The Importance of Future Kindergarten Teachers’ Beliefs about the Usefulness of Games Based Learning

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ABSTRACT

This paper examines the importance of future kindergarten teachers’ beliefs about the usefulness of Games Based Learning in Early Childhood Education. Data were collected by using questionnaires which were given to the participants at the end of an introductory level, Information and Communication Technologies course. The sample of this study was 200 students attending a Bachelor in Education degree at the faculty of Early Childhood Education, University of Athens, in Greece. Results indicated that the majority of the sample had very positive beliefs about the use of Games Based Learning in pre-school education. Most of the students agreed that educational digital games are a useful way to enhance young children’s learning. Beliefs were significantly affected by: year of study, frequency of computer usage, experience in a pre-school classroom, previous experience in playing computer games, and previous courses about the use/integration of educational technologies in kindergarten classroom.

Keywords: Beliefs, Educational Digital Games, Future Kindergarten Teachers, Games Based Learning, Kindergarten, Pre-School Education, Self-Efficacy with Computer Games

INTRODUCTION

Although in previous decade there has been much controversy about whether computer games should be utilized in pre-school learning environment (Armstrong & Casement, 2000; Cordes & Miller, 2000), digital games have been introduced into modern societies of Information and Communication Technologies (ICT) and constitute an integral part of ICT’s age. Literature on Early Childhood Education (ECE) and Games Based Learning (GBL), as a part of computer technology, has reported that digital educational games when suitably designed, taking into account specific educational needs, may provide rich, fun, and interactive experiences that can promote pre-school children’s learning skills, healthy behaviors and social interactions (Lieberman; Chesley Fisk & Biely, 2009, Manessis, 2013). A game-based learning didactic approach offers a good chance to stimulate children’s abstract thinking.
during the process of cognitive development, and further foster their higher order thinking and critical ability (Carbonaro et al., 2010; Yien et al., 2011; Fessakis et al., 2013; Manessis, 2011). When successfully integrated into the curriculum, computer learning games have been effective at increasing social, collaboration, literacy, problem solving, memory, mathematical and eye-hand coordination skills of young children (Allshop et al., 2013; Divjac & Tomic, 2011; Clements & Sarama, 2003; Hatherly et al., 2010; Koivisto et al., 2011; Lonigan et al., 2003; Yilmaz, 2011; Zevenbergen & Logan, 2008). Furthermore, the use of educational digital games may provide models of proper learning practices, and by playing games infants will develop in time practical competencies and social practices (Manessis, 2013).

Despite the potential benefits of GBL in pre-school education, it is obvious that unless teachers believe that the role of computer games with educational features is essential neither to their own nor to their students’ needs they will be unable to introduce GBL methods into their teaching. Therefore, it is important to gather information about which factors may influence future kindergarten teachers’ attitudes toward using digital games in nursery school.

This paper regards a study which investigates how important are future kindergarten teachers’ beliefs about the usefulness of GBL in ECE. It is also aiming at filling the gap in the specific area, in which very few quantitative data are available in Greece and elsewhere that permits to determine and evaluate the way GBL is perceived among kindergarten educators. This kind of information is more than essential in order to facilitate the organization of educational policy and planning of Greek educational system, as far as the introduction of GBL in the early childhood curriculum is concerned.

The paper’s objectives were:

1. The way future kindergarten teachers perceive the implementation of GBL in ECE.
2. The impact of pre-service kindergarten teachers’ beliefs on their future intentions to use digital educational games in the classroom.
3. How much “year of study”, “frequency of computer usage per day”, “previous experience in playing computer games”, “experience in a pre-school classroom”, “previous computer use in any environment” and “previous courses about the use/integration of ICT in early childhood classroom” affect teachers’ beliefs.

THEORETICAL BACKGROUND

Beliefs (also known as views, perceptions and feelings) are considered to constitute the cognitive component of attitudes. An attitude can be defined as a learned predisposition or a tendency to respond positively or negatively to a specific object, situation, institution, concept, idea, or person (Aiken, 2000; Manessis, 2013).

Literature on pre-service and in-service teachers’ behavioral intensions shows that teachers’ views have an impact on their intentions and these, in turn, influence behavior (Bourgonjon et al., 2013; Gialamas & Nikolopoulou, 2010; Ma, Anderson & Streith, 2005; Manessis, 2013). Bourgonjon et al. (2013) for instance, using advance statistical methods, such as structural equation modelling, proposed a model in which perceived usefulness of video games emerged as the strongest predictor for teachers’ behavioral intention to accept and consequently use digital games as learning tools in the classroom. Therefore, the profile of teachers’ attitudes towards educational computer games influences their decisions to adopt and conduct GBL mediated teaching. This is undoubtedly most important nowadays where computer games are one of the most popular leisure time activities among young children, including preschoolers. The extensive use of digital games as an entertainment medium provides a great opportunity to adopt games into educational practices. In ECE this adaptation depends mostly on teachers’ beliefs about GBL. Positive beliefs will help teachers to implement digital games into their teaching, while negative
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