Designing Tutorial Modalities and Strategies for Digital Games: Lessons from Education

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ABSTRACT

Contemporary digital games do little to help novice and disadvantaged players wanting to learn to play. The novice-expert divide is a significant barrier for entry for disadvantaged groups who want to play digital games; this is especially true for women (Jenson, Fisher, & De Castell, 2011). In response to this problem, three new tutorial modalities and strategies for World of Warcraft (WoW) were designed in an attempt to improve the existing tutorials. These new tutorials offered different modalities of instruction, as well as instructional strategies in assisting players. Results suggest that players react favourably to a faded or “just-in-time” instructional strategy, showing significantly increased motivation for play, engagement, and play mastery. Implications for game design, and specifically game tutorial design, are discussed.

Keywords:
Digital Games, Formative Evaluation, Games, Learning and Teaching, Tutorials

INTRODUCTION

Digital games form an important part of modern pedagogy and educational research (Akilli, 2007; Becker, 2008; Connolly, Stansfield, & Boyle, 2009; Nieborg, 2011; Shelton, Satwicz, & Caswell, 2011; Ulicsak, 2010). A major problem in the use of digital games in education rests in learners having to experiment with controls in order to gain play mastery (Thomson, 2009). Game designers take for granted the skills possessed by learners (Tosca, 2003), and in doing so fail to educate them. Discovery learning, defined as learning which forces learners to solve problems with minimal instructional guidance, can cause problems for beginning learners (Kirschner, Sweller, & Clark, 2006). Furthermore, this problem has additional impact on novice female gamers (Jenson & de Castell, 2010). The relative lack of well designed tutorial strategies in digital games therefore has far reaching implications for novice game players, and thus for education. This paper illustrates the design and formative evaluation of three new tutorial modalities and strategies for a contemporary digital game, World of Warcraft (WoW).

Formative evaluation is a method of improving and assessing instructional materials before using them in an educational situation (Dick, Carey, & Carey, 2009). In this thesis, formative evaluation is employed consistent with the Dick, Carey, and Carey (2009) model. The Dick, Carey, and Carey (2009) model was chosen other other alternatives, such as ADDIE.
The Dick, Carey, and Carey model followed Quality Assurance (QA) methods typically used in software and game development more closely than other alternatives and was, therefore, chosen for this evaluation. Following a detailed explanation of the design of the three new tutorial strategies for WoW, a quality review and pilot test was conducted on the new strategies. This was followed by a validation study that compared these new strategies against the problematic tutorial strategy packaged commercially with the game.

**TUTORIALS PRESENT IN CONTEMPORARY DIGITAL GAMES**

Problematically, many digital games rely on a tutorial system that makes no experience considerations of the player, and relies on a ‘flashcard tips pop-up instructional strategy’. “Good tutorials are essential for new gamers” (Hayes, 2005, p. 27), however, game developers have recently begun to leave them out of many titles, such as *Star Ocean: The Last Hope*. Some of this may stem from the recent trend of releasing very similar games, or sequels (White, 2009), assuming that the consumers have already played all of the other games in the series or genre. This relates to the body of experience (Kirschner et al., 2006) gamers have built around particular genres; often it is enough to refer to “role-playing game (RPG)”, “shooter”, or other genre convention in order to recall the relevant skills, expertise, and strategies long-term gamers have built over years of experience. Players are often expected to fully ‘experiment’ with the controls in order to figure out how to manipulate their players. This form of absolute discovery learning can cause difficulty for beginning learners (Sweller, Kirschner, & Clark, 2007). Tutorials leave out foundational material such as camera controls, movement controls, basic RPG menu navigation, and other basic skills necessary to play the game; this is based in the assumption that the players would not want to be burdened with this kind of basic information. The interface’s programming does not seem to respond or provide feedback when players are having trouble with these basic concepts. Numerous games employ absolute discovery learning in their approach to ‘educating’ novice players. In *Bayonetta* (2010), players are quite literally ‘dropped’ into a fighting situation with no instructions regarding the control or movement of their player character.

In contrast to the inefficient tutorial design typically found within contemporary digital games, innovative and efficient tutorial systems, designed from the ground up, are beginning to emerge. A contemporary example is *Heavy Rain* (2010), which starts players with benign tasks and on-screen prompts that do not interrupt game action. The actions very quickly become more significant if players master them quickly, but continue to allow players to experiment if they are having trouble. There are no major penalties for failing to grasp the controls immediately. Such tutorial systems, built using scaffolding and cognitive apprenticeship models of teaching (Dennen, 2004), that are not “too didactic” (Hayes 2005, p. 27) might allow future researchers to cultivate game skills in vivo without requiring “starting from scratch” by looking for old titles that had tutorials. *Half-Life* (1998), for example, contained a full basic tutorial system, as it was one of the first extremely popular three-dimensional shooters. Because of this, the anticipated core gaming audience all required instruction in the novel control scheme. The better designed tutorials discard assumptions about players and introduce novel concepts such as movement controls in a way that is endogenous and non-threatening. In *Fable II*, for example, a trail is presented on the ground that leads learners to the next objective when they are having trouble navigating the space. Advanced players can disable the trail.

**INSTRUCTIONAL STRATEGIES**

Whether intentionally or not, any tutorial system that appears on screen in a digital game employs some kind of instructional strategy. Many of these are stochastic (Mann, 2009) and do not
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