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"It is not hard, it just requires having no life"

Computer games and the illusion of learning

Abstract

By comparing the designs in the games *World in Conflict* and *Medieval II* this article shows how a specific way of designing games has implications for the discussion on games and learning. Games that are designed so that the players acquire new interaction possibilities, new affordances, simply by being in the game and undertaking simple tasks might give the players a sense of achievement. Getting closer to the goals of the game makes the players become enthusiastic. Yet this enthusiasm or motivation is based on an illusory feeling of having accomplished something. Therefore it might be problematic to transfer this kind of player motivation to educational practices. A finding that makes it necessary to rethink some of the popular discourse on games and learning.

KEYWORDS
Games and learning • Serious Games • Game design patterns

Introduction

In this article I discuss the relationship between game design and the enthusiasm and motivation players feel when playing computer games. By showing how games can be designed so that the players can make progress with very little effort other than spending time in the game, I aim to shed light on some of the discussions surrounding games and learning. In the article the designs of the two games, *Medieval II* and *World in Conflict* are compared. By using *game design patterns* (Björk & Holopainen, 2005) a specific way of designing games appears. This sort of design is then seen through the perspective of ecological psychology (Gibson, 1979/1986; Gibson & Pick, 2000) and discussed in relation to ideas about games, learning and education.

Games and learning

Just like movies and television were said to have some unique educational potential, digital technology is now seen as having a number of things to offer educational practices. When it comes to computer games the arguments about what constitute this yet unused potential are diverse. During the nineties games (and other forms of multimedia) went from being seen as the educational software of the future to becoming an example of bad usage of information technology in classrooms. These "edutainment" programs, that we called educational games back then, were said to support simple "drill and practice" exercises that did not stand at the leading edge of the research on learning and educational ideologies of the late nineties. Instead information seeking and flexible learning became the dominant model for using IT in education. Contrary to educational games, the Internet seemed to offer problem-based and creative learning processes that better fitted educational models based on constructivism. The web replaced CD-ROMs as a platform for educational software. Since the technical options for handling graphics and sound online were limited at the time, the arguments for the educational benefits of multimedia and virtual worlds ceased. The role of IT in education was to offer teachers and students models for flexible learning solutions. Today, even the most graphically complex games can be played online. Again, arguments about using games for educational purposes are raised. A new concept for talking about games in education has arisen; *serious games* have replaced *edutainment* (for a discussion about the arguments concerning games in education see Egenfeldt-Nielsen, 2007). Even though some lessons have been learnt, the argument for using games in education is still confused and unclear. The concept of serious games hides a number of different traditions and ideas about how and why games are used in education.

Games are said to have qualities that increase student motivation, provide a more authentic learning experience and facilitate collaborative problem-based learning (Cairncross & Mannion, 2001; Gredler, 1996; McFarlane, Sparrowhawk & Heald, 2002). To increase the confusion, different discussions are blended. Articles, lectures and debates on the subject "Games and learning" cover a wide range of topics, from claims that World of Warcraft players develop leadership skills to more specific questions about how to use games in education.

One more specific argument about games and learning is the claim that a new generation of learners processes information in different ways. Gee (2003) describes his own initial attempts at playing games by stating that the games demanded a new way of thinking that he was not adapted to. Prensky (2001) takes this argument a step further and says that due to the digital society the young generation has lost its ability to learn in traditional ways. Prensky supports his arguments with Luria (1976) whose classical study showed that cognitive processes do not only gain a new content, but changes in structure due to historical development. Prensky's conclusion is that all forms of education should be game-based since traditional pedagogy no can longer help students.

Another argument about the educational benefits of games is that games can simulate a practice in such a way that the players talk and conceptualize in a very similar way to the "real" practice. David Shaffer (2005) calls this approach epistemic game and claims that games might be able to make students think in the same way as they would in the knowledge domains tied to work practices.

