Chapter XVII
Games for Learning: Does Gender Make a Difference?

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ABSTRACT

Developing educational computer games that will appeal to both males and females adds an additional level of complexity to an already complicated process. Schools and universities need to be inclusive and new learning methods and materials should aim to be gender neutral. Traditional computer games are more popular with males than females, although the use of some simple guidelines in developing games for learning should reduce this preference. However females have a more careful and committed approach to learning and may be more willing to try out new methods of learning including computer games. These opposing influences make it difficult to predict how gender will impact on the acceptance of games for learning. There is some evidence that both males and females enjoy the kinds of games that have most potential for learning. The impact of new computer games for learning needs to be evaluated to ensure that they facilitate learning without disadvantaging one gender over the other.

INTRODUCTION

The idea that computer games might be useful for learning has been gaining acceptance due to the recognition that computer games are both highly engaging (Garris, Ahlers & Driskell, 2002) and have the potential to support many of the skills that are required by modern approaches to learning (Connolly, Boyle, Stansfield & Hainey, 2007). However, a key issue that needs to be addressed in considering the use of computer games in learning concerns whether there are differences between learners in their acceptance of games for learning. In introducing any new method of learning, it is
desirable that it should not favour one group of students over another. In particular the evidence that males are much more enthusiastic players of computer games for leisure than females (Gorriz & Medina, 2002), are more confident users of computers generally (Lee, 2003) and have better computer skills and more positive attitudes to computers (Bonnano & Kommers, 2008) suggests that males might benefit more than females from computer games for learning.

Understanding the relationship between gender and computer games is extremely important for creating computer games that will function as effective educational tools. In this chapter we look at explanations of gender differences in playing computer games, consider the impact of these gender differences for the development of games in learning and consider features of the educational context in which games for learning are being introduced that might impact on the acceptability of games for learning for males and females.

**PREVIOUS RESEARCH**

Table 1 summarizes some of the findings of the literature on gender differences in playing computer games for leisure in terms of patterns of play, characteristics of games and reasons for playing.

**Gender Differences in Amount and Patterns of Play**

Over the last thirty years computer games have become one of the most popular leisure pastimes for children, adolescents and even adults. However there is consistent evidence that playing computer games is a much more popular activity with males than it is with females. Research has shown that, across ages and cultures, more males play computer games than females. For example in a recent survey of Scottish students, Connolly et al (2007) found that 91.8% male students but only 80.7% of female students played games. In addition males played for significantly longer than females, 9.3 hours per week on average compared with 5.9 hours per week for females and 36% of male students but only 9% of females played for more than 6-10 hours per week. Hartmann and Klimmt (2006) found similar gender differences with German children with only 33% of 6-13 year old girls playing compared with 54% of same-age boys and only 12% of female adolescents compared with 52% of male adolescents. Bonanno and Kommers (2005) found that Maltese boys (6.71 hours) also play for significantly longer per week than girls (2.49 hours).

**Gender Differences in Games Preference**

There are also differences between males and females in the kinds of games that they play. Males show a consistent preference for most game genre including strategy, adventure, sports and simulations (Bonnano and Kommers, 2005; Connolly et al, 2007) but this preference is particularly strong for violent games. Connolly et al found that 84.3% of their sample of Scottish male students but only 36.1% of females played shoot-em-ups. Others have found a female preference for puzzle type games (Bonnano & Kommers, 2005), board games, quizzes, puzzles and card/dice games (Lucas and Sherry, 2004) and educational games (Gorriz & Medina, 2000).

Taylor (2003) also found that more women than men play games such as hearts and dominoes online. It seems likely that these games are popular with women because they are single user games and take less time to play.

The most popular explanations of the male preference for traditional computer games centre on the view that computer games are designed by men for men (Gorriz & Medina, 2000) and consequently include features that are more appealing to men. In particular computer games...