

Simulation Genres

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In simulations, we use combinations of interfaces, systems, and goals. When simulations share common interfaces, systems, and goals, we could classify them as a genre. When a student has become engaged in a simulation in a particular genre, there should be some transfer to learning to use another simulation in the same genre, as many of the elements will be common to both in some predictable way.

Here are some of the common genres in educational simulations. Obviously, there are more, but these are in popular use today and illustrate a good cross-section of genres.

Virtual Labs

These simulations provide a way to model reality in the lab without the associated expenses or dangers. This genre tries to model, as closely as possible, actual physical scenarios and might include tactile feedback and other interface features.

Frame Games

In this genre, the student is placed into a real world game, but with different content. For example, we might create a Jeopardy simulation where all of the content on the board relates to certain lesson content. These are generally good for basic information and broad audiences. First of all, most students will already know the rules of the games. Second, there are few levels or prerequisites, and most anyone should be able to play. In other words, they have very short learning curves for the simulations themselves.

Frame games are also often used for diagnostic purposes or as games that precede simulating more complex environments.

Branching Stories

These have been around for a long time and were originally print books that had branching stories based on decisions that the reader made for the character. Since the more branching, the more different story possibilities, they can be re-used with little fear of repeating content. Nowadays, these can be presented using multimedia and can consist not only of print, but audio, video, and interactive text.

On a complexity level, these are relatively simple. This can be an advantage or a disadvantage, so care must be taken to make sure that the goal is appropriate to this genre.

Interactive Spreadsheets

These are often used in business schools (where they were invented) to model "what-if" scenarios. Students can create spreadsheets that have dynamic content and see what the introduction of certain variables, in combination with other variables, might do to the model. These can be very complex and

generally require coaching to be successful (a student might have a very difficult time running these on their own).

Practiceware

These are designed to provide practice for 3D world (real-world) counterparts. The production value of these types of simulations is important, as the closer to the real world the simulation gets, the better it models reality.

Minigames

These are casual games that can be played in a brief period of time, with little complexity for the user (although they might be quite complicated under the hood). Remember the old "Oregon Trail" game? You could travel from Independence, MO, to Oregon in one class period (or less).