Since many of the arguments surrounding games and learning are rather general, it is seldom clear what educational content or what game genre the claims really concern. Yet, games are very diverse in genre and experiences are very sensitive to small changes in their rules. Since games essentially are systems, a small change in the rules has great consequences for the game experience and thereby what the player can learn. This phenomenon is sometimes described as emergent game-play, which means that there is a discrepancy between rather simple rules and the complexity of game-play (Juul, 2005). An example of this is the card game *Whist* and its different versions. In the classical game the side which wins more tricks, scores 1 point for each trick they win in excess of 6. In a variation of the game called *Minnesota Whist* you sometimes score by *not* winning tricks, and when all 13 tricks have been played the side that has won more tricks loses 1 point for each trick they have in excess of 6. This minimal adaptation of the game has great consequences for the game play. It forces the players to think differently and make other decisions. Thus the game now facilitates other learning processes; the player must master new strategies in order to win. This makes it very hard to talk about games and learning on a general level. What applies to one specific game system might not apply to another system or the same system under different conditions. In the light of the multifaceted nature of the argument about games and learning, and the insight that the game experience (and thereby what you can learn from a game) is sensitive to rules and game genre, it makes sense to move the argument to a more specialized level.

This is why this article discusses *one* of the arguments surrounding games and learning; the potential to use the enthusiasm and motivation that a player feels for playing a game in an educational practice. I also discuss only a *specific* kind of game design. It should be noted that I do not reject the idea that games can be used for educational purposes in general, nor do I claim that learning never happens in the games I use in my examples. The article is about one specific *game design pattern* that I call *built-in progression of tools and resources*.

Games, fun and learning

As implied by the concept *edutainment*, one argument for using games in education is the assumption that it is possible to utilize the high degree of motivation and enthusiasm that players have when playing games in schools and other educational practices. Games are said to be more fun than schoolwork and that is why gamers who underachieve at school can learn to master and win rather complex games (Prensky, 2001). Sometimes a high

degree of entertainment in a game is seen as a necessary condition for the game to be useful in education. In the *games—to– teach* project, initiated by MIT and Microsoft, the prototype for the educational game *Hephaestus* was said to have the potential to teach students the basics of MIT's *mechanical engineering* course. The entertainment value of the game was in this case seen as even more important than realism:

> Realism is secondary to entertainment value in this game, although the game must explicitly state which real physical laws are broken within the game engine. Any such aberrations in realism must occur only for the benefit of game play and entertainment value. (MIT, 2001)

Packaging educational content in an appealing way for students is an idea that goes beyond computer games and has been applied to non-digital training games. As early as 1971, Avedon and Sutton-Smith (1971) pointed out that: "those in favour of games suggest a Mary Poppins type of argument. A spoonful of sugar and the medicine goes down!" (p. 316). With this criticism they imply that it might be a simplification to think that entertainment value is of such critical importance to learning.

James Paul Gee (2008) puts forward two other arguments about why games are more motivating than educational tasks. He suggests that schools could learn from this. The first reason, according to Gee, is that failure in games is very different from failure in schools. In a good game the penalty for failure is low; you can always reload and try again. To fail in a game is a learning experience that is necessary if the player is to learn the game patterns needed to master the game.

The second reason why games are motivating, according to Gee, is that the player gets a feeling of control; that his or her actions matter in the game world. A player is not a passive consumer of the designer's work; she or he makes things happen when interacting with the game. This gives the player a sense of owning and shaping his own experiences, becoming engaged at a deep level, something that Gee claims is crucial for good learning.

Gee's claims are on a general level and he does not mention specific educational content or specific game genres. Therefore it is not hard to find examples that illustrate the weaknesses of the claims. In MMORPGs (*Massively multiplayer online role-playing games*) like *World of Warcraft* the consequences of failure can be high. When collaborating on group tasks, other players measure your performance. There are then social mechanisms where failure might lead to exclusion from the game community (Linderoth & Bennerstedt, 2007).

If we take the analysis to a deeper level and study how different designs support or omit the players' motivation, another pattern emerges. Let us look at two examples of similar games in order to illustrate the specific design patterns that are at stake here.

