The Impact of Experiencing a Mobile Game on Teachers’ Attitudes Towards Mobile Learning

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ABSTRACT

This paper describes a workshop held as part of preparations for a large scale implementation of a mobile game designed to support learning of the topic “my hometown”. The study reveals teachers’ attitudes towards the incorporation of smartphones in teaching and learning in school and whether these attitudes changed after experiencing the game. The findings show that the attitudes of the teachers towards the game were positive in all aspects. They thought it was enjoyable, promoted collaboration and created motivation to win. The game was evaluated as contributing to knowledge and the application as easy to use. The study revealed that teachers’ attitudes towards the use of smartphones for learning were changed after experiencing the game as participants. Perceptions about the potential of smartphones for learning strengthened and there has been an increase in the willingness to adopt them as part of the students’ personal learning toolkit.

KEYWORDS

Adoption of Technology, BYOD, Game-Based Learning, Mobile Games, Resistance to Mobile-Technologies, Teachers

INTRODUCTION

In recent years, more and more students attend school with smartphones in hand. Many teachers consider the presence of these devices in class distracting. Some teachers consider them rivals for students’ attention and find it hard to teach while facing students who, instead of following the lesson, are distracted by their phones. Such teachers respond by forbidding the use of these devices during class (O’bannon & Thomas, 2015). Nevertheless, from the pedagogical perspective, using smartphones in schools can maximize access to online information and can support teaching in class. Continual access to online resources means that teachers can enrich their resources for in-class substantiation and experimentation, diversify their sources of information, create learning activities by referring learners to authentic and relevant information during class, and generate learning experiences that stimulate interest and involvement (Sharples et al., 2010). It has already been shown that the integration of mobile technologies into class has a positive effect on learning motivation and learning experience (Rau, Gao, and Wu, 2008).

This paper describes a workshop held in order to prepare teachers to conduct a mobile game with their students in school. The study focuses on the impact of the experience in the workshop on teachers’ attitudes towards the use of smartphones in school in general and toward the specific game in particular.

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USING SMARTPHONES IN LEARNING

Smartphones offer high potential for teaching and learning (Prensky, 2005; Traxler 2007). Students use them increasingly in everyday life. The market penetration rate of the smartphone among American adults in 2015 was 65%. Among youngsters (ages 18-29) it was 85% (Smith, 2015). 88% of American teens (ages 13 to 17) had access to a mobile phone of some kind in 2015 (Lenhart et al., 2015). Teachers can take advantage of the availability of smartphones to create an interactive and interesting learning experience. By utilizing the special features of the phones, such as the camera, the recorder, and the many available educational applications, the teacher can create a new learning experience and engage students in the classroom and outside it and thus increase learning motivation among students (Jones et al. 2006, Zadok & Meishar-Tal 2015).

Smartphones can enrich learning by providing authentic and contextual learning conditions (Sharples et al., 2010). Learning through mobile devices can be spontaneous and needs driven. It offers new possibilities for learning: learning outside the classroom, learning anytime and anywhere and learning on the move (Liu et al., 2014; Syvanen et al., 2005). The only constraint that limits the use of mobile phone is bad reception conditions, since reception is still not possible in certain places, and the duration of the battery (Meishar-Tal & Gross, 2014).

One of the main advantages of using mobile devices for learning purposes is their ability to integrate location based information in the learning process. The location based services are either based on the use of QR code scanning or on global positioning system (GPS) which are built-in in smartphones. QR codes are can be used in closed spaces such as museums as well as in open spaces such as field trips, while GPS can be used only in open spaces, since GPS require clear view of the sky (Schultz, 2013; Fitz-Walter, 2012; Avouris & Yiannoutou, 2012). QR code and GPS are effective means for attaching virtual information and activities to physical objects or specific locations and achieving location awareness and location based learning (Chen & Choi, 2010; Medzini, Meishar-Tal & Sneh, 2015).

Teachers can use mobile location based applications and mobile location-based games to enhance outdoor learning. Outdoor learning has been found to be an effective way of learning (Bognar, 1998; Palmberg and Kuru, 1998) which provides a meaningful contextual experience (Knapp, 1996). The students are engaged in direct explorations of real life, using all their senses and experiencing active learning (Dillon et al. 2006). History teachers, Science teachers and geography teachers have already recognized the potential of smartphone to enrich and enhance the outdoor experience (Chang et al., 2012; Medzini, Meishar-Tal & Sneh, 2015).

One of the most popular location-based applications is the game “Treasure Hunt” (Lai et al., 2013; Wu et al., 2010). In this game the players have to follow a set of stations by solving clues pointing on their locations. The game has a competitive element that contributes to motivation and enjoyment of learning (Ihamiäki, 2014). Researches indicate that such games also improve the participants’ spatial knowledge and navigation skills (Winter et al., 2011).

TEACHERS’ ATTITUDES TOWARDS THE USE OF SMARTPHONES FOR LEARNING PURPOSES

Recognition of the pedagogical potential of using smartphones for learning gave rise to BYOD (bring your own device) policy in schools. According to this policy, students bring a personally owned mobile device to school as part of their personal learning toolkit and use it for varied learning purposes (Song, 2014; Vanwelsenaers, 2012). Nevertheless, many schools and many teachers oppose the use of smartphones at school and even ban them (The most common reason for their objection is that smartphones are distracting and therefore reduce attention and concentration in class (Baker et al., 2012; Lenhart et al., 2010; Thomas, O’bannon & Britt, 2014).

This disrupting effect does not only harm students but also raises problems to teachers and their ability to control the class (Sad & Goktas, 2014). Other reasons for resistance to the use of
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