Virtual Worlds for Team Learning Using Online Multiplayer Video Game Technology

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Abstract:

A health care professional must be competent as a team member or leader, just as he or she must be competent in the knowledge and skills necessary for individual practice. Training for team membership has been conducted primarily through role-playing in scenarios built around manikins in a physical simulation of an operating room or other medical space. We have developed Virtual Medical Worlds as an alternative or supplement to conventional team training methods.

Virtual Medical Worlds are built using online multiplayer video game technology. A learner, or "player", logs into a three-dimensional medical location, such as an emergency department, and chooses a role (physician, nurse, EMT, patient). Other learners also log in and are visible as three-dimensional "avatars" or role-players. The learners act as a team to manage the incoming stream of patients at the ED. The game technology supports the ability for each learner to carry out many medical actions and to communicate by voice with other team members. Determination of success is based on the learning goals for each session.

Some topics that will be presented include:

- Identification of learning needs suitable for virtual medical environments
- Design of three-dimensional virtual medical environments
- Design and development of medical scenarios related to trauma and mass casualty events.
- Sound pedagogy in the scenarios by linking to relevant learning objectives,
- Design and development of patient avatars with rules-based physiological models linked to the scenarios,
- Guidelines for training with distributed, flexible learning technologies, and
- Assessment of individual learners and team performance in multi-person medical scenarios.

Virtual Medical Worlds have the potential to be a major new technology for learning.

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