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Playing at school, learning at home?

Exploring the effects of social context on educational game experience.

Frederik De Grove
IBBT-MICT, Ghent University
Korte Meer 7-9-11
9000 Ghent
+32 9 264 97 09
frederik.degrove@ugent.be

Jan Van Looy
IBBT-MICT, Ghent University
Korte Meer 7-9-11
9000 Ghent
+32 9 264 97 08
j.vanlooy@ugent.be

Academic interest in the relation between social context and digital games has grown in recent years. The concept of social context of gaming is a complex one as digital games pull players into a virtual environment while game and player(s) remain embedded in a 'real', tangible world (Mäyrä, 2007). This gives rise to a multitude of interdependent social contexts. De Kort & IJselsteijn (2008) distinguish between effects of local (Jansz & Martens, 2005; Yee, 2006; Cole & Griffiths, 2007; Schultheis, 2007), mediated (Griffiths, Davies & Chapell, 2003; Sherry & Lucas, 2003; Kolo & Baur, 2004; Yee, 2005) and virtual (Ravaja, Saari, Turpeinen, Laarni, Slamineen, Kivikangas, 2006) co-presence on game experience. Others have explored the effect of local co-presence in a classroom setting and found that motivation and performance are higher when students play in small groups rather than individually (Inkpen, Booth, Klawe & Upitis, 1995). As to the learning context itself, however, little is known about how different contexts affect the playing and learning experiences. Typically, educational games are played either in a domestic or in a classroom setting, so insight into the effects of these contexts is of the utmost importance for using educational games effectively in the curriculum.

The goal of this paper is to gain insight into the effects of social context on the educational game experience. More particularly, it deals with the differences in the playing and learning experiences of adolescent players in a domestic compared to a classroom context. It is hypothesized that the playing and learning experiences will differ significantly between contexts. These expectations are based on the fact that (a) the social dynamics in a classroom context differ from those in a domestic one; (b) the educational content in a classroom will more likely be compared to other forms of education whereas the educational game in a domestic context will more likely be compared to non-educational commercial games; and (c) a classroom setting provides certain learning expectations and an educational framework to integrate learning content whereas a domestic context does not.

Poverty Is Not a Game (PING) is an educational game that aims to raise awareness on the topic of poverty and social exclusion. The game was launched online on October 20, 2010 and its free availability was advertised on several specialized websites on educational games as well as in the national and regional press. This study discusses the results of a quasi-experimental between subjects design whereby students were allowed to play PING either in a domestic (*N=135*) or in a classroom (*N=121*) context. Participants were asked to fill out a questionnaire before and after playing the game. Game experience is conceptualized as enjoyment and identification (Authors, 2010) and learning experiences are operationalised as perceived learning and affective learning (Authors, 2010). As previous experiments using the game showed that ICT infrastructure in schools can interfere with the performance of the game, a technical performance variable is added (Authors, 2010). Finally, a time variable is added to measure playing duration.

At first glance, results suggest that playing in a domestic context produces more enjoyment and higher perceived learning than playing in a classroom context. When controlling for technical performance and time played, however, the effect on enjoyment is neutralized which suggests that the inferior quality of the school ICT infrastructure and less playing time negatively affect game enjoyment. On the other hand, this similar level in enjoyment for both contexts might be misleading as context effects in a classroom can both stimulate and inhibit enjoyment. As such, it is possible that allowing students to play in class evokes a high level of enjoyment but that the social interactions prevent students to identify with their game character which subsequently lessens the enjoyment provided by the game. Results obtained by using identification as a covariate confirm this train of thought as identification neutralizes the difference in enjoyment between both contexts. Moreover, those playing at home identify more strongly with their game character than those in a classroom setting. While there is also an effect of technical performance and time played on perceived learning, an independent effect of context on perceived learning remains. Playing an educational game at home induces a stronger learning experience than playing the same game in school. A possible explanation for this result could be that students in a classroom setting have other learning expectations than those playing at home. The former may have expected to learn more while the latter were mainly curious about the game and had no explicit learning expectations.

We conclude that different contexts call for different approaches or for a different kind of educational games. As a classroom setting inhibits a strong identification with the game and its characters, it is not unreasonable to focus on the positive effect of the social interactions evoked by playing in a classroom setting. As for perceived learning effects, more research is needed to explain why a domestic context evokes higher learning experiences than an educational one. Findings suggest however that simply transposing educational games developed with a classroom setting in mind to the context of the home will evoke different user experiences.

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