



Full length article

Pre-service teachers' behavioral intention to make educational animated movies and their experiences[☆]Rabia M. Yilmaz^{a, *}, Ozlem Baydas^b^a Department of Computer Education & Instructional Technology, Kazim Karabekir Faculty of Education, Ataturk University, 25240 Erzurum, Turkey^b Department of Computer Education & Instructional Technology, Faculty of Education, Giresun University, 28000 Giresun, Turkey

ARTICLE INFO

Article history:

Received 7 January 2016

Received in revised form

11 April 2016

Accepted 5 May 2016

Keywords:

Pre-service teachers

Intention to use ICT

Educational animated movies

Experience

Behavioral pattern

ABSTRACT

Educational animated movies are one of the most entertainment format to deliver any educational messages. These movies can be used a wide range of educational subject areas such as science, engineering and daily life skills procedures. The purpose of this study is to determine the behavioral intention of pre-service teachers while preparing educational animated movies, the factors influencing such behavioral intention, and their experiences. The sample consists of 98 (52 males and 46 females) pre-service teachers studying Department of Computer Education and Instructional Technology. As data collection tools, two different scales were used in order to determine the levels of attitude of the pre-service teachers towards making animated movies and their experiences such as their cooperative communication levels, levels of enjoyment and having difficulty. They prepared the animated movies for class use during five weeks. According to the findings, they were willing to make animated movies in their future lessons. In addition, they enjoyed it, did not experience much difficulty, and engaged in cooperative communication with one another. Performance expectancy was seen to have the highest mean and to have a significant influence on behavioral intention. This research is significant because process of preparing movies is easy and achievable and thus encourages all branch teachers to use this technology in their lessons.

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1. Introduction

In recent years, a move from learning environments where traditional teaching methods are used to student-centered and enriched learning environments has become a necessity because of today's student profile. Though activeness and technology use in the learning process are important for students, researchers think that teachers must actively accommodate themselves to the technologies and innovations of the age (Goktas, Yildirim, & Yildirim, 2008). However, the resistance of teachers to new technologies is a significant obstacle in this process. The main sources of this resistance are problems such as lack of knowledge/skills for ICT integration, lack of time, lack of appropriate software/materials, and lack of technical support in the use of technology (Ertmer,

2005; Goktas, Gedik, & Baydas, 2013; Hew & Brush, 2007; Wachira & Keengwe, 2011). Consequently, researchers focus on technologies, which will prevent teachers from experiencing such fear and anxiety and on ways of integrating these tools into educational environments.

One of these technologies is online video/animation preparation software. The process of preparing an animation involves complex procedures such as creating a character and designing, coding, and moving objects/characters (Hoban, Loughran, & Nielsen, 2011). However, thanks to online software developed via Web 2.0 technology, individuals can animate an educational topic, an educational event, or their educational thoughts through ready-made cartoon characters and designs. This software allows individuals who do not have any experience in the field to easily turn animations into action by choosing from among different themes without the need to upload anything. With the benefit of this software for the preparation of videos/animations online, teachers can prepare supporting course materials through the technology and use it easily in learning environments (Kapucu, Eren, & Avci, 2014; Stratton, Julien, & Schaffer, 2014). On this basis, it is considered

[☆] A part of this study was presented at 10th International Computer & Instructional Technologies Symposium in Turkey.

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that teachers may have an intention to use this technology in their lessons. Actually, perceived ease of use of a technology for teachers is an important factor influencing their intention to use technology in their lessons (Venkatesh, Morris, Davis, & Davis, 2003). For that reason, this study focuses on the intention of pre-service teachers to use this technology in their future lessons. Experience, which is another key factor influencing perceived ease-of-use and usefulness, is also examined in this study. Fig. 1 provides a two-dimensional summary of the study.

1.1. Pre-service teachers' intention to use technology

There are many factors influencing pre-service teachers' intention to use technology in their future lessons. Some of these factors are performance expectancy, effort expectancy, social influence, and facilitating conditions (Tosuntas, Karadag, & Orhan, 2015; Venkatesh et al., 2003).

Performance expectancy is teachers' belief that the use of the technology will contribute to their professional performance. The literature indicates that perceived usefulness has the biggest influence on pre-service teachers' intention to use IT in their future lessons (Baydas, 2015; Sadaf, Newby, & Ertmer, 2012; Smarkola, 2007; Teo, 2009). With regard to the benefits of educational animated movies, animations have been found to: ensure effective learning (Lin & Atkinson, 2011; Wong et al., 2009); increase success (Dori, Barak, & Adir, 2003; Rule & Auge, 2005); enable learners to understand concepts better (Hoban, 2007; Kriz & Hegarty, 2007; Yang, Andre, Greenbowe, & Tibell, 2003) and increase motivation (Greenwald & Nestler, 2004; Rosen, 2009). Teaching a subject through animations provides many benefits, too. According to Hoban (2007), when an animation is created to teach a subject, more attention is focused on it, and thus deep learning is achieved. In addition, the skill required to create an animation allows teachers to manifest their content knowledge, thereby contributing to deep and critical learning (Kapucu et al., 2014). Hence, it is thought that the benefits of creating animated movies will motivate teachers to use this technology in their lessons.

