Applying Simulation Experience Design Methods to Intercultural Agents and Multicultural Interactions in Serious Games

Elaine M. Raybourn, Ph.D.

Sandia National Laboratories*
P.O. Box 5800 MS 1188
Albuquerque, New Mexico 87125

Abstract

This report describes the Simulation Experience Design Method and it's applicability toward designing intercultural agents. The Simulation Experience Design Method creates engaging multiplayer, multicultural learning experiences by focusing on how dynamic game content, roles, scenarios, and assessment feedback contribute to an emergent communication culture that is both equitable and inclusive. Examples of intercultural multiplayer social process simulations designed by the author for the US military are provided (Raybourn, 2005).

Simulation Experience Design Model

The Simulation Experience Design Method is a process that addresses Human computer interaction design as a system of experiences that exist within an emergent, adaptive cultural context engendered by designers. The Simulation Experience Design Model illustrates designing user supports for cross-cultural discovery by way of interactions, narratives, how communication defines a place, and how user co-created emergent culture results in more intrinsically motivating intercultural communication in virtual environments (Raybourn, 2007). Supporting equitable intercultural communication is comprised of several salient elements, among them (1) the type of communication, or interaction (interpersonal, group, etc.), (2) the place, or context, in which it occurs, (3) the narratives that are co-created and negotiated by the interlocutors, and (4) the culture that emerges from the communication event (Raybourn, 2004). Following the framework, design tasks may then be considered as a cycle from interactions to an emergent 'third' culture (Brislin & Yoshida, 1994). Related readings on the design of simulations can be found in Gredler (1992), Aldrich (2004), and Salen & Zimmerman (2004).

Intercultural Agents

Successful multicultural interactions involve the recognition that several different cultural orientations can co-exist in the same environment and benefit each other.

Copyright © 2008, Association for the Advancement of Artificial Intelligence (www.aaai.org). All rights reserved.

Cultural orientations are diverse and not always obvious to others. Hall (1959) indicated that culture hides more than it reveals. Contextual social supports provided by intercultural agents (Morel, 2004) can illuminate cultural orientations and help create environments that are life-like, engaging, adaptive, and fun. Examples from game-based training systems designed for the US military provide the backdrop for a presentation on how designers can create cultural contexts for interactive simulations & games.

*Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy under Contract DE-AC0494AL85000.

References

- Aldrich, C., 2004. Simulations and the Future of Learning. Pfeiffer, an Imprint of Wiley. San Francisco, CA.
- Brislin, R., & Yoshida, T. (1994). Intercultural Communication Training. Sage Publications, Inc.
- Gredler, M., 1992. Designing and Evaluating Games and Simulations: A Process Approach. Kogan Page, London.
- Hall, E. T. (1959). Silent language. Doubleday, New York.
- Morel, B. (2004). Recruiting a Virtual Employee: Adaptive and personalized agents in corporate communication. In Sabine Payr & Robert Trappl (Eds.), *Agent Culture: Human-Agent Interaction in a Multicultural World*, Lawrence Erlbaum, 177-196.
- Raybourn, E. M. (2005). Adaptive Thinking & Leadership Training for Cultural Awareness and Communication Competence. *Interactive Technology & Smart Education*, 2: 127–130, Troubador Publishing Ltd.
- Raybourn, E. M. (2007). Applying Simulation Experience Design Principles to Creating Serious Games for Adaptive Thinking Training. *Interacting with Computers*, 19 (2), Elsevier, 206-214.
- Raybourn, E. M. (2004). Designing Intercultural Agents for Multicultural Interactions. In Sabine Payr & Robert Trappl (Eds.), *Agent Culture: Human-Agent Interaction in a Multicultural World*, Lawrence Erlbaum, 267-285.
- Salen, K., Zimmerman, E., 2004. Rules of Play. The MIT Press, Cambridge, MA.