

Chapter 7

Integrating Games into the Classroom: Towards New Teachership

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ABSTRACT

The game-based learning approach has already shown its strengths from the learners' point of view. However, there are numerous unrevealed ways to support teachers' work within the game-based approach. Unfortunately, games that exclude the teacher from the game-based learning process dominate the markets, which is of great concern. Thus, the aim of this chapter is to study the use of novel game features that enable teachers to participate in game-based learning events. In this chapter, the teacher's role in the game-based learning process is considered through several different game examples that are designed to fulfill both learners' and teachers' needs. The examples show that there are both computational and non-computational methods that can be used to support learning and teachers' work in the game world. Based on previous results it can be argued that the diffusion of game-based learning can be facilitated only if both learners' and teachers' needs and goals are taken into account.

INTRODUCTION

If a teacher from 1910s would come to classroom at 2010, he or she would notice that something has changed, but not remarkably. However, the same reaction would not be possible either for doctors or process workers in factories. Why teaching

remains the same? If we take a deeper look into teachers work, we notice that classroom has not changed, but the skills required from a teacher have been dramatically changed. Nowadays teacher is seen more like a coach for learning. Furthermore, the real point for discussion is how the educational technology research has forgotten the practical dimension of the teachership, especially in game based learning solutions. It has become evident

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that teachers would need more effective tools for coaching, management, and assessment.

In recent years, Game Studies has rapidly developed into an important interdisciplinary research field as well as a nascent academic discipline. The rapid growth of the game industry has aroused wide interest, particularly among educational technology researchers as well as digital learning material producers and publishers. It is known that the possibilities to use digital games in education have been considered since the 70s. Nevertheless, the concrete and scientific ambitions to produce high quality educational games have been quite minor. Actually, the quality of produced games has not met the expectations of the educators and the use of games has not become as general as expected. Probably, the most significant factors that have lowered the quality of educational games have been the lack of a theoretical game design foundation as well as game developers' low yield expectations. In fact, the overall level of educational games indicates that the usefulness and the real power of game-based learning have still not been fully realized.

Apparently, the rapid growth of the entertainment game market has reawakened the interest of educational researchers and producers. It seems that games will get another chance to prove their usefulness in computer-assisted learning. At least the starting point for this revival is better than before. First of all, researchers have understood the meaning of pedagogical foundation in educational game design (e.g. Dunwell, de Freitas & Jarvis, 2011; Ketamo & Suominen, 2010; Kiili, 2007, Kiili & Ketamo, 2007; Amory & Seagram, 2003; Garris, Ahlers & Driskell, 2002). Secondly, the infrastructure of schools has developed a lot during the last decade. Thirdly, it has been argued that we are moving towards a new generation of educational use of games (e.g. Egenfeldt-Nielsen, 2007). According to Egenfeldt-Nielsen (2007) such third generation educational games rely on a socio-cultural approach, where the learning process is seen as being mediated in a social and

situated context. Furthermore, third generation educational games focus on the students' engagement with games (Gee, 2003) and emphasize the meaning of the teacher as a facilitator that expands the scope of computer games from just playing to learning (Egenfeldt-Nielsen, 2007). However, research dealing with third generation educational games has been mainly conceptual and is lacking of the empirical grounding of the approach.

In general, game based learning approach has shown its strengths and opportunities from the learners' point of view (e.g. Ketamo & Kiili, 2010a; Ketamo & Kiili, 2010b; Virvou et al., 2005; Ketamo, 2003; Sinko & Lehtinen, 1999). However, there are numerous unrevealed opportunities to support teachers' work with game based approaches. Support is not limited only to on-line game statistics, but game based approaches can extend teachers' role in very meaningful ways.

In this chapter, teacher's role in game based learning process is considered through several game examples that can be classified to third generation educational games. We consider teacher's role in game-based learning with the help of AnimalClass game, Eedu Elements game, Media Detective game, ALICE Fire Evacuation game, and Magos game-authoring environment. We argue that these game based solutions are rare, because the development of these games has focused on fulfilling both learners' and teachers' needs.

CASE STUDIES

This research is a meta study about authors' research between 2005 and 2012 in the area of educational games. The games have been studied in terms of educational sciences, usability, user experience and technology. Such exhaustive research results make it possible to create summaries about pedagogical use of educational games from classroom integration and a teacher point of view. The detailed list about used background research materials is presented in the Additional Readings

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