Juxtaposing World in Conflict and Medieval II

From a methodological point of view this article should mainly to be seen as a conceptual piece using empirical examples as illustrations. The comparison here is made by playing the two games for 20 hours each and then trying to fit *game design patterns* to the gaming experience. By doing this it is possible to see the system features that are at stake. Once this has been done the design will be seen from the perspective of ecological psychology and conclusions will be drawn about what this means for learning.

The two games *World in Conflict* and *Medieval II* are both real time strategy games (RTS). In this game genre, the players have different units (mostly military troops of some kind) that they use in order to defeat their opponents. Successful strategies can be to use the terrain or play specific units against one another. For instance, in *World in Conflict*, tanks cannot defend themselves against helicopters and in *Medieval II* cavalry has no chance of defeating pikemen. A crucial difference between these two games is that in *World in Conflict* the player has a limited number of troops in each battle. The player gets a number of "points" which can be used in order to buy units in each battle. When a unit is lost, the player slowly regains its value in points. During this time the player has to cope with his/her remaining troops and when the sum of points is high enough he/she can get new units.

Illustration 1. World in Conflict

Unlike *World in Conflict, Medieval II* has a resource management system in between battles. Here, the player builds an empire and imposes taxes on her/his citizens. The player can adjust and experiment with things like tax levels in order to optimize, but it is also possible to simply let the game handle resource management.

Illustration 2. Medieval II

The amount of gold the player earns decides how many army units the empire will have. Then it is up to the player to decide how many of these they want to take with them into a battle.

This difference between *World in Conflict* and *Medieval II* leads to very different game experiences. In *World in Conflict* the player has to be tactical in the battles and skill is employed to outwit the computer-controlled opponents. *Medieval II* can be played in this way as well, but it is a safer strategy to get so many units that the opponent becomes completely outnumbered. When I played *Medieval II*, I had some British archers attack a Danish stronghold and lost the battle. The solution I opted for, since I wanted to conquer that stronghold, was simply to wait and let my provinces generate gold for me so I could buy more units. When I returned to the battlefield my forces were so superior that there was no need for a strategy. By simply waiting I had won. Some active choices had been made concerning resource management, but these only affected how much my empire grew, not the fact that it grew.

Design patterns

What is then the difference between these two games? Staffan Björk and Jussi Holopainen (2005) have put together a collection of so-called game design patterns, a detailed description of different game characteristics. These design patterns make it possible to analyze and see how different rules interact or counteract and how certain design choices affect the game experience. Some of the design patterns in this model can be used to understand the specific game features that are at stake in the comparison above, the patterns Björk and Holopainen (2005) call; *Units, Resources, Investments* and *Improved Abilities*. In both *World in Conflict* and *Medieval II*, the player has units that are related to resources. The design pattern resources mean that the game have representations of something that the players use to perform actions (ammunition, weapons, gold) or something that the players try to take from each other in order to win (health points, gold). In these games the units as such are resources, something that the players try to take from each other. At the same time the points you buy units with in *World in Conflic*t and the gold in *Medieval II* are resources. The difference is that in *Medieval II* these patterns are connected to the design pattern *Investment*. A pattern that means that the player engages in action that will be rewarded in the future, often with *Improved Abilities,* in this case more or better units. In *Medieval II* the player can just let things stand, and since the game automatically handles *Investments,* she or he will inevitably get *Improved Abilities* over time. In *World in Conflict* the sum of the points you buy units for is static. When a unit is lost these points are slowly refunded. These differences in design between the two games' systems mean that if you loose in *World in Conflict* you have to refine your strategy in order to win. In *Medieval II* the player can simply wait and the investments will create unbalanced conditions and consequently tactical consideration becomes unnecessary. What I aim to illustrate is that a game system can be designed in such a way that you can progress in the game to a certain degree without adapting yourself to the system. A system that means that a gamer can succeed without the effort of mastering gaming skills. Phrased in a more theoretical way this is an issue about how new affordances are introduced in the gaming activity.

