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COMPUTER GAME DESIGN: NEW DIRECTIONS FOR INTERCULTURAL SIMULATION GAME DESIGNERS

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ABSTRACT

Computer-based game environments offer a richer communication medium for facilitating exploration of prejudice-reduction than face-to-face interaction. Computer-based simulation games provide players the opportunity to explore potentially threatening topics in safe, player controlled environments. The key elements of computer game design that create a communication environment which rivals face-to-face communication are: 1) the presence of intrinsic motivation, 2) asynchronous time, 3) real-time interaction, 4) anonymity, 5) adaptation of challenge to players abilities, 6) variable number of players, 7) fantasy and open-ended outcomes, and 8) player-centered control.

INTRODUCTION

The simulated reality of a game, albeit in many ways a *real* experience, is a safer arena for many people to confront cultural differences. The simulation game experience is a model of reality in which the potential exists for players to test boundaries and discover facets of themselves they never knew before. Better game design enables players to better connect simulated actions and decisions to their everyday experiences and build a knowledge base of intercultural communication skills.

Simulation games usually provide a nonthreatening environment to explore difficult questions, particularly when addressing some cross-cultural issues of potential controversy (Pedersen, 1995). However, prejudice-reduction remains very difficult to explore without introducing increased player risks such as coercion, threats to privacy, and emotional discomfort (Byrnes & Kiger, 1990; 1992).

A computer-based game offers unique opportunities to explore difficult topics such as prejudice-reduction without increasing player risk. A virtual environment made possible with the aid of computer technologies may be much less threatening than face-to-face interaction. In other words, computer-based simulation games may provide an environment within which players take risks they may never have the courage to take during either play or the debriefing of a conventional simulation.

Design Principles for Intercultural Simulation Games

New technologies provide tools to extend the goals and outcomes of simulation games past a conventional perspective.

Key to successful computer game design is a balance among challenge, fun, simplicity, plot, and technology. Computer games can bolster intelligence and build confidence. Players sense of mastery over an environment may increase self-esteem. Effective simulation games must be equally compelling and engaging, contain an interesting plot or purpose for playing the game, and promote simultaneous multi-level learning. Intercultural simulation games may benefit from the use of new technologies and the application of the following design principles:

1) Intrinsic Motivation: Csikszentmihalyi (1975) referred to the highly energized state of concentration and focus often achieved in play as "flow." He defined "flow" as a psychological state, based on concrete experiences, which acts as a reward by producing intrinsic motivation and active engagement. "Flow" is achieved by increasing the level of challenge as the individual's skill level increases so there is a dynamic tension between a state of boredom (i.e. a task is too easy) and frustration (i.e. a task is too difficult). This balance generates a highly focused state of mind within individuals that allows them to concentrate on a single task, forget personal problems, lose their sense of time, feel competent and in control, and enjoy a sense of harmony with their environment (Csikszentmihalyi, 1975).

2) Asynchronous Time and the Debriefing: a computer supported communication medium such as email provides a useful example of asynchronous time in interpersonal communication (Hollan & Stornetta, 1992). Through email players and facilitators do not have to be physically present to engage each other in meaningful interactions. Simulation game debriefings may be extended to include email discussions and listserves. The electronic debriefings become mechanisms to continue discussing the learning outcomes of the simulation game in greater detail, over a longer period of time.

Asynchronous time may also enhance communication outcomes by allowing players to think before communicating with others, reflect on each other's messages, and focus on the content of the message instead of the style in which it is presented. The absence of nonverbal cues may facilitate greater attention and sensitivity to message content.

3) Game Playing on the Internet and Real-time Chats: Computer game playing on the internet now allows enthusiasts to "observe" an ongoing game's actions and participate in online meta-analyses of the decisions made in the

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game. Game play/meta-analysis enhances simulation game design in that two actions occur simultaneously and encourage multilevel learning. For example, players can observe and comment on the choices made by other players, whether actual or simulated, in role-play situations or when participating in discussions. Players learn from the context of the game, discussing the game's process and the risks, outcomes, and rewards of alternative strategies that result from decision-making (Sisk, 1995).

4) Anonymity in Computer-Supported Communication:

Face-to-face interaction does not provide anonymity. In some cases people are more truthful in a computer-supported context than in interpersonal communication. Anonymous communication encourages people to discuss difficult or controversial issues that they might be reluctant to discuss in face-to-face interactions. In a virtual environment where anonymity is preserved, there may be more opportunity for a player to ask risky questions and feel safer about truthfully sharing his or her feelings.

5) Adapting the Game to Increase the Level of Challenge:

The unique ability of computer games to increase the level of challenge as play ensues is ultimately what engages players for hours. Adjusting the level of challenge in a simulation game may increase the length of time one can play the game without becoming bored, encourage one to play the game several times, and be one step closer to representing reality.

6) Number of Players and Type of Play: One of the benefits of a computer-based simulation game is that it does not require a group of players; nor is it dependent on a specific number of players for its success. In fact, the same game can be played individually or in-groups, on the internet, through a network, or via modem. A game environment that deals with difficult issues may initially be played best in a private setting. Later, when the player becomes more comfortable with the subject matter, the game can be played with others.

7) Fantasy Games with Unobtrusive Rules and Open-ended

Outcomes: MUDs (multi-user domains) are text-based virtual worlds in which players interact with each other by creating the game environment and story line together. MUDs are generally fantasy-based chat rooms or fantasy adventure games in which imaginary characters are created by the player. In a MUD environment play is coconstructed by the players, outcomes left open-ended, and play proceeds according to subtle rules. Such an environment may be a particularly rich context to explore learning goals. This virtual environment may provide simulation game designers the mechanism to develop games with less explicit rules and more explicit character or role descriptions that challenge even the most sophisticated player.

8) Player-centered Control: Any task performed in a computer-based game environment is ultimately controlled by the player. Players proceed to more difficult levels as their abilities dictate. If players feel emotional discomfort, or become bored or frustrated they can start anew, save their play, or turn the computer off. Computer-based games are not bound by constraints of time and space as more conventional simulation games.

CONCLUSION

Innovations in computer gaming are likely to set the standard or serve as an example of excellence for computer-based simulation design. The infusion of computer gaming and other computer-supported technologies such as email, hypermedia, network communities, etc. into our everyday reality has implications for both culture and communication. This is not to say that face-to-face interaction will cease to be a preferred communication medium. However, computer-based environments may provide a richer communication medium in certain contexts than face-to-face interaction. The eight design principles discussed above enable effective communication in such an environment. In intercultural contexts such as prejudice-reduction simulation gaining, computer-supported technologies better support the task of facilitating more truthful communication while minimizing player risk and emotional discomfort..

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Note: For more information and references on simulation games and computer game design visit the author's web site at URL: <http://www.unm.edu/raybourn/igames.html> or email raybourn@unm.edu.