1. Written from the perspective of a newbie to Minecraft, a DL teacher and a Public School student (as I have not taught much at the public school level). I separated the DL and public school as for some I thought there were clear differences.

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| **Principle** | **Video Game** | **DL Schools** | **Public Schools** |
| **System Thinking:**How things interact with each other; Games are a “set of rules that interact in a way to give rise to effects based on decisions you make”. Model based reasoning is the base of scientific reasoning. | This was very cool to see in action while playing Minecraft. I learned that building things was a logical progression and because it worked that way it was a lot faster to pick up. Examples would be, sticks plus wood makes a wooden axe (handle and head of axe); sand in the furnace makes glass; raw food on the furnace makes cooked food; wood can be turned into planks to build with. | See public schools 🡪 | I can think of two example of this. Learning about wars (or big historical events) in social studies and how the actions of someone or a group of people lead to a certain outcome. Another example would be in chemistry when we would learn about the reactions between chemicals, when you mixed two chemicals together, there may be no change but if you add a third chemical there could be a huge effect. |
| **Situated Meaning / Meaning as Action:** When you can associate pictures, goals, experiences, etc to a word, instead of just using more words to describe it. | Reading about the rules to a particular game may work for some people but not all. I need to be experiencing the game first hand to know how it works and what is going on. When I first was introduced to Minecraft two weeks ago, I actually went to a old tutoring student of mine who plays a lot and had him walk me through it, I learning a lot more that way then just reading instructions. | See public schools 🡪 | When you come across a new word in a textbook (such as social studies or science) the definition of the word is usually written in the column beside it so that you can get an understanding of the meaning of the word. Obviously all words will not have a personal connection to students but allowing them to explore the meaning in more than one way would help to solidify the meaning of the word. |
| **Sandbox:**Allows students to explore in a safe environment at their own pace without feeling like they are being evaluated, judged or will be harmed in any way. | Playing Minecraft in the creative mode allows you to explore the capabilities of the game, build different things and since you are alone in the world, you can play and explore at your own pace. | This is evident because the students are in their own environment learning at their own pace. | There is very little sandbox time, you have a certain amount of time to answer questions from a textbook and then when discussed as a class, you may be called on at any time to give an answer in front of everyone. |
| **Customization Principle:**Good games allow you to solve problems and figure out your own solutions to the problems. There may only be one problem but many solutions to that problem. This also allows for different degrees of difficulty depending on the person who is playing. | The student who taught me how to play Minecraft played on survival mode and did very well. I tried and was eaten by a zombie come night time. Knowing that I am not a very good video game ‘attacking player’ I learned that creating mode was better for me and I could customize the experience to make it successful for me. | If a student is not happy with a certain way of learning or a certain textbook, they can choose to be an individualized student which then allows them to choose their own material and work with the teacher to cover the learning outcomes using what appeals to them. | The only customization I have seen is when a student has a learning difficulty. Unless you need extra help, everyone learns the same thing, the same way and if you don’t understand it, it is up to you to keep reading and practicing until it makes sense. There are rarely alternatives or options. |
| **Well Ordered Problems / Good Sequence:**Sequencing problems is like level design, you need to complete the goals and challenges from one level to be able to progress to the next one. Skills learned at one level will also help to make you a better player for upcoming, more challenging tasks. | Playing in Minecraft and learning how to build a house to keep my belongings and different axes to mine deeper and easier, these are skills that will help in more challenging situations. If I am able to create an axe and attack sheep, pigs and cows that are running away from me, this would help develop my attacking skills and make me feel more capable of playing in ‘survival mode’ | Students are given their assignments in a logical order and complete them in a way that allows their knowledge from one assignment to help build on the next. Assignments are a mix of text based assignments and critical thinking assignments. (best example would be in math from one concept to the next) | Students work through textbooks starting at chapter one and ending when the book ends. The sequence is evident but little to no deep learning occurs. (best example would be in math from one concept to the next) |

**References:**

Gee, J., & Chris, T. (2013, November 13). Jim Gee Principles on Gaming [Web Video]. Retrieved from <http://www.youtube.com/watch?v=4aQAgAjTozk>

B) “Videogames have a lot to offer and should be used and leveraged in classrooms in order to help teach students.”

