

Serious Games for Healthcare Education

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The General Medical Council (GMC) have recently revised the medical curricula to encourage a 'learning environment' that encourages a connection between theory and practical experience as well as increasing the students motivation to learn and self assess ⁽¹⁾.

Our vision

- To explore the potential for serious games to be used in healthcare education
- To explore the potential for serious games to be used in teaching and assessment



Pulse!!

Pulse!! is the brainchild of Dr. Claudia Johnston, a PhD in nursing and the associate vice-president of special projects at Texas A&M-Corpus Christi. While playing a first-person shooter, she realized that the format could translate into an effective educational tool. That's because of gaming technology's highly detailed graphics, interactivity, and navigational qualities. Plus, a game-like learning tool, Johnston reasoned, could provide an engaging, repetitive training system. In Pulse!!, students negotiate a virtual hospital environment and successfully treat patients.

Assessment

- Assessment must measurably show the student has attained a required level
- Serious games could analyse assessment of a students knowledge based on how they arrived at the correct answer, with mistakes and self-corrections noted in the process of the game
- The game play can be adapted to reflect the decisions made by the student
- Cheating could range from additional peer assistance to alteration of the game programming. This may be partly prevented by teacher observation and questioning in the process of the game



Interactive Trauma Trainer – TruSim

Developed by TruSim, and designed in conjunction with the Royal Centre for Defence Medicine. The task of the user is to make appropriate decisions relating to the urgent treatment of an incoming casualty with a “Zone 1” neck fragmentation wound. Appropriate interventions – oxygen provision, blood sampling, “hands-on” body checks, patient visual and physiological observation, endotracheal intubation – must be applied within 5-6 minutes in order to save the virtual casualty's life.

Teaching

- Various teaching methodologies are utilised in medical education to improve clinical skill and theoretical knowledge.
- Game playing may help achieve these goals
- The healthcare student may benefit from the virtual world that the serious game can provide, resulting in better transferable skills and knowledge than didactic learning ⁽²⁾.
- ‘Players’ may benefit from the increased awareness of their actions
- Confidence gained may result in enthusiasm for the subject, which could lead to increased time on task and increased performance.
- The military are leaders in this field, advancing medical knowledge of unusual procedures required in a war zone.

References

1. The General Medical Council. Tomorrows Doctors, 2003; 10-21
2. Stott, D. Learning the Second Way, British Medical Journal, 2007; 335;1122 -1123