Problem Statement

Education as it stands is still built on a system that is no longer needed in modern society. Ackoff and Greenberg (2008) explain that the current traditional methods of teaching are no longer as relevant as they once were as it is aimed to produce members of society that were likely to not question any fundamental aspects of how things operated. It is largely a system that focuses on teaching while disregarding learning as the last major stride in development in education was to industrialise it – having them operate efficiently like factories (Ackoff & Greenberg, 2008). One major flaw with this system currently is that it stifles the creativity and drive of some students as each level of education is largely the same and as such monotonous. As such, education is in need of some form of system to create an interest in learning for the students.

Virvou, Katsionis and Manos (2005) mention that computer games are popular among those in schools and as such provide a means to deliver content in an interesting and engaging manner. Providing learners in all levels of education with content or methods of delivery that they will enjoy will cause them to be more motivated to learn and look further into that specific topic (Ackoff & Greenberg, 2008). Annetta (2008) states that the movement to include video games in teaching and training began in 2003, two years after the field of ludology began to gain traction. These types of games are called “serious games”. These types of games have already had an impact on the military, medical and higher business education fields early in their conception and this trend continues to day with most serious games being used within the medical fields specifically (Annetta, 2008). However, there were attempts to use serious games, as simulations, within physics and engineering (Deshpande & Huang, 2011).

Serious games

Deshpande and Huang (2011:399) describe the use of games as a means of simulation for specific sections of work in physics and engineering courses as an addition to traditional teaching as it provides a relatively simple way to demonstrate certain phenomena. As such these authors discuss the simulation aspect of games rather than the narrative.

Virvou, Katsionis and Manos (2005:54) mention that the endeavour to create serious games has yet to reach schools due to certain criticisms about games in general that hinders this.

The study of serious games became more theoretical and discussion-based at lower levels and more applied with actual use at higher levels, with a great impact on medical fields and training. As such, there is a fair amount of theoretical research on specific aspects that relate to serious games as simulations and within ludology as a whole, but only a few mention the qualities a game needs to better present information to a user. As such, theoretical knowledge on gamification an general learning theories will be analysed to develop this framework of qualities.

Gamification

Effects

Case Studies

Annetta (2008:230) discusses multiple examples of these games, such as Discover Babylon and Quest Atlantis, that had been developed to immerse children and young adolescents in an academic environment. Further examples of the use of serious games have already had an impact on the military, medical and higher business education fields early in their conception and this trend continues to this day with most serious games being used within the medical fields specifically (Annetta, 2008:229).

Proposed ‘framework’