Affordances and learning

Affordance is a concept derived from James and Eleanor Gibson's work in the field of ecological psychology that describes the relationship between an individual (both humans and animals) and an environment (see Gibson, 1979/1986; Gibson & Pick, 2000). The main idea in this theory is that an environment with buildings, nature, different objects, humans and animals offers the individual different ways to act. These offers are called affordances and they are relative to an organism (relative between species as well as between individuals). Water affords breathing for a fish, but not for a human. A chair affords sitting for an adult, but not for an infant. Humans have to learn to discover and

utilize these affordances; some are trivial to learn while others take much time and practice. Gibson and Pick point out that experts in a certain domain have learnt to utilize affordances that are not available to non-experts.

> Furthermore, affordances ordinarily must be discovered through perceptual learning /…/ Humans, at least, must learn to use affordances. Some affordances may be easily learned: others may require much exploration, practice, and time./…/ Further development of expertise may involve learning to realize affordances unavailable to non-experts. A three-inch-wide beam affords performing backflips for a gymnast, but the affordance is not realizable by others; rock climbers learn to use certain terrains for support that do not appear to others to provide a surface of support. (Gibson and Pick, 2000, pp. 16–17)

Affordances are affected by the use of tools. When we use a tool we gain new ways of interacting with our environment. These tools become an extension of our bodies, we can do things we could not do without them (Gibson, 1979/1986). If we use a snorkel we transcend the boundaries of our bodies and can breathe under water. If we use a ladder we can reach the same spot as the rock climber without having to learn the skills she or he has.

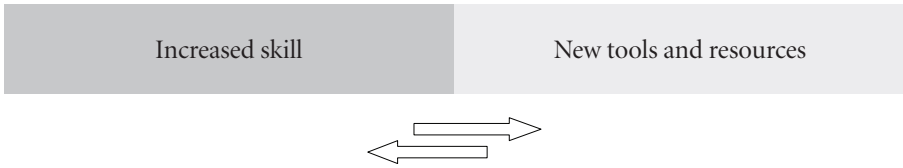
From this it follows that it is reasonable to talk about two ways in which an individual gains new affordances. We can either adapt to our environment and thereby learn to see and utilize new affordances, or we can edit our environment and develop tools that will give us new ways to interact.

Affordances and games

The theory of affordances puts the discussion about games, motivation and learning in a different light. The game design patterns where the player gets new *Resources* and *Improved Abilities* are then a matter of gaining new affordances, i.e. tools that mean new improved ways to interact in the game system. This means that the player does not have to adapt to the environment (the game) to the same degree as when the resources are static. For example one can compare chess, i.e. a game with static conditions, with a multiplayer shooting game where the players can pick up different weapons. In chess, the only way to defeat an opponent is to master the game. In a shooting game I can get lucky and pick up a superior weapon that gives me a better chance of winning the game.

In *World in Conflict*, the points that the player buys units with are static, a design pattern where the only way to get new affordances is to learn and adapt yourself as a player. In *Medieval II* it is possible to get new affordances by just waiting and getting more gold. It is not a question of an absolute border between new affordances through learning and new affordances through resources and tools. In order to win *Medieval II* skill and mastery of the resource management system are required. The point here is that part of the progression in the games is built into the game system.

This means that games can be categorized from the perspective of how new affordances are gained. In games there is a relation between gaining new affordances through increased skill and gaining new affordances through new tools and resources that you get in the game. Seen from this perspective games will have a different balance in how much skill it takes to win and how much of the progression that is built into the system.



In a game that does not introduce any (or just a few) new tools and resources the only way to reach the game goal is through increased skill. Examples of this design are the classical *Space Invaders* arcade game or the first *Super Mario* games where the player constantly has to get better at playing the game. In order to succeed with a jump in a Mario game, the player has to practice his ability to control the game character. This type of design is very different from that found in other games, for instance, computerized role-playing games like *Baldurs Gate*. In these games the player controls a character that constantly acquires new abilities, greater numbers of life points and better gear, etc. In games like these it is possible to spend time on developing the character, something that is done through very simple game challenges like defeating some monster over and over again. This phenomenon is called *grinding* and is something rather common in MMORPGs. When the character is good enough, i.e. has gained many new affordances, the player can take on the harder game challenges and succeed with these as a result of the new abilities of the character, rather than his increased skill.

