Gender differences in learning preferences among participants of serious business games

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A B S T R A C T

We examine gender differences in learning style revealed by attitudinal response to participation in serious business games. Two hundred twenty undergraduate business students played The Marketing Game! and completed exit surveys soliciting their attitudes toward the game experience, as well as an inventory revealing learning styles. Results extend empirical support for previously developed female and male learner profiles to learning game participants. Results also indicate games to be a rather different experience across genders, though a positive learning experience for both. Pedagogical implications are discussed.

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We examine the effect of gender on attitude toward learning from serious business games. Prior research shows serious business games to be valuable as inclusive learning tools, in that they accommodate learners regardless of learning style and are shown to be a positive experience for learners of all types (Frontczak, 1990; Karns, 2003; O’Neil, Wainress, & Baker, 2005). Such inclusiveness is managed because the game experience is flexible, so that students are able to frame the game experience to match their preferred learning styles (Garber, Hyatt, Boya, & Ausherman, 2012). Our interest here is to know whether female and male participants in serious business games exhibit distinct, gender-based learning preferences, and, if so, how women and men frame the game experience to suit themselves.

Drawing on a review by Faria, Hutchinson, Wellington, and Gold (2009), Garber et al. (2012) found that students largely frame the game experience in one or more of four ways to render it compatible with their preferred manner of learning. These four ways are: learning experience, collaborative learning, competition, or analytical exercise. We now extend these findings to examine the role of gender, such that the purpose of this research is provide the answers to two research questions. First, do females and males learn differently when engaged in experiential learning, particularly in the context of serious business simulation games as the primary learning vehicle, and if so, how? (RQ1)? Second, do females and males have different attitudes toward serious business games and the process of playing them (RQ2)?

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Specifically, we review the literature on serious business games, learning styles and the finding of gender-based differences in learning preferences. Then we test for evidence of gender-based learning preferences among participants of serious business games using the Kolb (1984) LSI (RQ 1). Finally we test for gender differences in attitude toward the instructional business game experience (RQ 2). Theoretical implications and pedagogical prescriptives are then laid out.

1. **Background**

1.1. **Serious business games as experiential learning tools**

Here is a succinct description of what serious business games do:

“They allow for dynamic business decision making where players formulate a strategy and then carry out a series of decisions to implement the strategy. Game participants receive feedback that demonstrates the consequences of their decisions, and the participants are able to evaluate their strategies and, if necessary, reformulate their strategies. The experience gained from the repeated iterations of decision periods provides direct feedback to players, from which they are able to learn.”

(Faria et al., 2009, p. 480).

The use of serious games in education has been growing (Wilson et al., 2009), becoming commonplace in the classroom (Karns, 2008; Young, Klemez, & Murphy, 2003). Forty-eight percent of faculty from AACSB-accredited North American business schools reported using serious business games (Faria & Wellington, 2004). However, whether students really learn from the game-playing experience is a question that has not been completely answered. The sparse empirical evidence dealing with learning through simulations and games is mixed (Chin, Dukes, & Gasmon, 2009; Gosen & Washbush, 2004).

Not many scholars are engaged in assessment research (Gosen and Washbush, 2004), and only a few dozen of the more than 2000 serious simulations in use have ever been assessed (Chin et al., 2009). What research there is concerning the effectiveness of serious games shows conflicting results (Laughlin & Hite, 1993; Vaidyanathan & Rochford, 1998; Wellington & Faria, 1991). Most studies agree that students think serious games are fun and motivating (Fortmüller, 2009; Hromek & Roffey, 2009; Wideman et al., 2007), which can be argued to allow for creative problem solving (Prouty, 2000). And some studies have found that serious games lead to improved learning and class performance (e.g., Blunt, 2007; Borodzicz & van Haperen, 2002; Bredermeier & Greenblat, 1981; Chen & Michael, 2005; Habgood, Ainsworth, & Benford, 2005; Prensky, 2001; as cited in; Wilson et al., 2009).

On the other hand, some studies have found serious games to be superficial activities that might not contribute to student learning (Dickinson, Whitely, & Faria, 1990; Egenfeldt-Nielsen, 2007; O’Neil et al., 2005; Wellington & Faria, 1991), and there are others who remain skeptical of the efficacy of business games (Anderson & Lawton, 2009). Gosen and Washbush (2004) conclude that there are not enough consistent research findings (from methodologically sound studies across multiple games) to conclude that serious games are valid, though they are more positive regarding serious business games.

1.2. **Learning styles**

In the field of education over the last several decades there has been a major increase in interest in understanding individual student learning styles (Kolb & Kolb, 2009; Lemire, 2000). The goal of such research is to match learning activities with student learning styles to improve learning outcomes (Bacon, 2004, pp. 205–208; Dunn, Dunn and Price, 1996; Frontczak, 1990; Karns, 2006; Kolb, 1984, 1988; Young et al., 2003). Learning activities predicated on accommodating diverse learning styles are typically based on engaging students in their own learning, known as experiential learning (Brown, David, & Randles, 2005). The effort to accommodate learners preferring different learning styles is particularly pronounced in applied disciplines including business, where educators seek to link theory and practice in both in- and out-of-class activities using experiential learning tools (Brown et al., 2005).

Research seeking to empirically link learning styles to academic outcomes has produced mixed results. In a review of 81 studies in accounting and business education (along with some medical disciplines and education), Hickox (1991) found that 61.7% support using experiential learning tools to induce learning. 16.1% show mixed support, and 22.1% show no support. Frontczak (1990) and Karns (2003) argue that experiential learning does accommodate learners of all styles, while Vaidyanathan and Rochford, (1998) question this. Since classrooms are typically composed of diverse learners of all styles, including both female and male learners (e.g., see Frontczak & Rivale, 1991; Karns, 2008; Loo, 2002; Young et al., 2003), these equivocal results hamper educators’ ability to find a practical means of accommodating diverse learners.

An exception to the inconsistencies mentioned above is research into serious business games as inclusive learning tools. Garber et al. (2012) found results supporting the notion that serious business games accommodate learners regardless of learning styles. Games succeed in doing so because their multifaceted and comprehensive nature (Kolb and Kolb, 2009, p. 298) allows students to frame the game experience to accommodate their learning preferences, permitting them to approach the game from a number of perspectives depending on their preferred learning styles (Bartlett, 1996). For example, students can treat the game as a competition, as a learning experience, as a source of marketing knowledge, and/or as an analytical...
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