Effort expectancy is about the ease of use of systems (Venkatesh et al., 2003). It is indicated in the literature that pre-service teachers who are technologically competent have a higher tendency to use technology in their future lessons (Anderson & Maninger, 2007; Baydas, 2015; Giallamas & Nikolopoulou, 2010; Hammond, Younie, Woollard, Carwright, & Benzie, 2009; Paraskeva, Bouta, &

Papagianna, 2008; Sadaf et al., 2012; Sang, Valcke, van Braak, & Tondeur, 2010). The online video/animation preparation software, which is one of the new technologies focused on in this study, allows individuals who do not have experience in creating animations to prepare them easily. Given that this technology has an easy interface, does not require technical knowledge, and allows preparation of desired videos/animations without expert assistance, it is believed that all branch teachers will perceive it as an easy-to-use technology and thus feel themselves competent in using it. In this way, teachers will have enough competence to use the technology in their lessons.

Social influence is teachers' perception of others who believe in the necessity of using the technology. Venkatesh and Davis (2000) state that when some employees in an occupation use a system effectively, other individuals also have a tendency to use it. Therefore, teachers who prefer to use this technology can enable other teachers, who are part of the same system, to use this technology through social influence. Given the guiding roles of pre-service CEIT teachers in schools, it is clear that they can contribute to the general use of this technology.

The term "facilitating conditions" refers to teachers' belief level about the existence of an institutional and technical infrastructure to support the use of the technology. Teo and Noyes (2014) focus on monetary, time, and technical conveniences within the framework of facilitating conditions. They are also regarded as environmental factors influencing the perceptions of people regarding how easy or how difficult a task is (Teo & Noyes, 2014). Some facilitating conditions are the accessibility of technology to teachers (Goktas et al., 2008; Hew & Brush, 2007), technical support (Goktas et al., 2013), the availability of units to support teachers (Baylor & Ritchie, 2002; Goktas et al., 2013), and adequate time. Online video/animation software saves time and cost, does not require any technical skill, makes fulfilling tasks easily available, and does not pose any problem in terms of accessibility thanks to the existing internet infrastructure. These facts may give rise to the perception that this software involves facilitating conditions.

1.2. Pre-service teachers' experiences

When a technology is integrated into a lesson, teachers' experience in this process may influence their use of the technology. In fact, if teachers enjoy the process, engage in cooperative communication, and do not experience any difficulty, then their experience

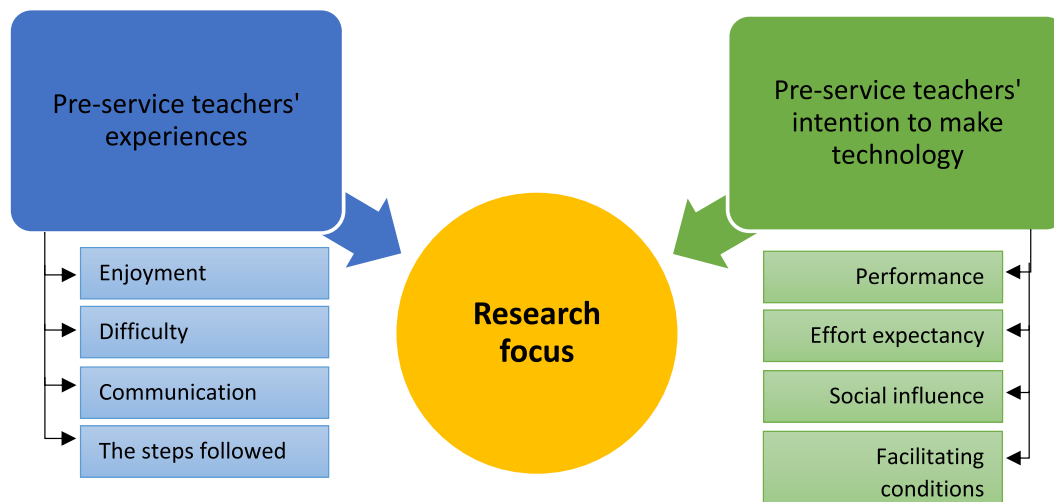


Fig. 1. Research focus.

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