“The Federation of American Scientists revealed that students remember up to 90% of info when taught using simulations compared with 10% via reading.” This statement was found while I was watching a YouTube video about the health benefits of gaming. Although I could not find the specific study and results, I have heard time and time again how learning is deeper when experienced rather than just read about. This would support it. I know that for myself, being a hands-on learner, subjects such as science where I could focus on doing lab experiments to compliment my textbook learning, I did much better with and retained a lot more of the information then subjects such as social studies when I just read a textbook, defined words and answered questions.

Some, if not most video games, especially the individual games, allow students to opportunity to learn through exploration without the fear of failure. Video games can give students the safe place to learn and explore through their own processes. Scott Steinberg (2011) states “recent study from the Education Development Center and the U.S. Congress-supported Ready To Learn (RTL) Initiative found that a curriculum that involved digital media such as video games could improve early literacy skills when coupled with strong parental and teacher involvement. Interestingly, the study focused on young children, and 4- and 5-year-olds who participated showed increases in letter recognition, sounds association with letters, and understanding basic concepts about stories and print.” I can see this already with my own daughter. My daughter is 30 months old, not even ready to begin reading but through her games on her tablet, has started to recognize letters and can tell me what some of them are, all without my husband or I practicing them with her. We have not given her the games to force learning, but to give her the opportunity to learn (she has 15 games and the choice is always hers as to which one she would like to play).

Lisa Neilson (2012) points out that one of the main reasons to use video games in your classroom is based on the fact that you already are. “School is inherently game-like - students earn *points* for completing *challenges*, and are eventually rewarded with *badges* in the form of grades. Gamification only improves the current system by employing game elements proven to be extraordinarily effective in video games. If we’re already doing it, we might as well do it right!” Stats have shown that “60% of teachers say using digital games helps personalize instruction, better assess understanding, and collect helpful information” (Heick, 2012). So why not use the system of education and mix it with learning outcomes that can be found in games to stimulate interest with our students?

Finally, Lisa brings up two other good points that games in the classroom provide “Engagement- If you’ve ever played or watched someone play a good video game, you’ll know that nothing engages people like games do. Even kids who are normally unfocused, unmotivated, or undisciplined become highly focused, motivated, and disciplined when playing games. Gamification can help bring those attitudes to class.”Games Also provide “Intrinsic motivation - Not only do kids spend significant amounts of time playing games, but they do so voluntarily, with no hope of earning extrinsic rewards like candy or pizza parties. Gamification is all about guiding people to achieve things that perfectly challenging them, and typically the only incentive to do so is the sense of accomplishment they feel when they succeed.” If students are not only excited about ‘what’ they are learning but also ‘how’ they are learning, they will be more personally invested in it. When we allow our students to learn in this form of environment, this is where the deep learning and full comprehension will be noticeable.

Obviously there will be barriers to video games in the classroom, these will take the form of administration, parents and costs – although everyone may not experience the same barriers. If you have an administration that supports you, there is a lot that can be done, provided you have the funds. Cost is a huge factor when looking at any type of mLearning situation in the classroom, over half of the teachers in many surveys and studies say that cost is the number one barrier. Even if you have the funds for computers, tablets or iPads, you may run into the problem of wanting to use a game with your students only to find out that either it costs too much to get 30 copies of it or you need a technology person to come load it for everyone and booking time with them might put you on a week long waiting list. Some parents may become a barrier if they state that they do not want their child to play more video games at school; this may be a place where parent education on the matter may play a significant role in removing a barrier and this may in turn be the easiest barrier to remove.

