iPad Professional Development Program (iPDP)

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ABSTRACT

Scholars who have studied the adoption of technology in educational settings, believe that professional development is necessary for its successful adoption. This paper addresses a need for an iPad Professional Development Program (iPDP) to support the adoption of iPad tablet computers in higher education teaching and learning. The proposed iPDP is a hybrid program involving both face-to-face learner interventions and online resources. The program is made up of three interrelated components: (a) an online resource that supports the entire program, (b) an introductory workshop (iPadogogy) targeted at pre-adoption learners; and, (c) a knowledge-sharing event targeted at all learners. This paper describes: the components of an iPDP; the design considerations for each of the components; and, the limitation of the proposed iPDP.

Author Keywords

iPad, tablet, higher education, mobile learning, professional development, educational development, academic development, learning technology, adult education

INTRODUCTION

The purpose of this paper is to describe an adaptable professional development program to support the adoption of iPad tablet computers in higher education teaching and learning. By *higher education*, I mean post-secondary education, such as college or university, and *teaching practice* refers to all activities performed by teachers in the administration, preparation, delivery, and evaluation of instruction. In this paper, the term "iPDP" refers to an iPad Professional Development Program. This paper proposes an iPDP by describing: the components of an iPDP; the design considerations for each of the components; and, the limitation of the proposed iPDP.

Technology adoption refers to an individual's acceptance of a technology, while *diffusion* refers to the adoption of a technology across an organization (Rogers, 2003; Straub, 2009). Scholars who have studied the adoption of technology in educational settings, believe that professional development is necessary for its successful adoption (Brown, Benson, & Uhde, 2004; Fishman, Marx, Blumenfeld, Krajcik, & Soloway, 2004; Keengwe, Kidd, & Kyei-Blankson, 2008). Even with well-publicized technology, such as the iPad, providing access alone has not proven to be sufficient for successful adoption (Georgina & Hosford, 2009; King, 2002; van Oostveen, Muirhead, & Goodman, 2011). Moreover, if early adopters of a technology have negative experiences, their experiences "may lead to skepticism among the early majority" (Moser, 2007, p. 67).

The proposed iPDP addresses the need for professional development to support the adoption of iPad technology in higher education teaching and learning. The iPDP has three components: (a) an online resource, (b) an introductory workshop, and (c) a knowledge-sharing event. The components of the iPDP are influenced by the academic literature on technology adoption, faculty development, and learning theory, as well as the unique characteristics of the iPad technology. The intended outcome of an iPDP is the increased adoption of iPads into teaching and learning practice.

THE IPDP FRAMEWORK

The primary goal of the iPDP is to increase the adoption of the iPad among higher education teachers for the purposes of supporting teaching and learning. The iPDP is not intended to address a single context; rather, it is intended to be adaptable across academic organizations. For the purposes of the iPDP, I define two levels of learners: *pre-adoption learners* are those who do not yet use their iPads to support professional practice, and *post-adoption learners* are those who do use their iPads in some form or another to support professional practice. The iPDP benefits both pre-adoption learners and post-adoption learners.