The relationship between the player's skill and progression in using tools and resources is not something fixed, but rather fluid. In one and the same game there can be moments that require more or less skill. It is not as simple as saying that just because a game introduces new tools and resources the player never has to develop her or his skill. If the difficulty in the game increases in symmetry with the introduction of improved abilities, the amount of skill it takes to play the game will be constant. In many games this relationship is asymmetrical and takes a certain amount of learning, even though the game introduces things like new and improved weapons or gadgets. One example of this is the game *Doom 3*. At the beginning of the game the player has a limited amount of ammunition and only a gun at her/his disposal. At this stage, the enemies you encounter are just zombies who can be defeated with the resources you have. After a while, new and harder opponents are introduced and after struggling through hordes of demons you

finally encounter the devil himself. But in this final fight you have both a rocket launcher and body armour to help you.

Note that the phenomenon that is being scrutinized here is not unique to computer games, but something that is also present in sports where the equipment is of crucial importance, for example, in motor sports and sailing, where the competitors' chances of winning are often dependent on the quality of the tools. This goes for all sports where some sort of equipment is used, like hockey sticks or tennis rackets, etc. The difference between these sports and a computer game is that the importance of the tools and resources are greater and progress systematically, thus opening up new affordances for the players.

The introduction of new resources

There are a number of different ways of designing the way in which the new *resources* that lead to new affordances are given to the player. Game designers have different ideas about what kinds of experience they want the player to have. However, giving a player new affordances can, as we shall see, be rather profitable for game publishers.

Rewards for skill. In some games you gain new resources as a reward for skill. An example of this is the multiplayer game *Enemy Territory Quake Wars* where the player gains experience points based on performance. These experience points open up new abilities for the player like more health points, new weapons, etc. This kind of design can make a game become unbalanced since the best players also obtain the best resources.

Reach a certain point in the story. In other games, like for example *Assassin's Creed*, the player gets new abilities and equipment when reaching a certain point in the game's story. In *Assassin's Creed* the player gets new weapons from his employer after having completed some missions and reached a certain point in the game story.

Reach a certain point in the game world. In many multiplayer games where players compete against each other, recourses are spread out in the game world. In these games you simply run to these places in order to pick up the resource.

Compensation for being unskilled. In other games, resources are handed to the players with the lowest scores, thus making the game more balanced. An example of this is the racing games in the *Mario Cart* series. In these games players that are falling behind pick up better resources and get a chance to catch up.

Random distribution. In some games resources are handed out randomly. A clear example would be a card game where the value of the cards is distributed randomly. In MMORPGs there is random distribution of equipment since a player sometimes can find something of value on a defeated monster.

Collection over time. In MMORPGs it is not unusual that the player receives new resources by collecting something over time. The most common way is from experience points that the player collects by defeating monsters and undertaking quests in the game.

These points are not a reward for skill since you can earn experience points from simple routine activities. Sometimes the monsters have some kind of item that the player collects and can subsequently convert into different rewards like armour or weapons. As mentioned, this way of playing is called *Grinding*. Grinding is not a challenge; it is not a question of whether or not the player will succeed and there is very little skill involved. Instead the main incentive for getting the new tools or resources is to invest time in the game.

Paying for new resources. One of the more controversial forms of game design is when the player is able to buy new resources or make investments with real money. This is something that mainly happens in online games and is called a micro-sales system. Often the game as such is free and then the player pays for new affordances. An example of this is the game *Travian* (see www.travian.se). *Travian* is a strategy game where the player builds up a village using different natural resources and can then trade with or make war on other villages. The game is completely free, but it is possible to buy certain advantages that increase the production rate of your village or make your soldiers stronger in battle.

Collection over time and *Paying for new resources* can sometimes be overlapping principles. In MMORPGs the game company often charges a monthly fee and therefore has an interest in keeping game systems time-demanding. By charging for time and making time an incentive for developing your game character, the player pays indirectly for getting new affordances. There is also a connection to these game patterns and *Random Distribution.* Since the probability that a monster has a specific item increases if you regularly come back and kill it, spending time in the game doing simple game tasks is rewarded. Some games have real-time delays for how often you can do certain things, like defeating a certain monster or undertaking a specific quest. This limits the number of times you can try to get an item and thereby encourages the player to keep her/his account.