**References:**

Alltime 10s. (Producer). (2012, November 14). 10 Surprising Health Benefits of Playing Video Games [Web Video]. Retrieved from <http://www.youtube.com/watch?v=LNycSARuGcE>

Heick, T. (2012, November 23). What Teachers are Saying About Video Games in the Classroom. Retrieved from <http://www.teachthought.com/video-games-2/video-games-in-the-classroom/>

Neilsen, L. (2012, November 15). 5 Reasons to “Gamify” Your Class. Retrieved from <http://theinnovativeeducator.blogspot.ca/2012/11/5-reasons-to-gamify-your-class.html>

Peasey, K. (2013, October 15). Play a Game a Day to Keep the Doctor Away. Retrieved from <http://kpeasey.wordpress.com/tag/video-games/>

C)

Educational or serious games seem to have a learning outcome or a set of learning outcomes in mind that either relate to a specific subject and grade level or sometimes may span over many different grade levels and sometimes even many different subjects. Paul Ladley puts it well when he states “Purpose built education games (PBEdG) should not suffer from being inappropriate and can be graphic rich, although this is not always the case. In reality, the design should immerse the learners in the game play, but this should not be at the expense of the learning.” This is something that really has to be looked at when choosing games to use with our students. We need to determine if the game is in the zone of not being too ‘textbook like’ that it is boring and un-engaging but also not too ‘entertainment game like’ that no learning outcomes are covered.

An example of an education game that I can think of was one that I played growing up called Oregon Trail. I remember having computer lab time twice a week through elementary school and the days when our teacher said we could play that were the days when all the students cheered. I am not sure if we realised that we were playing an educational game but it sure beat reading information from a textbook and answering questions on a piece of paper. “The original game was designed to teach school children about the realities of 19th century pioneer life on the Oregon Trail. The player assumes the role of a wagon leader guiding his or her party of settlers from Independence, Missouri, to Oregon's Willamette Valley on the Oregon Trail via a covered wagon in 1848.” (Wikipedia). I also really enjoyed playing this other game that I can’t remember the name of but it got you to take the name of a province or territory or a name of a capital city in Canada and drop it to its proper location. I can say that game taught me the provinces, territories and capital cities better and faster than any worksheet I was given.

Other games that I have noticed that my students really like to play are word and spelling games. Obviously these games are for my younger students and my ESL students but they are very popular none the less. I can’t say I blame them for liking them as much as I do, it just reminds me of the Canada game I played many years ago. Given the choice of playing a game to learn new words, or read them off of a sheet of paper, I don’t know anyone who would choose the latter. This also reminds me of the “situated meaning” that was discussed by James Gee.

Commercial off the shelf (COTS) games seem to have pure entertainment value versus any practical skills or cognitive goals. Games that I am thinking of are games such as the Wii game pack that came as part of our Wii package. I have played some of the games such as boxing, skidoo racing and frisbee golf, all of which I would not feel comfortable doing in real life with only the game as my practice. Frisbee golf is something my husband and I play a lot of in real life but if I attempt to play on our Wii, I just plain stink and get frustrated. As for boxing and skidoo racing, playing on the Wii has not equipped me at all with the proper skills to complete them in real life, I think I would get KO-ed in the first minute of my boxing match (if I even worked up the courage to compete in it) and I would not know how to properly handle a skidoo.

Another COTS game that I can think of would be Mario party. I have played a lot with my husband and another couple we know well. Everyone but myself is really into it. They are all really good and do all the hard stuff while my job is to put myself in a safety bubble and go along. Once they are at a tricky part, I get popped and told to stay where I am so if anyone dies, they re-spawn at my location instead of having to completely restart – I would love to have someone explain this as an educational game.

**Resources:**

Ladley, P. (2011, July 13). Purpose-built education games vs commerical entertainment games. *Innovate my school*, Retrieved on March 23 from <http://www.innovatemyschool.com/industry-expert-articles/item/40-purpose-built-education-games-vs-commercial-entertainment-games.html>

The Oregon Trail. (n.d.) In *Wikipedia*. Retrieved March 23, from [http://en.wikipedia.org/wiki/The\_Oregon\_Trail\_(video\_game)](http://en.wikipedia.org/wiki/The_Oregon_Trail_%28video_game%29)

**Some Infographics that helped me with this assignment:**

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