

Immersion in Serious Games

A Model for Immersive Factors in Educational Games

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Introduction

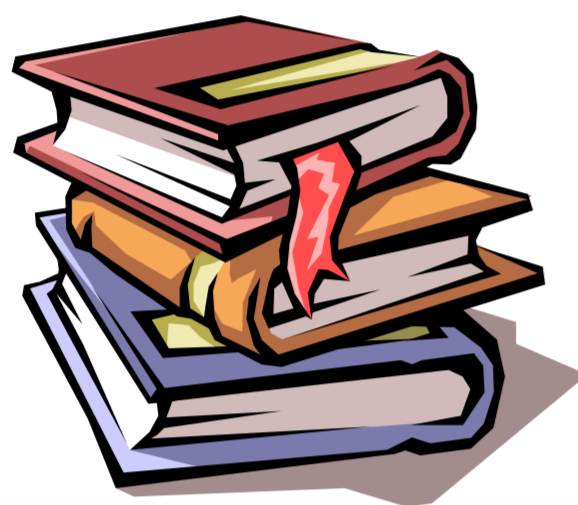
As computer games have become more popular, there has been considerable interest in developing “serious games”, which are games with a purpose beyond entertainment; in particular, to educate

However, it is not easy to design such games. To be successful, they must keep the player’s attention, teach their material in a more lasting way than traditional teaching methods, and of course be fun.

This project is investigating how to make educational games immersive. To accomplish this, various learning theories and game design theories - as well as serious game attempts previously made – were analysed, and the most important themes for keeping players engaged were extracted.

These themes were then made into a model, comprising of all the general factors which can influence educational game immersion, split into three categories.

Education



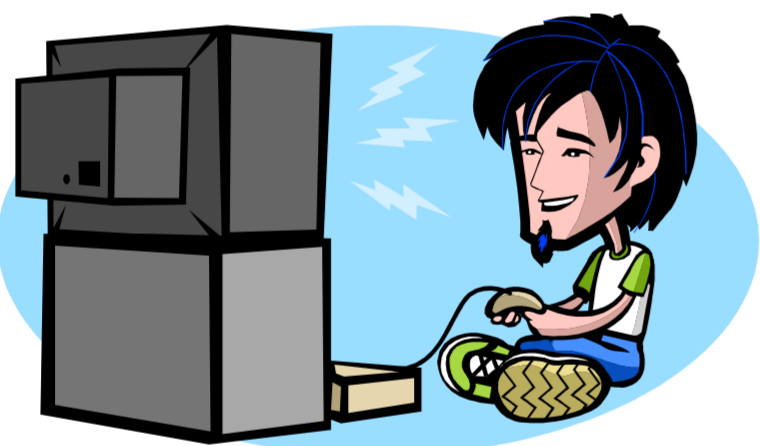
The first category summarises immersion in the game’s educational content. This involves how to maximise the possibility of learning the material within the game, by emphasising why it should matter to the player in the real world, and by presenting it naturally within the progression of a game.

Relevance - Players feel more immersed in an educational game if its educational content is made relevant to the player, i.e. the player feels that they can use the content in their own life

Gameplay Integration - An educational game is more immersive when its educational content is integrated into the gameplay, so the two do not feel distinct from each other while playing

Sequencing- It is important to ensure that the content is presented in an appropriate order, in terms of what skills and knowledge they require to progress

Gameplay



The second category outlines the factors in gameplay that influence a player’s immersion. This includes the way the game’s challenges are designed, and the underlying feedback mechanisms they employ.

Balanced Challenge - A player can become more easily immersed in an educational game if the challenges it presents are balanced to the player’s abilities (it does not feel too hard or too easy)

Feedback - To prevent the player getting too frustrated with an educational game, it is important to provide frequent, helpful feedback on how well they are progressing through the game

Guidance - There needs to be appropriate guidance provided to the player when they get stuck, in order to reduce their frustration and keep them focused on the challenge

Agency



The third category focuses on factors which let the player feel like an active, immersed participant in the game’s virtual world. In this way, the player’s learning feels more immediately important and consequential.

Narrative - The game must feature a compelling narrative. This includes establishing clear goals for the player, ensuring consistency in the game world, and keeping the story flexible enough so that the player is able to influence it

Curiosity - Players become more immersed in a game when the game world and the story stimulates curiosity (e.g. through interesting details within the world, or mysteries and surprises in the narrative)

Scenario - Educational games can be more immersive if they have unfamiliar setting, because they can more readily disengage from the real world, and can approach the educational content presented from a new perspective

Identity Projection - The player becomes more engaged with an educational game if they feel in control of their in-game character, and feel invested in the role they play in the game

Experimentation - Educational games are more engaging when they allow players to experiment with the ideas they are trying to teach (i.e. allow the players to use the educational content to solve challenges)