The iPDP represents an ongoing program, rather than a one-time intervention, as recommended by Lawless & Pellegrino (2007): "the best professional development activities are spread out over time with opportunities for follow-up learning and feedback" (p.594). The iPDP is hybrid in nature, in that it involves both face-to-face interventions and online resources. It is made up of three interrelated components (see Figure 1): (a) an online resource that supports the entire program, (b) an introductory workshop (iPadogogy) targeted at pre-adoption learners, and (c) a knowledge-sharing event targeted at all learners.
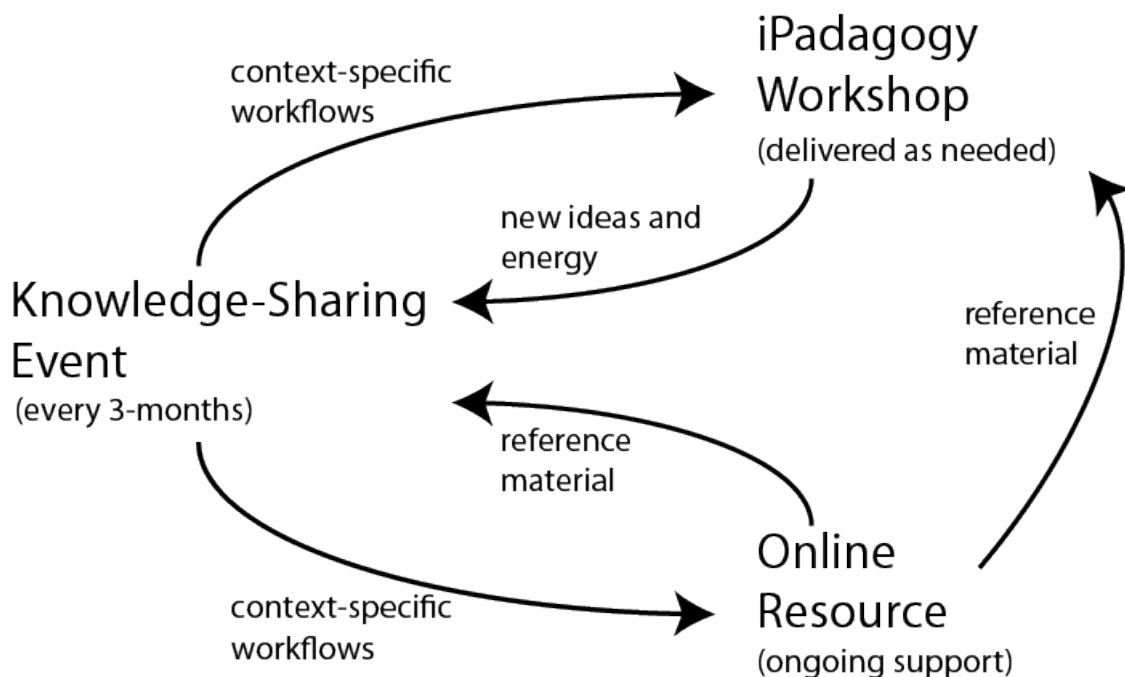
Figure 1. Proposed iPDP framework

DESIGN CONSIDERATIONS

The interconnection between the components provides a mechanism for harvesting context specific workflows from the Knowledge-Sharing event, for the purpose of integrating these workflows in both the iPadagogy Workshop and the Online Resource. *Workflows* are descriptions of processes that include a detailed sequence of steps indicating how to perform a specific task. Workflows describe how to use the technology in a specific context rather than describing the product features. The interconnection also allows for new ideas and energy to be injected in the Knowledge-Sharing Event as learners graduate from the iPadagogy Workshop bringing familiarity with recent updates to the technology. The regular frequency of the iPad Knowledge-Sharing Event, and the interconnection, provides a mechanism for ensuring that that the iPDP adapts to the fast-pace of change in the ever-evolving iPad technology.

Design considerations for the iPDP were drawn from: the scholarly literature on faculty development, and learning theory; the author's professional experience; and, the unique characteristics of the iPad technology. In the following sections, I describe the specific design considerations of each component.

Design Considerations For The Online Resource

The Online Resource serves two purposes: to support the iPadagogy workshop and Knowledge-Sharing events, and to provide a sense of on-going presence and support for learners. The Online Resource is a dynamic website designed using the current best practices for website usability. The website may be accessed by the learner on both a desktop computer and an iPad. The website provides reference material that promotes and supports the use of the iPad as a tool for teaching. It is updated regularly to ensure that learners are reminded about the use of iPads in practice, and to provide answers to common learner questions in a timely manner. Regular updates also provide a sense of social presence, which is necessary for both successful online learning (Garrison & Arbaugh, 2007) and for learners to feel ongoing support, which is necessary for the adoption process (Lawless & Pellegrino, 2007).

At a minimum, the online resource includes: (a) links to resources providing basic instruction on how to use the iPad, (b) problem-based activities to challenge the learner, and (c) organization specific workflows. Content for the online resource is obtained through multiple sources, including: curating links to existing Internet resources, creating specific activities to support iPad use in the context of higher education teaching, and harvesting organization specific workflows from the iPDP Knowledge-Sharing event.

The frequency of updates to the online resource presents a balancing act between the desire to support a sense of presence by providing regular updates and the economic impacts (direct cost and labour) necessary to maintain the site.

Design Considerations For The Introductory Workshop (iPadagogy)

The iPadagogy Workshop is a face-to-face 90-minute or half-day workshop intended to increase pre-adoption learners perceptions regarding how useful the iPad is and how easy the iPad is to use. The name of the workshop is a play on the words iPad and pedagogy, and was chosen to reflect the workshop's emphasis on teaching practice. The word "introduction" was intentionally removed from the workshop title as it carries with it a stigma that may prevent pre-adoption learners from attending. The iPadagogy workshop is offered whenever there are enough pre-adoption learners to justify it.

