Chapter XVI
Games-Based Learning in the Classroom and How it can Work!

Helen Routledge
Independent Instructional Games Designer, UK

ABSTRACT

Based on real-world experiences using a variety of digital games, this chapter presents a guide for teachers on how to use games-based learning in the classroom. Beginning with a theoretical overview of the change in learning styles and the growing digital divide, the impact that games have had on young people will be discussed. The limitations faced and ways to overcome these to create effective pedagogical experiences when using games will follow. The second half of this chapter aims to provide a practical guide for teachers wishing to integrate games into their classrooms, beginning with an overview of the changing role of the teacher, moving onto preparation guidelines, before finally discussing assessment and practical implementations.

INTRODUCTION

Throughout the years there have been significant paradigm shifts in learning practices and recently there has been a move from behaviorist reinforcement to knowledge regarding how the ways in which we think and feel affect our ability to learn. Despite these changes much of mainstream education is still based on behaviorist principles and external rewards, rather than a concern with individual cognitions.

The current trend towards a more constructivist (Vygotsky, 1969) approach, whereby the individual is responsible for his or her own learning, accomplished through individual experience and coaching, combined with the increasing presence of technology in the modern day classroom is resulting in a rift in the level of knowledge and understanding of these technologies between student and teacher. Games are just one example of how this rift has manifested itself.
Games are intrinsically constructivist; the player or learner has to traverse a world where they are the centre of the learning experience, constantly constructing new knowledge and understanding, in order to progress. Refocusing towards this learner centric experience reduces the need for the traditional pedagogical methodology of the ‘Sage on the Stage’ and ‘Tell and Test’, such as King (1993 pp 30) who describes the teacher as the focus of the classroom, ‘the individual who has the knowledge and transmits that knowledge to the students, who simply memorize the information and later reproduce it on an exam—often without even thinking about it’.

The move towards constructivism and learner centered technology, has resulted in the challenge of bridging this rift and ensuring those who deliver education are comfortable with this approach — and the crux of the matter, they are unlikely to be avid gamers. To many this may sound like ‘Mission Impossible’ but that is far from the truth. What teachers need is advice on how to navigate through this maze to emerge on the other side with an understanding of how games can be used effectively in education.

In recent years there has been a phenomenal increase in interest in games in the classroom. Several papers funded by Government Bodies have been published, mainly concerned with Commercial off the Shelf games (COTS) such as the report by McFarlane and Kirriemuir (2003) on the ‘Use of Computer and Video Games in the Classroom’, together with the Federation of American Scientist report ‘Harnessing the power of video games for learning’ (2005). Both reports concluded that the use of games as teaching tools can have positive results for teachers and students.

Despite this research and the growing body of evidence pointing towards the positive impact of games, there is a still a belief that games have a negative influence on young people. A recent report by the British Board of Film Classification (2007) claimed that they are violent, time consuming, take hours and hours to complete and that they reduce players’ social interaction skills.

However people have learnt from games for thousands of years and from my experience working with schools, students and teachers over the past 5 years with several games-based learning tools, this chapter presents the lessons learned from integrating games into the classroom and school environment, aiming to move towards best practice for current and future design and implementation.

How Times Have Changed

There are many aspects of good pedagogy, such as the impact of motivation, cognitive engagement, overload and attention span that are not given the consideration they deserve in traditional teaching methods of drill and skill and tell and test. For example pupils are required to pay attention and absorb the information presented to them for up to and even exceeding 50 minutes at a time, no matter the content or delivery style. These and other aspects are important factors, which with the proper consideration are beginning to bring about a new and innovative method of learning.

Many educators use methodologies that were used when they were at school; their attitude is ‘it worked for me, it will work for them’. However this methodology may not be appealing to young people, who are used to instant access, and possess the ability for ‘parallel processing’. The result when faced with traditional teaching is that they simply turn off. This is not to say that they have short attention spans - just think of the number of hours they spend trying to solve puzzles and explore new worlds in video games. A recent Entertainment Software Association (ESA) report (2007) estimated that on average, young people spend around 7 hours per week, using games.

An examination of the skills acquired from video games has revealed some interesting results. Today, it seems, young people are very good at multi-tasking and it is claimed that they have a