Chapter 19

“Click, You’re It!”: The Role of Gaming in the K–12 Educational Setting

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ABSTRACT

Video games are serious work for today’s students. 93% of the K–12 population plays video games on a regular basis. Educators are now pressed to determine the appropriate integration of this technology into the pedagogy of K–12 classrooms. Research indicates that there are positive effects from playing serious video games, those that aim to teach something. Students are motivated and engaged during such game play. Some speculate that players are using and developing cognitive brain capabilities that have been dormant. The question is whether or not these games, if adequately designed, will teach more than just the skill of playing the game. This chapter takes a look at the evolution of play and games in K–12 education and then seeks to define serious computer games in terms of positive design elements and integration techniques for K–12 classrooms. In conclusion, a research agenda that moves educational gaming forward is explored.

INTRODUCTION

Many contemporary educators might say this embodies a vision of how we want students to learn in the 21st century - in a motivating, challenging, and supportive environment. Yet it is extremely difficult to create this dream scenario in the real world. What is the ‘magic’ in this classroom? Perhaps the students in this scenario are high achievers or somehow ‘gifted’ at learning? Not at all. In fact, this group of 12 middle schools students has more detention referrals among them than their grade level at large. Most are academically challenged...
and lagging behind grade level in subjects such as math and reading. Yet they are engaged, supportive, and they are learning! The sad twist to this story is that they are playing a popular strategy game, Bakugan. It is not considered educational and does not rate time during the school day. It has been ‘safely’ relegated to after-school, a common theme to the use of games in our k-12 educational system today. A great deal has been made recently about teaching 21st century skills, including those needed to make the best use of rapidly changing technologies and those that lead to the ability to innovate. These ‘soft skills’ are now considered the most important natural resources in our global high-tech world. The purpose of this chapter is to briefly review the theoretical and historical foundations of using play and games in learning and to explore the relevance of this foundation in the design and use of educational video games for K-12 students today.

BACKGROUND

Play and Learning

“Play is the work of children.” This quote has been attributed to many, from Piaget to Dr. Spock to Captain Kangaroo, but few educators in early childhood would argue with its foundational assumption: Play can be very serious work for the young child. In play, children engage in many kinds of activities, such as practice, sharing, pretending, and negotiating rules. All of these types of play allow children to increase their ability to deal with cognitive, social, and emotional issues, as well as develop physical skills (Fromberg 2006). Play is an iterative and collaborative process whereby children negotiate the play scenarios and seamlessly enter into and exit out of the activities. Not just about fostering social and emotional competence, play also contributes to the cognitive development of children, by providing a safe environment for exercising executive skills such as strategic planning, self-regulation, symbolism, designing constructions, and organizing the play with rules.

While few will dispute the importance of play in the development of children, what about in the classroom? Do we think of school as work or does play still have value? Play loses its appeal as a necessary part of learning when children reach school. “The common sense tendency is for people to define play as the opposite of work” (Rieber, 1996, p.43). In order to understand the role of play in learning, it is important to look at the defining attributes of play. What are the specific attributes of play that make it such a valuable and time-tested tool in learning? Klopfer, Osterweil, & Salen (2009) list the following “freedoms” as attributes of play

- freedom to fail – failure is not an ‘end’, but a way of learning - doing things that don’t work out the first time and using this ‘failure’ to move toward mastery.
- freedom to experiment – the ability to experiment and construct varying scenarios that can be tested and modified.
- freedom to fashion identities – identity is not a fixed thing, but rather part of the ‘play’. By trying on various identities, children begin to define themselves.
- freedom of effort – research shows that children alternate between intense and relaxed play. Adult intervention tends to raise the expectation of uniform effort and thus disqualifies the activity as play.
- freedom of interpretation – this is a challenge for those who look for games to provide a standardized context for learning, as play is always subject to the individual, social, and cultural motivations of the player.
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