Technology-Literate School Leaders in a 1:1 iPad Program and Teachers’ Technology Self-Efficacy

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ABSTRACT

This paper reports the results of an action-research case study that investigated the efforts undertaken by technology-literate school leaders to facilitate the implementation of a school-wide 1:1 iPad program and the subsequent influence those efforts had on teachers’ technology self-efficacy. The investigation highlights what the study’s authors have determined to be a critical component in the implementation of a 1:1 technology program, the emergence of the organization’s master practitioner of technology-based pedagogy.

Keywords: Cognitive Apprenticeship, iPad Program, Self-Efficacy, Technology

INTRODUCTION

Technology leaders in schools can be found in the role of administrators, teachers, support personnel, and even amongst the students themselves. School technology leaders found in the role of an administrator or teacher practicing technology-based pedagogy disseminate best practices to others within the organization, assuming the role of mentor to less technology literate members of that organization. Members of the organization learn technology-based pedagogical practice from these mentors, leading to greater levels of teacher technology self-efficacy and support for the organization’s 1:1 technology program. This paper investigates the work of school leadership during the implementation of a 1:1 iPad program and the dissemination of technology literacy in the organization that helped to foster teacher technology self-efficacy, resulting in school-wide adoption of technology-based teaching practices. It was found that school leaders have established a culture at the school where the organization,
particularly the school principal, search for the latest innovative ways to incorporate technology into the school. The principal at the school is a skilled practitioner of technology-based pedagogy, teaching a psychology class in addition to his duties as principal and as an advocate and director of the current 1:1 iPad program for the school. Based on the results of the study, the researchers believe it was his emergence as the organization’s master practitioner of technology-based pedagogy that has contributed significantly and positively to the school’s 1:1 technology program. In this role he has driven the mission and vision of the program and ensured that the teachers in the organization have reached a level of competency with the technology that affords them an increased sense of technology self-efficacy, helping to ensure the long-term success of the program. As the organization’s master practitioner of technology-based pedagogy, it will be shown that the way he has disseminated technological knowledge within the school follows elements of the Collaborative Apprenticeship Model and that this can be used as framework that can assist others in implementing school-wide 1:1 technology programs in similar settings.

PURPOSE OF THE STUDY AND RESEARCH QUESTION

This qualitative action research study reports the results from a two-part interview process and makes recommendations for schools launching 1:1 programs. The researchers conducted an interview with the school’s principal, who also teaches an AP course at the school, and a focus group with five full-time faculty members. Their perceptions of the efforts undertaken during the 1:1 iPad program’s launch and the impact those efforts had on the faculty were the focus of the group interview. The researchers were guided by two research questions:

1. What efforts were involved in implementing the 1:1 iPad program?

2. How has teachers’ technology self-efficacy been influenced as a result of the efforts undertaken to implement the 1:1 technology program?

METHODOLOGY

This qualitative case study used an action research design to investigate the steps taken in implementing a 1:1 iPad program in a high school and how that implementation influenced teachers’ technology self-efficacy. One of the goals of this action research study was to determine if the efforts undertaken during the course of this research site’s 1:1 technology implementation might be useful as a guide in helping other schools attempting similar programs, adding to the growing body of knowledge influencing decisions related to implementing 1:1 technology-based programs. Berg (2007) defines action research as “a method of research in which creating a positive social change is the predominant force driving the investigator and the research” (p. 224). A focus group was held with the teachers that allowed for open-ended responses to record the experiences of the participants involved in initiating this change at the school (Akengin, 2008). The aim of the researchers was to use data collected from the focus group interview to provide material to help meet the study’s second goal of discovering how teachers’ technology self-efficacy was influenced as a result of this program’s implementation. Similarly, a semi-structured interview was held with the building principal so that the researchers could determine his perceptions on the process of implementing a 1:1 iPad program. Descriptive and pattern coding techniques were employed in the analysis of the interview transcripts and field notes (Saldana, 2009).

PARTICIPANTS

A purposive sample of five teachers and the school principal were selected to represent the participants involved in launching the 1:1 iPad
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