

Chapter 4

An Experiment on Anonymity and Multi-User Virtual Environments: Manipulating Identity to Increase Learning

Richard N. Landers
Old Dominion University, USA

Rachel C. Callan
Old Dominion University, USA

ABSTRACT

Little prior research has empirically examined anonymity in learning. In this study, we manipulated learner identity by experimentally assigning learners to participate in online discussion either anonymously or using their actual name, crossed with learning medium (OpenSim/Second Life vs. real-time chat), with the goal of determining if anonymous discussion in multi-user virtual environments (MUVE) provides unique value to learning (a 2x2 between-subjects design). Results from a quantitative hierarchical multiple regression analysis revealed both main effects: participants who were anonymous scored lower ($d = -0.46$) and participants discussing in a MUVE scored lower ($d = -0.47$) on the learning measure without interactive effect, suggesting that anonymizing participants during content-related discussion may reduce learning under certain circumstances. We suggest instructors encourage learners to represent themselves authentically in any VEs to maximize learning and also discourage instructors from adopting MUVEs if their only reason to do so is to host synchronous discussion.

INTRODUCTION

Multi-user virtual environments (MUVEs) provide an interactive 3D environment for learners to connect with each other through the Internet, representing themselves as avatars and interacting with each other through text and/or voice chat (Delwiche, 2006). Because MUVEs permit complete customization of the learning environment by the instructional designer, this technology provides several new opportuni-

DOI: 10.4018/978-1-5225-1817-4.ch004

An Experiment on Anonymity and Multi-User Virtual Environments

ties to develop instructional content not possible or prohibitively expensive with traditional methods. For example, traditional emergency responder triage training requires the hiring of actors, the rental of space, the building of sets, and a tremendous expenditure of resources; such training is more feasible and less costly in a virtual environment, especially if the training will need to be reproduced regularly. Unfortunately, as MUVES have increased in popularity, our scientific understanding of the potential benefits of MUVES and their evaluation has not increased at the same rate (Landers & Callan, 2012). As a result, MUVES have been deployed in many contexts without much rationale for doing so other than their novelty or media popularity, creating unproductive and confrontational debates about their value among stakeholders (Herold, 2012).

Some researchers have thus called for a change in focus in the study of MUVES, “moving beyond the ‘if’ of virtual worlds to the ‘when’ and ‘for what reason’” (Cormier, 2009, p. 543). We endorse this view. The barriers to entry for MUVES (e.g., computing resources, software training) are too high to justify their deployment broadly across learning contexts. Instead, researchers must focus upon identifying the specific value added by the use of MUVES in a scientific and systematic fashion, to determine where the use of MUVES provides the most additional value over other instructional settings, especially through experimentation (Kim, Lee & Thomas, 2012). In doing so, a more consistent and practical research literature surrounding MUVES can be developed. Although MUVES have a great deal of potential, it will only be through cautious, systematic evaluation of that potential that we will increase our understanding of “when” and “for what reason.” In a review of empirical research on this question, Wang and Lockee (2010) were able to identify only four unique empirical studies of MUVES in distance education and called for a substantial increase in activity in this area. With this paper, we respond to these calls by empirically investigating a very practical question in this line of inquiry: “Is a MUE a preferred setting for students holding online discussions?”

Virtual Environments for Learning-Related Communication

In a broad and comprehensive review of research conducted in the MUE literature related to education, Kim, Lee and Thomas (2012) identified that 15 of the 65 papers in the interdisciplinary MUE literature at that time focused upon its use as a communication space. This popularity can be largely attributed to two ideas. First, perception of social presence, which here refers to the degree to which a learner perceives himself to exist as fully present in the MUE in the same way he or she feels present in a face-to-face interaction, is viewed as being a critical component to successful learning delivered at a distance (Lee, 2004; Wang & Lockee, 2010). Second, there is preliminary evidence to suggest MUVES can be an effective medium by which to promote social presence through immersive simulation of real-life spaces and capabilities (van der Land, Schouten, van den Hooff, & Feldberg, 2011; Edirisingha, Nie, Pluciennik & Young, 2009). For example, feelings of presence are in part stimulated by non-verbal cues, which are more easily replicated with an avatar in a MUE than in a chat room (Davis, Murphy, Owens, Khazanchi, & Zigurs, 2009).

In the communication context, MUVES gain these properties through several technical capabilities. First, they provide a compelling illusion of 3D space, enabling either the simulation of spaces already existing in reality or the creation of unique spaces not possible with traditional classroom resources (Salmon, 2009). Second, they provide identity-building tools, such as avatar creation and customization (Dickey, 2005). Third, the environment is more media rich than other discussion environments, permitting immediate and more comprehensive communication between avatars than possible in other,

12 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/an-experiment-on-anonymity-and-multi-user-virtual-environments/172361

Related Content

Hints for Improving Motivation in Game-Based Learning Environments

Jean-Charles Marty and Thibault Carron (2011). *Handbook of Research on Improving Learning and Motivation through Educational Games: Multidisciplinary Approaches* (pp. 530-549).

www.irma-international.org/chapter/hints-improving-motivation-game-based/52511

Research Note: The Results of Formatively Evaluating an Augmented Reality Curriculum Based on Modified Design Principles

Patrick M. O'Shea, Christopher Dede and Matthew Cherian (2011). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 57-66).

www.irma-international.org/article/research-note-results-formatively-evaluating/54351

Moral Development through Social Narratives and Game Design

Lance Vikaros and Darnel Degand (2010). *Ethics and Game Design: Teaching Values through Play* (pp. 197-215).

www.irma-international.org/chapter/moral-development-through-social-narratives/41320

Designing Digital Objects to Scaffold Learning

Grant Van Eaton and Douglas B. Clark (2016). *Handbook of Research on Gaming Trends in P-12 Education* (pp. 237-252).

www.irma-international.org/chapter/designing-digital-objects-to-scaffold-learning/139808

Descriptors of Quality Teachers and Quality Digital Games

Teddy Moline (2009). *Handbook of Research on Effective Electronic Gaming in Education* (pp. 652-669).

www.irma-international.org/chapter/descriptors-quality-teachers-quality-digital/20113