INTRODUCTION

There has been much interest in the potential of console games for learning and teaching in recent years. They are popular with young people—a recent survey carried out for Futurelab showed that 79% of 737 children aged five to 15 played computer games at home alone ‘at least a few times a week’ (Ulicsak & Cranmer, 2010).

At the same time, a growing number of research studies show that there are educational benefits to be derived from gaming in classrooms and, informally, at home. Playing computer games at school is seen to be one of a number of technologically oriented activities which can overcome what has been referred to as the ’digital disconnect’ whereby children engage in rich and extensive uses of Information and Communication Technologies (ICTs) at home but this knowledge and experience is then kept outside of the school gates (Buckingham, 2007).

The Context

In response to these issues, Learning and Teaching Scotland (LTS) (now known as Education Scotland) has implemented a number of initiatives aimed at integrating technology into the curriculum. One such initiative is the Game-Based Learning Project, which sought to explore the potential of console games in the classroom.

ABSTRACT

The main focus of this research project was to identify the educational benefits of console game-based learning in primary and secondary schools. The project also sought to understand how the benefits of educational gaming could transfer to other settings. For this purpose, research was carried out in classrooms in Scotland to explore learning with games played on games consoles, such as PlayStation, Xbox, and Wii. Interviews were carried out with school leaders, classroom teachers, and students in 19 schools and followed up by a series of lesson observations in four of these schools. Findings include significant impact on students’ performance and engagement, as well as strong support from participating teachers and school leaders.

Keywords: Console Games, Curriculum, Education, Game-Based Pedagogy, Learning, Mobile Games

DOI: 10.4018/ijgbl.2012040103
Scotland were keen to explore the benefits and possibilities of using console games in schools and to support innovative practices, so in 2006 it established the Consolarium—a game-based learning center in Dundee, Scotland. This center’s aims were to:

- Explore the range of games technologies available and in doing so practically and theoretically inform and influence new curriculum developments and approaches to pedagogy;
- Provide a place where education managers and others involved in education could visit and get hands-on access to a range of GBL resources;
- Act as a catalyst to encourage teachers and educators to begin to engage with the debate about the place of such technology in their class, school or local authority; and
- Develop relationships with academic and industry partners to explore and articulate what effective GBL and practice and resources looked like.

This led to a number of LTS Consolarium supported projects in schools in almost all of the 32 local authorities across Scotland. The center has worked with many teachers to adapt or ‘retro-fit’ commercial off-the-shelf games for nursery, primary and secondary schools. Some examples include Dr. Kawashima’s Brain Training and Nintendogs (Wastiau et al., 2009).

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Scotland’s revamped curriculum, dubbed ‘Curriculum for Excellence’ (Education Scotland, n.d.a), was introduced at the start of the school year 2010-2011. The new curriculum has been designed to ensure that children and young people have a seamless transition through the different stages of their education from the age of 3 to 18. It has been developed around four main capacities, to enable each young person to be a successful learner, a confident individual, a responsible citizen and an effective contributor.

Learning with and about technologies is embedded across all subjects in the curriculum and the ability of computer games to support the development of skills and knowledge has been highlighted. As a result, LTS commissioned this research in partnership with Futurelab. This paper will briefly discuss the area of Game-Based Learning (GBL) through a summary of the literature, introduce the methods that were used for the collection of data, and then report on interviews with school leaders, teachers, and students. These outputs will then be further analyzed to produce a taxonomy of educational benefits of gaming in schools, a summary of the specific challenges and opportunities as raised in the interviews and, finally, recommendations for the further development of educational gaming strategies and policies in the UK (aimed at policy and school leadership audiences).

What do GBL Projects Look Like?

Schools considered the hardware, software and their local circumstances when deciding to use console games and projects were tailored accordingly. Consoles used include the Nintendo Wii, Nintendo DS, Sony PlayStation and the Xbox. The games for these are commercial packages, not specifically designed for school use, but teachers chose games with a learning potential. The desired learning outcomes for the project are identified and various learning experiences are developed around these, with the game fitting in where appropriate to a greater or lesser degree. Teachers identify collaboration, communication, teamwork, motivation or engagement as reasons for incorporating games into their practice, as well as any curriculum specific objectives. A major factor in the success of these projects is the care taken over classroom management and the organization of pupils, resources and tasks.
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