

Chapter XL

Social Psychology and Massively Multiplayer Online Learning Games

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ABSTRACT

The use of computer games and especially online games for educational purposes is growing in popularity. In this chapter we attempt to summarize findings from the area of social psychology as a basis to form propositions, guidelines, and research questions that will help develop effective multiplayer environments for learning. We are particularly interested in how to foster collaborative learning in multiplayer environments by exploiting the naturally occurring structures and features of popular massively multiplayer games. Where possible, we offer examples of how these features can be used to support learning and highlight areas in need of future research.

INTRODUCTION

It is often the case that people will attempt to create new applications for technologies developed for other purposes. This is especially true in education, where instructional designers have developed educational materials based on everything

from board games (Ogershok & Cotrell, 2004) to movies (Schank, 1994) to podcasts (Maag, 2006). It is not surprising, then, that a current trend is to try and leverage the recent, explosive popularity of computer games for educational purposes (Prensky, 2003; Squire, 2003).

It is further not surprising that many instructional designers are also leveraging computer networks, the Internet, and tools resident on the World Wide Web such as search engines and wikis in the service of learning. These technologies have created new opportunities to incorporate collaboration and communication into group learning environments. In fact, a number of investigators have developed platforms to exploit this kind of online learning opportunity. For the most part, these applications have been text based (Hrastinsky & Keller, 2007). However, graphical, game-based platforms are starting to be used more frequently (Vogel et al., 2006).

Unfortunately, many of these systems have been less than fully effective. Indeed, although it is tempting to assume that connecting people with computer networks will facilitate *collaborative learning*, the data is clear that obtaining the benefits of these technologies requires far more planning and thought than merely *enabling* the behaviors. For example, it has been demonstrated that poorly designed online learning environments can lead to feelings of isolation, which in turn lead to poor motivation to continue (Curry, 2000; Cereijo, Young, & Wilhelm, 2001; McInnerney & Roberts, 2004). Others have expressed concerns that exclusively text-based systems may thwart observational learning, an important aspect of complex learning (Tu, 2000a).

It has also been noted that aspects of some online group learning systems may actually hamper interactions, defeating a key factor associated with the potential success of these systems (Fung, 2004; Tu, 2000b; Tu & McIsaac, 2002). Consequently, there has been a great deal of effort targeted towards designing more effective group learning systems. However, it is clear that effective systems require not just better programming, but a more sophisticated understanding of the complex social phenomena that are associated with collaborative learning, and how technology interacts with these behavioral phenomena (Reeves, Herrington, & Oliver, 2004).

Hence, our concern here is to link the literature in social psychology to the design of massively multiplayer online games (MMOGs). MMOGs are a genre of online games that are characterized by supporting very large numbers of concurrent players (usually in the tens of thousands or more), containing large-scale environments, and presenting team-oriented activities in a persistent virtual environment. Although not specifically designed for education, the application of MMOGs to educational tasks is certainly compelling, and several authors have described how to use these environments for educational purposes (e.g., Dede, Nelson, Ketelhut, Clarke, & Bowman, 2004; Steinkuehler, 2004, 2006). This research is in its infancy, however, and has been largely theoretical rather than empirical. It is clear that a considerable amount of research needs to be conducted before we know how best to use MMOG environments for optimum learning to occur (Bonk & Dennen, 2005; Steinkuehler, in press).

While the potential of MMOG for education is exciting, it is likely that the application of these technologies will not automatically lead to effective group-based learning any more than did their text-based predecessors, unless they are designed specifically to promote group learning behaviors. In order to do this, we believe that a strong grounding in psychological theory is needed. Further, there is a danger that the “lessons learned” from earlier systems will be discarded as irrelevant due to advances in technology. This would be an unfortunate outcome because many past findings were based on theoretical positions that are often equally applicable to MMOGs. In fact, the consistent application of theoretically derived hypotheses to the design of technology-enabled learning systems is the only way that the *science* of technology-enabled learning will keep pace with advances in technology.

With that in mind, the purpose of the present chapter is to assemble a set of guidelines for developing effective MMOGs for learning so that future development can advance without making

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