Mobile Devices in the Gymnasium and Weight-Room: Integrating Tablet Technology in a Physical Education Setting

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ABSTRACT

The research described here examines the introduction of class sets of tablet technology for two secondary school physical education specialists and the students in their physical education classes. The teachers’ perceptions of student ease of use and issues encountered during the implementation are captured through guided discussions on an online platform. The research design is qualitative, capturing the teachers’ descriptions of day-to-day issues and successes with the implementation. The study raises questions with respect to how implementation is theorized when teachers and students have out-of-school familiarity with the mobile technology and the learning curve is less steep. This study’s findings confirm aspects of earlier research which identifies supports and barriers to technology implementation in education in general, and adds to understandings of potential uses and barriers for mobile technology in physical education classes.

Keywords: Barriers to Technology Implementation, iPads, Mobile Technology, Pedagogy, Physical Education, Technology Implementation

1. INTRODUCTION

This study examines the introduction of tablet-PCs into two secondary school physical education (PE) programs, capturing the views of the teachers and students involved in this process through their guided discussions in an online social networking community. The incorporation of mobile technology to access web-based learning environments in different subject disciplines has been identified as an area of both opportunities and challenges (Sakkopoulous, Lytras & Tsakalidi, 2006). The overall research paradigm is qualitative which leads to a more detailed understanding of the teachers’ experiences. This study’s findings with respect to supports and barriers add to

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understandings of potential uses and barriers for mobile devices in learning.

According to Juniu, Harris and Hofer (2012), digital tools used in physical education such as pedometers and heart rate monitors provide creative and motivating ways to engage students. They claim that, “Physical education teachers today are expected to have a deep understanding of how educational technologies can assist students” in order to link fitness knowledge to the use of these tools and measure performance (Juniu et al., 2012, p 34). The use of technology in PE classrooms is a topic of significant pedagogical and societal importance both because the technologies are new, and because physical activity is important.

Physical activity is a highly significant component of overall health which currently is the focus of global attention (Edginton, Chin & Bronikowski, 2011). The World Health Organization (WHO) estimates that globally, close to 3.2 million deaths are attributed to “insufficient physical activity” (WHO, 2014), establishing that regular physical activity is important for adults. Children and adolescents can also reap the benefits of early years of physical activity toward their future health by building stronger, more resilient bodies and by building habits of daily physical activity. For example, early evidence suggests that students who are active in school PE programs are also more active outside of school and watch less television (Dobbins, Husson, DeCorby, & LaRocca, 2013). Because schools are sites for universal interventions, key questions are being raised with respect to how school programs can encourage physical activity habits so that students are more likely to become more active adults.

Access to the web on a mobile device in the past has been time-consuming, but more recent technologies such as tablets with downloadable applications provide new opportunities. Mobile technologies also provide access to online learning materials, and have features such as video capture and playback. Juniu (2011) has identified that tablets have the potential to personalize learning and to motivate students in physical education. There is, however, a need to document the benefits and barriers to technology use in education in order to measure if the technology is value-added (Lytras, Pouloudi & Poulymenakou, 2002) and also to examine subject-specific uses of technology (Ifenthaler & Schweinbenz, 2013).

Within the pedagogical realm, there are multiple theoretical approaches to the study of technology integration. Ertmer (1999) proposes that there are first and second-order barriers to teacher use of technology. She also theorizes that teachers need exposure to both the technology and opportunities to realize the technology in the context of changing their practice, and learning through public conversations, social networks; modelling, and participation in like-minded communities with appropriate technology tools and support (Ertmer, 2005).

Concurrently, there is also debate with respect to the ideal alignment of teacher knowledge of content, pedagogy and technology in order for effective implementation of technology to occur – understanding teacher beliefs about pedagogy and technology in their own subject areas is an emergent field which would benefit from more global studies (Voogt, Fisser, Pareja Roblin, Tondeur, & van Braak, 2013). The research described in this study examines tablet technology introduction as described by two experienced PE teachers reflecting on this implementation and their practice. As such, it contributes also to the larger theoretical field which has come to be known as technological
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