The red queen dilemma

When a game is designed so that the player has to constantly increase her/his abilities in order to keep the same influence of the game, i.e. not losing any affordances, the game has a design pattern that Björk and Holopainen (2005) call the red queen dilemma. The name is inspired by Lewis Carroll's books about Alice, where Alice meets the red queen who has *to run in order to stand still.* In games where the game world and/or other players develop constantly the players are forced to constantly improve their tools and resources. Björk and Holopainen claim that this pattern can be connected to social status, especially in MMORPGs where the quality of the characters' gear is constantly exposed to other players. Game worlds in MMORPGs are not static, they constantly grow with new content. Through patches and upgrades new and better items, new areas and new abilities are introduced in the game. The new content is often directed towards the players with the best gear on the highest levels. When this happens the items that used to be the most wanted become easier to get. The struggle of the players is thereby constantly devalued. In order to keep their affordances

(both affordances in relation to the game system as well as social affordances in the community) the players must keep on spending time in the game. They must run in order to stand still.

Resistance

The fact that games can be designed so that new affordances can be achieved and progression towards the game goal can occur by other means than skill, has not gone unnoticed by computer gamers. In gaming communities there is a certain amount of resistance towards these types of design. In a study which I carried out with Ulrika Bennerestedt, that was assigned by the Swedish Media Council (Linderoth & Bennerstedt, 2007), ten young people were interviewed about their experiences of the game World of Warcraft. One theme that came up during the interviews was that the game system rewarded other things than pure skill. Magnus, for example, said that he preferred games where only the skill of the player determines who wins:

> Like in *Tekken 3*[1], there it's the same thing. You can train yourself to be really good at it. That's because you start out the same for every fight. It's not like that in World of Warcraft. Say you're Level 30 and really clever you can't take a Level 60 who knows the game. That's not on, which I think is really a shame. That's the way it is when a game is time-based.

According to Magnus, *World of Warcraft* is a "time-based" game, meaning that it is designed so that the player must rise in level and get better gear. As a result of this design it is not only the skill of the player that determines who wins. A player who has spent most time is often more successful than a more skilled player who has played less. Davoud has had the same experience:

> World of Warcraft is not like other games such as *CS*[2] for example, which I also played at a really high level before. There you were able to train yourself to become better at it, though not everyone became good at it even if they trained for a really long time. But despite that, it took talent to be good at CS. But World of Warcraft functions so that if you invest a lot of time and are a member of a guild, then you can get the things that make your character better.

Magnus critically continues to talk about how the so-called honour system used to be designed in *World of Warcraft* and what this meant for the game experience.

> The first honour system that came out was based on how much you played each week, or how much you PvP'd. To get to rank 14, the highest, you were theoretically bound to play PvP 16 hours a day for around two months. Then you got to rank 14. It's a bit nasty to set up something like that. I remember when I played then it was with adults who just didn't give a damn about their jobs. They were at work for nine hours, just sitting out their time, and then they'd come home and play WoW. They'd say things like, "It was the bloody job that stopped me getting to rank 14, I could only make 12." I mean that's pretty high anyway. When I played, the most I

> managed to get to was rank 8. I couldn't make it any higher. I was playing around seven hours a day. But I couldn't keep it up. I managed for about a week. But to succeed at PvP and reach rank 14 and all that depends on how much time you're there, not on how good you are, not by a long chalk. It's like, "This guy's rank 14. He can't really play." I'm better than him.

Magnus is hardly impressed by a player who has reached the highest rank since he express an understanding for how the game is designed. A similar critique was put forth by a player on one of the *World of Warcraft* chat channels. The players Icescar, Zert and Kudriuhn are discussing new items from the latest upgrade of the game. These items are very good. Just as good as the so called Tier 4–6 items (T4, T5, T6), gear that you can only get in raids when collaborating with 10–25 other players. The new items can be gained by collecting "badges" that the player exchanges for the item she or he wants.

