners benefit from the proliferation of the technology tools? Are all learners technologically literate enough to use the tools that are being introduced into their learning environments? Teachers as leaders must find a way to deliver instruction through technology while remaining in control of it, rather than allowing the technology to control the workplace. For adult learners, this means implementing methods that are based on andragogical principles (Knowles, 1980, as cited in Merriam, Caffarella, & Baumgartner, 2007).

BARRIERS

The literature indicates that there are a number of barriers creating difficulties in effective implementation of technology. These barriers can be attributed to a number of elements at work in organizations. The learning curve required to master a skill, faculty perceptions and resistance, and information overload all contribute to the difficulties in implementing technologies effectively. Additionally, many organizations continue to use technologies that have not been proven effective,

resulting in wasted time and resources. Institutional barriers are also at play, and often prevent promising changes from being implemented.

The Learning Curve

There is a learning curve associated with beginning to use new technologies. We must be cautious in terms of adding too many new technologies at one time so employees and students will not become overwhelmed. According to Cuban (1986), "Educators . . . have witnessed one new technology after another--from radio, film, and television, to programmed instructional kits and language laboratories--parade in and out of the classroom, leaving little behind but empty coffers and unfulfilled promise" (as cited in Warshauer & Ware, 2008, p. 234). More recently, technology has begun to advance at a rapid pace, making it difficult for teachers to spend enough time using any one technology to become fluent in it before they are expected to learn something new. There is a learning curve involved when faculty and students are using new technologies. These learning curves sometimes serve as a barrier to effective implementation.

Faculty and students who are expected to use new technologies must progress through four cognitive levels of knowledge in order to become proficient in new skills. The four levels of knowledge are as follows: unconscious not knowing, conscious not knowing, conscious knowing, and unconscious not knowing (Atherton, 2013). When learners move from unconscious to conscious not knowing, they become aware of everything that they must learn. This can quickly become overwhelming when an individual sees the unknown laid out in front of them. Faculty must often "mushfake" their way through the process (Gee, 1989), often having to check with other faculty or with the instructional technology department to ask questions. Mack (1989) defines "mushfaking" as "do[ing] with something less when the real thing

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/adult-learning-in-a-digital-age/111874

Related Content

Employing Educational Robotics for the Development of Problem-Based Learning Skills
Nikleia Eteokleous (2019). *Advanced Methodologies and Technologies in Modern Education Delivery (pp. 333-344).*
www.irma-international.org/chapter/employing-educational-robotics-for-the-development-of-problem-based-learning-skills/212823

Investigating Students' Perceptions of DingTalk System Features Based on the Technology Acceptance Model
Danhua Peng (2023). *International Journal of Technology-Enhanced Education (pp. 1-17).*
www.irma-international.org/article/investigating-students-perceptions-of-dingtalk-system-features-based-on-the-technology-acceptance-model/325001

Investigating Students' Perceptions of DingTalk System Features Based on the Technology Acceptance Model
Danhua Peng (2023). *International Journal of Technology-Enhanced Education (pp. 1-17).*
www.irma-international.org/article/investigating-students-perceptions-of-dingtalk-system-features-based-on-the-technology-acceptance-model/325001

Sustainable Cinema: The Moving Image Created by Natural Force
Scott Hessels (2018). *Visual Approaches to Cognitive Education With Technology Integration (pp. 82-100).*
www.irma-international.org/chapter/sustainable-cinema/195063

Role of Mentorship and Reflection in Leading Learning Through Making: A Pilot Project
Jennifer Lock, Kristi-Mari Fedorko-Bartos, Kristal Louise Turnerand Kathy Wise (2022). *Research Anthology on Makerspaces and 3D Printing in Education (pp. 708-725).*
www.irma-international.org/chapter/role-of-mentorship-and-reflection-in-leading-learning-through-making/306744