Games and eLearning

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Attempt to identify reasons why games are popular and how
they can be applied to make eLearning more popular

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1 Introduction

Probably a lot of the readers will find the main title a little bit contradictory.
It is unusual to link games and learning. Few people are learning for the joy
of learning. Often extern factors like "I want to earn more money" or "I
want to impress other people" are needed to make people learn.

The other component of the main title is games. They seem to be the
perfect converse to learning. Today many students who don't like to learn
play video or computer games, often for large amounts of time. But what
is the big difference between learning a subject and playing a digital game ?

In both cases you have to concentrate, to stick to the topic to gain success and you will usually feel tired after doing them for some hours. Even more dazzling, if we just look at the easy to measure extern factors, you usually don't gain anything from the game. Or, in other words, it would be really hard to show that people who are good in a game get a direct reward in real life for what they are doing. The digital games are played due to other reasons, more internal ones which are not as easy to measure. Now lets regard again the learning issue. At the moment we are at the threshold to a new way of learning, the learning with computers, the learning online or just the eLearning in general. Currently eLearning is pretty much the same as traditional learning, few people like it. But wouldn't it be great if many people would like it ?

This article will have a look if there are possibilities to make eLearning more popular in the future. To do so, it will first try to outline some reasons why games are that popular at the moment. After that it will show some ways how to integrate the results in eLearning environments. By doing this the popularity of eLearning should increase. In the end a short summary analyzes how realistic this is and what still has to be regarded before this should be done.

2   Reasons for the popularity of games

In their Master Thesis Guttorm Andresen and Rolf Ahdell come up with six main points who engage the player, or in other words make fun.

> "interactivity, flexibility, competition, reality, drama effects and usability"

Guttorm Andresen and Rolf Ahdell, page 53 [2]

It is too much to describe this words in detail, but just the basic ideas how they do understand them. By interactivity they mean that the user can work with input devices. How far the game changes by doing so is already the next term, flexibility. The adrenalin causing challenges are included in the competition keyword. To refer to the known environment of the user is stated by reality. The drama effects finally can go beyond reality to confront the user with something extraordinary to gain attention. But is that already

everything ? Marc Prensky merged it more to one point. According to him it's all about to keep user engaged

> "The reason computer games are so engaging is because the primary objective of the game designer is to keep the user engaged"

Marc Prensky, page 2 [1]

Surely these keywords don't cover everything. Following some points I want to add. First there is the identification process which often happens in role playing games. The players really start to identify with their character and therefore have the chance to *live* a second life. Furthermore many games are based on popular sports or movies. They offer the chance to emulate your stars, to do the same like they do, or beat them, if you are inclined. This leads to the next point, games usually offer success and personal confirmation. And last but not least there is the icon character some game characters reach. You can't describe it, it's just the Mario[1] factor, or to be unbiased the Sonic[2] factor.

Probably you don't feel completely comfortable with these explanations, but it is very hard to define things like *fun* or *gameplay*. If you are interested to read more about the obscurities you encounter by describing them you are welcome to read *Motivation of Gameplay* by Marc Prensky[1].

For the moment these points are sufficient, because we already have enough of them to investigate if we can integrate some of them into eLearning environments.

3   How can eLearning become more popular?

In this section we will regard if we can use use some of the reasons for the popularity of games to increase the popularity of eLearning. In general the whole idea is to add to the already existing extern motivation for eLearning the intern motivation which is included in games. Let's now look at the single steps to reach this aim. First we will try to include interactivity in eLearning. This shouldn't be that hard, some pop-up questions the user has to answer, probably multiple choice. Or just letting the user interact with

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[1]Nintendo game character, very popular, probably due to him Nintendo is one of the top game console selling enterprise

[2]SEGA game character with icon factor

the environment and let him explore on his own. Through giving the user advantages to choose freely between different tasks can create a feeling of flexibility, which is the next spot on the row. Competition should really be the easiest one to include, just set up highscore tables and the users will try to reach the top. However, the usability should never be forgotten. A easy to use would be best, but certainly this can't be guaranteed due to complex environments. But in this case the environment should be build according to the game principle :

> "Make games easy to start, but hard to master"

Translated in this context this would mean create an environment in which you can use the basic functionality without understanding everything, but be sure to have tutorials which offer the possibility to discover the whole functionality. But remember the quote from Marc Prensky in section 2, the reason why games are so interesting is because the designer always has to think if the what he can do to engage the user. So, the creators of eLearning environments can't just follow an apriori written manual. They must try to view their environment with the perceptions of their latter customers.

I hope the new possibilities to enhance the popularity of eLearning do appeal to you. In the following conclusion we will try to analyze if these changes in eLearning will ameliorate or decrease the learning efficiency of eLearning environments and what questions have to be answered before these points should be applied.

4 Conclusions

As already mentioned, I'm aware of the fact that we haven't outlined all reasons why games are popular. But obviously there are many ways how current eLearning environments can be improved. And it must be possible to make them *fun* and *engaging*, because there is no real magic contained in the process of programming games. Even if we can't grasp how all these things work together to make games attracting, it are just normal people who create them. Hence it seems logical that it is possible to create as motivating eLearning environments as games are.

Another point which always has to be considered if we are talking about learning enviroments is how well people can learn from them. This article tries not to answer this question, it only wants to create consciousness that

this has to be regarded before we should try to apply some of the suggestions made by this paper. Guttorm Andresen and Rolf Ahdell take a closer look on this issue in their Master Thesis[2]. To amplify the awareness that there is already some serious research going in this direction I want to quote from a research project from the University of Natal in South Africa. They had created a special learning game for first year biology students :

> "Test questions related to knowledge learnt from the practical material or game were separated ... Students appeared to learn information equally from both forms of material"

Computer Games as a learning resource [3]

However, I don't want to exaggerate too much. Of course, there are difficulties to merge some kinds of knowledge into fun making eLearning environments. Although there are already ideas how maths and physics can be easily taught through playing in a computer game[7], I wouldn't say that everything can be deformed in such ways.

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