[Icescar]:	If they don't "hardcore" play then they shouldn't expect hardcore gear
[Zert]:	and it's not hardcore gear
[Icescar]:	It's T5 level gear
[Zert]:	look at full T6 that's hardcore
[Kudriuhn]:	as I said… you can get about 4 items equivalent to T6 from badges not your whole gear
[Icescar]:	T6 lvl even
[Zert]:	ffs to get 3–4 items and a few weps u would need like 400 – 500 badges
[Zert]:	any poor bastard who gets 500 badges deserves all they can carry!
[Icescar]:	No because it ruins the challenge
[Kudriuhn]:	no, very little change
[Icescar]:	Since collecting 400 badges isn't hard, just requires no life

Here Icescar is of the opinion that the new items ruin the game challenge. They can be gained without any skill. The only thing you need to do is to invest time or, as he puts it himself, you don't have a life.

Conclusions and discussion

Returning to the question about games and learning; what can be learnt from this review of a specific way of designing games? What are the consequences for the main question at stake here, gaming and the feeling of enthusiasm and motivation. Gee (2008) claimed that games were motivating because the price of failure was low, and games gave the player a feeling of being in control. While these suggestions are plausible, analyses of certain design patterns suggest that there might be an even stronger reason why gaming is such a motivating activity. If a game is designed so that the player can progress, gain new affordances, without having to develop her/his skill, this design pattern might explain why some games inspire the players so much. Games can give the player a sense of achievement and mastery, open up new affordances, without forcing the player to learn a new skill or

domain. To see your character in *World of Warcraft* grow from a poor ragamuffin to a knight in shining armour can be satisfactory in the same way as discovering that you have become better at some skill. The construction of the game makes it almost impossible to fail. When starting with a new character in these games it is never a question of *if* you will succeed, it is a question of *when*. If you expose yourself to self-criticism, it will become evident that the effort of reaching this goal is mainly a question of about time and patience. In gaming cultures there seems to be some resistance to this design pattern. The concept of "time-based games" is a member's category, something that players themselves use in order to understand games where time investment leads to progression.

The urge to get new affordances in a game world seems to be so strong that players are willing to buy such new abilities and advantages. The use of micro-sales systems as a way of making money from games is in its early stages and is likely to grow and develop new forms. In order to avoid resistance in the game culture these payment systems will be opaque, so the advantages the player pays for are not too obvious. Instead of directly paying for resources there are already systems where you pay for increased production rates.

Looking at the field of education and digital game-based learning, design patterns where you gain new affordances through time investment are posing a problem. The motivation that the players have is partly connected to illusory success. The player does not have to develop any talent, but is rewarded by just spending time in the game doing very simple tasks. A design pattern that seldom stands on its own, but is often mixed with tasks that demand some skill. In these cases achieving a new skill will seem to have greater importance then it actually had. A form of blending that makes it even harder to deconstruct and see the game mechanism behind the sense of achievement.

The idea that games have some kind of built-in feature that could be used in education in order to enhance motivation becomes rather problematic. Since one of the reasons why players might feel motivated could be that games give us a feeling of having achieved more than we have, this design pattern gives us an illusion of learning. An experience of becoming better and progressing towards a goal without having to develop skill might not be something that educational institutions benefit from. Maybe it can be used in order to enhance self-esteem for low achieving students where the illusion of progression can be something positive and have an effect on real performance. However, this is a matter of delicate and careful design and it is not as easy as often portrayed in the debate on games and learning.

Games and education have completely different conditions. While games are designed to make players happy, educational practices are legitimate as long as they offer students the opportunity to learn something. To design educational tasks where you can succeed by just waiting and doing some extremely simple, non-challenging activities is hardly appropriate. That would be like giving someone on a diet a set of scales that showed weight loss without the person actually loosing any weight. Maybe the things that make a player motivated while playing games neither can nor should be brought into schools.

Notes

1 Tekken 3: A fighting game on console.
2 CS: Acronym for Counter-Strike, a popular online game.

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