The key factor that differentiates pre-adoption and post-adoption learners is that the pre-adoption learners do not yet perceive value or benefit from using the technology (Spotts, 1999). In addition, research on technology adoption indicates that increasing a user's perception of the usefulness of the technology and ease-of-use of the technology increases the likelihood of adoption (Davis, Bagozzi, & Warshaw, 1989). Thus, the purpose of the iPadagogy workshop is to provide learners with an appreciation for the usefulness of the iPad as a tool to support teaching practice, and to increase learners' familiarity with the device such that they find it easier to use. Throughout the workshop, learners work in small groups to solve educational challenges using their iPads.

Throughout the workshop learners are provided with concrete examples of how to use the device to support teaching and learning within their context. For example: using the iPad to mark assignments with a PDF annotation app, synchronizing files between the iPad and classroom network, and using the iPad to control what is displayed on the classroom projector.

The content of the workshop draws upon problem-based learning and collaborative learning teaching strategies. In problem-based learning, learners work in small groups to solve authentic problems, that is, problems where the cognitive demands closely resemble what the learners would face within a real-world context. Learners are encouraged to seek out whatever resources are necessary to solve the problem, similar to real-world problems there is no one correct solution (Savery & Duffy, 1995).

In the iPadagogy workshop, learners work in small groups to address problem-based activities that are incremental in their complexity, beginning with activities that are designed to instill confidence in the learner's abilities. Early activities involve simple problems that relate directly to tasks that the learner is already familiar with, such as sending email or looking up references on the Internet (Brown et al., 2004; Ertmer, 2005). Activities then progress in complexity and become more context specific, challenging the learner to gain new skills with the device while demonstrating context specific uses.

In addition to problem-based learning activities, post-adoption learners are invited to present common workflows, specific to the organization. Finally, the workshop ends by "encouraging participants to leave the workshop with an immediate goal to implement the new skill in practice" (Georgina & Olson, 2008, p. 7). In the case of the iPadagogy workshop, the participants will be challenged to contribute at the next iPad Knowledge-Sharing event.

Design Considerations For The Knowledge-Sharing Event
The Knowledge-Sharing event is a 60, 90 or 120-minute collaborative learning experience, intended to enhance the learners' use of the iPad in their teaching practice. Throughout the event, learners work in small groups demonstrating to one another how they are currently using their iPads to support their teaching practice. Rogers (2003) emphasizes that "more than anything else, it was the social power of peers talking to peers about the innovation that led to adoption of the new idea" (p.68). Thus, the Knowledge-Sharing event is a collaborative learning event, taking advantage of the social power of peers, where learners demonstrate how they use the iPad within the context of their specific organization.

The ways in which the iPad can be used changes very quickly as new and improved applications become available in the App Store. One unique feature of the iPad is that new users often have a more recent perspective on the ever-changing capabilities of the technology (applications and operating system) than the more experienced users. This means that both new and experienced users can equally contribute to the collaboration in the Knowledge-Sharing event. Also, because of the fast pace of change of the iPad technology, the Knowledge-Sharing event is repeated every three months.

Learners who discover one way of doing things risk becoming complacent with the limited use of the technology. The Knowledge-Sharing event mitigates "the inherent danger that a teacher will become prematurely satisfied with their limited use of the technology" (Hooper & Rieber, 1995, p. 157), by disrupting those who have become comfortable using the devices in a limited capacity and providing them with encouragement to explore new and improved ways of doing things. The introduction of new ideas at regular intervals also helps to moderate the effect that prior similar adoption is negatively correlated with technology use, as learners who have adopted a similar technology may not see enough incremental benefit for changing their existing practice (Straub, 2009).

Finally, the workshop supports those who are still trying to figure out how the iPad can be used to support teaching and learning within their specific context.

LIMITATIONS
An iPDP cannot address everything that is necessary to increase technology adoption. The proposed iPDP only addresses the aspects of technology adoption that can be influenced by educational interventions. As such, the iPDP does not address organizational issues, such as those relating to the marginalization of teaching within the academic career reward system (Kim, Horton, & Amelink, 2011; Schneckenberg, 2009). In addition, the iPDP assumes voluntary adoption and it assumes that the learners in the program are at different stages of adoption. Finally, the proposed iPDP focuses only on the design of the iPDP, and as such, it does not address evaluation of the program itself.

CONCLUSION

In this paper, I propose an iPDP that addresses a need for a program describing professional development to support the adoption of iPad tablet computers in higher education teaching and learning. The proposed iPDP consists of three interconnected components: (a) an online resource that supports the entire program, (b) an introductory workshop (iPadagogy) targeted at pre-adoption learners, and (c) a repeating knowledge-sharing event targeted at all learners.

Future research, in the form of a design-based research study, is planned to validate this program across multiple higher education institutions. This future research will seek to validate the program and provide instructional-design notes to assist in adoption of the program across organizations.

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