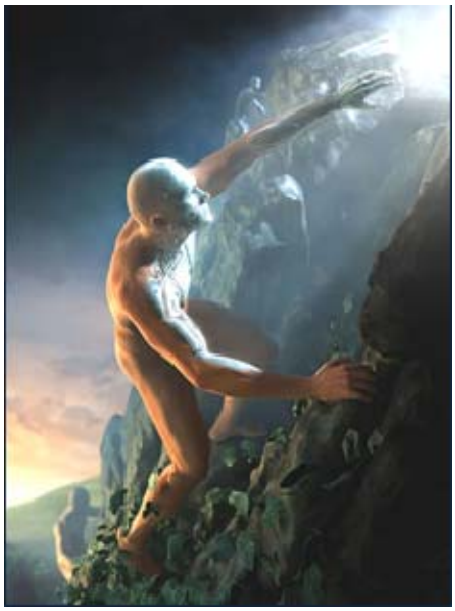
James Paul Gee

WHAT CAN WE LEARN FROM SERIOUS COMPUTER GAMES?

The book's summary paraphrased by Jan Gejel, 2011



James Paul Gee's book *What video games have to teach us about learning and literacy* (2003, new version 2007) makes for excellent reading for people involved in establishing media-based didactics for young and adult learners. In his book Gee tries to direct attention to the learning processes contained in serious computer games, and he argues that such learning principles can be used for effective learning and to create renewed motivation among learners who do not benefit from traditional classroom teaching.

Gee recommends using serious computer games, simulations, scenarios, etc., in the learning processes. Moreover, he recommends designing learning processes *oneself* based on these effective learning principles.

I would highly recommend reading the book in its entirety – and other works of similar quality as well. Nevertheless, I have chosen to paraphrase the contents of the book's summary because it offers a brief overview of these excellent learning principles.

There may be more interesting information to be found here:

www.sosuaarhus-international.com/Gaming.htm

I have produced this document in a way that allows its readers to add their own comments.

NB. The headlines that are linked to the texts below are mine. JG

Graphics by Zlatan

Let us summarize some of the reasons presented by Gee as to why serious games are capable of engaging players in powerful learning processes, processes that can be used in education, at the workplace, and everywhere else where we would want to engage people in learning.

Playing with identities, perspectives

Serious computer games offer the player strong identities. When we learn about a new subject, such as physic or cabinet making, we are required to begin to appreciate work and the world in a new way, namely the way a physicist or a cabinetmaker does. In a computer game, the player is taught to see the virtual world through the physicist's or carpenter's eyes, which means that the player assumes new identities - either through the identities given in the game or through identities that the player has created him- or herself.

Your comments or examples

Exploration

Serious computer games make the player think like a scientist. The game is styled after a cycle of "hypothesis - testing - reaction - reflection - try again for a better result," a cycle that is typical of experimental science.

Your comments or examples

Produce don't consume

Serious computer games allow the player to be a producer rather than a consumer. Open games vary for each player. The player co-designs the game through his or her actions and decisions. Furthermore, several games contain software that allows the player access to modify the game, design new scenarios - or even design a completely new game.

Your comments or examples

Try it out, dare to fail

Serious computer games minimize the consequences of errors. When the player fails, the player can try again from the place where he/she failed. This way the player is encouraged to take risks, explore and try new ways.

Your comments or examples

Flexible ways

Serious computer games may allow the player access to customize the game to match the player's learning or playing style. Most serious games can be played at different levels and allow different ways of solving problems.

Your comments or examples

Problem solving

Serious computer games allow the player to feel real ownership, empowerment and control. The player feels that it is *his* or *her* game.
But the learning can go even deeper in serious games.
Research has shown that if the learner - in traditional learning environments - is

left to solve a problem on his or her own, the learner will often come up with creative solutions to complex problems, these being solutions that may not help to solve subsequent problems.
In serious games, problems are structured in a way that allows the solutions to simpler problems to serve as hypotheses for subsequent and more complex problems.

Your comments or examples

Mastery step by step

Serious computer games let the player face challenges that the player is allowed to attack until the player masters the challenges. Then the game will throw a new type of challenge at the player, forcing him/her to reflect upon and analyze the achieved mastery. Once more mastery is achieved, but only to be challenged again ... This interaction between challenge and mastery is the model for the development of expertise in any new field of knowledge or action.

Your comments or examples

Pleasure-filled frustrations

Serious computer games remain inside, but on the outer edge of, the player's current competences. Therefore the problems seem manageable even if challenging. This way the problems are made frustrating in a pleasurable way.

Your comments or examples

Consequences of action

Serious computer games invite the player to think in terms of relationships instead of isolated events, facts or skills. In serious games, the player is forced to consider the consequences of current actions and choices in relation to later challenges. Moreover, the player is made to consider how his or her actions affect other players and their choices and actions.

Your comments or examples

Nonlinear intelligence

Serious games operate with a set perception of intelligence. Many people believe that it is about approaching the goal as quickly and efficiently as possible. However, serious games invite you to consider actions carefully before they are implemented, to think laterally and not only linearly, and to apply this interdisciplinary and exploratory way of thinking to reassess your goals and mission from time to time. These are valuable skills in a world full of risky and complex systems.

Your comments or examples

Team learning

Serious computer games put together smart tools, knowledge and interdisciplinary teams in the same way modern knowledge workplaces do. The virtual figures that are handled in computer games are such smart tools. They contain skills and knowledge that they offer the player. In multiplayer games, the game is played in teams in which each team member has specific skills. Each

player masters a certain kind of skill, but he/she has enough knowledge about the other players' skills to coordinate actions with them.
In such situations, the players' relationship is motivated by the game's mission, not by ethnicity, class or gender.
In these types of games, the essential core knowledge is shared among many players and their "smart tools" in the same way as in modern laboratories or at modern workplaces.

Your comments or examples

Not knowledge *before* action but knowledge *through* action

Serious computer games are based on the principle of presentation before competences. The player is able to act and perform before he or she is competent. This is made possible due to the way the game is designed and because of the "smart tools" in the game. Moreover, it is made possible through dialogues with more experienced players in social networks.

Your comments or examples

Meaningful language

Serious computer games use language in a specific way. Many people find it difficult to handle a lot of words without context – i.e. abstract language.
Games often use language "at the right time and place", i.e. when the player needs it and is able to understand it, and "on demand" when the player him- or herself asks for it.
Research shows that people often only know the meaning of a word when they can relate it to the various types of experiences that the word is linked to such as actions, pictures, dialogues.
It gives the word a situational meaning and not a merely verbal one. Games always give words situational meaning and show how they change through actions, images and dialogues. Games do not only provide definitions - one word for another.

Your comments or examples