

Chapter 7

The Protagonist and Their Avatar: Learner Characteristics in a Culture of Simulation

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ABSTRACT

Given the active and authentic nature of Massively-Multiplayer Online Games, researchers have begun to question the use of this virtual setting as a teaching/learning tool (Barab et al., 2010; Squire, 2006). Specific findings in virtual environments show that several personal factors mediate an individual's experiences within that environment (Przybylski, Rigby, & Ryan, 2010). Although physical-world research has focused on the personal factor of personality and its influence on learning (Caprara et al., 2011; Furnham, Chamorro-Premuzic, & McDougall, 2003; Gallagher, 1996; Olesen, Thomsen, Schnieber & Tønnesvang, 2010), very little research on personality within virtual settings has been conducted. Thus, it is important to explore more about personality changes between individuals and their avatars in virtual settings. Findings from the current study show statistically different personality score for individuals and their avatars across all domains of the Five-Factor Model. However, for three of the domains, Neuroticism, Openness, and Conscientiousness, consistent patterns of difference existed. Overall implications for these findings are discussed.

INTRODUCTION

In recent years, the prevalence of video game play has become undeniable. As many as 88% of children between the ages of 8 and 18 years play

video games (Gentile, 2009). For one online game, *World of Warcraft*, players have invested over 225 million hours collaborating, exploring, and interacting with one another (Przybylski, Rigby, & Ryan, 2010). Although these spaces are not

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intended to teach educational content (e.g. math or reading), the pervasiveness of video game play has led researchers to explore the educative potential of game environments (Blumberg & Altschuler, 2011; Stricker & Scribner, 2009). As a result, video game play has been linked to improvements in a broad range of abilities including metacognition (Van Deventer & White, 2002), problem solving and inductive reasoning (Blumberg, Rosenthal, & Randall, 2008; Rosas et al., 2003), spatial abilities (Green & Bavelier, 2003), and perspective taking (DiPietro, Ferdig, Boyer, & Black, 2007).

Squire (2006) suggests that the catalyst for such educational benefits is the authentic nature of video games, because they offer designed experiences in which learning occurs through *doing and being*. In other words, participants bridge the physical and virtual world by assuming the role of protagonist within the game's narrative structure in order to solve problems that change both the game space and the player (Barab et al., 2010). More specifically, through assuming the role of protagonist, participants can engage in active learning (i.e., learning through doing and being). This active learning not only includes game content (Barab et al., 2010) but also the development of cognitive (Boot, Kramer, Simons, Fabiani, & Gratton, 2008) and social skills (Barnett & Coulson, 2010) required to successfully navigate the literacy, spatial, and social requirements of the game space (McCreery, Schrader, & Krach, 2011). However, as with the physical world (Gehlbach, 2010; Strom, Hocevar, & Zimmer, 1987; Vermetten, Lodewijks, & Vermunt, 2001; Wehrens et al., 2010), virtual learning experiences appear to be mediated by factors including "competence (sense of efficacy), autonomy (volition and personal agency), and relatedness (social connectedness)" (Przybylski, Rigby, & Ryan, 2010, p. 155). This last point is of particular importance because it suggests that factors the learner brings *to* the environment appears to influence what takes place *within* the environment, thereby providing the necessary catalyst for change or transformation that is needed to assume the role of protagonist.

PROTAGONIST AND THE AVATAR

Massively multiplayer online games (MMOG) typify the type of game in which players assume the role of protagonist. This is accomplished by using an environment grounded in four basic principles (McCreery, 2011): a mixed-goal orientation (i.e., the development of socio-cultural and economic systems), pseudo-extensibility (i.e., object instantiation, e.g., creating armor), multi-player (multiple players in the same game space), and persistent (an environment that continues to change regardless of players being present). As a result, these factors provide players a loosely bounded narrative in which to adapt to situations through integrating physical-world strategies and norms into a virtual-world so that players can solve problems and coexist socially (Martey & Stromer-Galley, 2007).

In most MMOGs participants do not act directly within the environment as they would in a classroom, but rather through a proxy known as an avatar (Williams, 2007). Through this avatar, participants not only engage with the narrative structure (Barab et al., 2010) but also express emotions, verbal and nonverbal communications, and physical movement within the virtual environment (Talamo & Ligorio, 2001). Moreover, research suggests that over time the participant/avatar relationship shifts from being a mere proxy to an extension of self, or a virtual self (Bessiere, Seay, & Kiesler, 2007; Gee, 2003; McCreery, Krach, Schrader, & Boone, 2012; Turkle, 1997). This occurred even in the earliest forms of virtual environments (multi-user dungeons; MUDs), where players personified their text-based avatar. For example, a player might imbue their player with personal descriptors such as he is a "macho, cowboy type whose self-description stresses that he is a 'Marlboros rolled in the tee shirt sleeve kind of guy'" (Turtle, 1997, p. 74). These character descriptions were thought to help build a framework through which a player could interact with others (McCreery, 2011). More recently,

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