



Principles of Learning & Game Definitions

OLTD 508 Lindsey Watford

GEE'S PRINCIPLES

1. Co-Design
2. Customization
3. Identity
4. Manipulation
5. Well Ordered Problems
6. Pleasantly frustrated
7. Cycle of expertise
8. Information
9. Fish tank
10. Sandbox
11. Skills and Strategies
12. Systems Thinking
13. Situated Meaning

Using "Principles on Gaming" (Gee, 2013), I chose three principals of learning that "good games" use to hook people. The most difficult piece in this assignment was to choose only 3. Gee's 13 principles are each a piece to the puzzle in supporting the learner in a holistic educational experience where the learner is the central focus.



Customization

Customization – Provides a feeling that what I do matters, increased sense of agency, differentiates and supports learning styles, supports problem solving, and invites growth in a safe manner where failure is low.



Customization

through choice

Providing students, a choice in what and how they will be learning delivers instant buy-in. My experience in a DL program highlighted the positive, self-motivated results that choice can create. Incorporating inquiry, project-based and in-depth learning opportunities supports customization. Using self-assessment as a reflection and formative assessment tool teaching students to set goals and learn from their mistakes supports a sense of agency. This is the time to develop a positive-growth-mindset understanding that through failure comes success. Working with Apps and Software that lend themselves to target differentiated learning styles is an effective method to customize individual learning plans. For the teacher, many times this means becoming comfortable with giving up some control, and changing into more of a supportive facilitator than teacher role.



Information

Information – Giving students large amount of information in school is useless if you do not know how to apply it. The best times to give information is when the student asks or just at the right time in the right amount for learning.

Making sense of Information

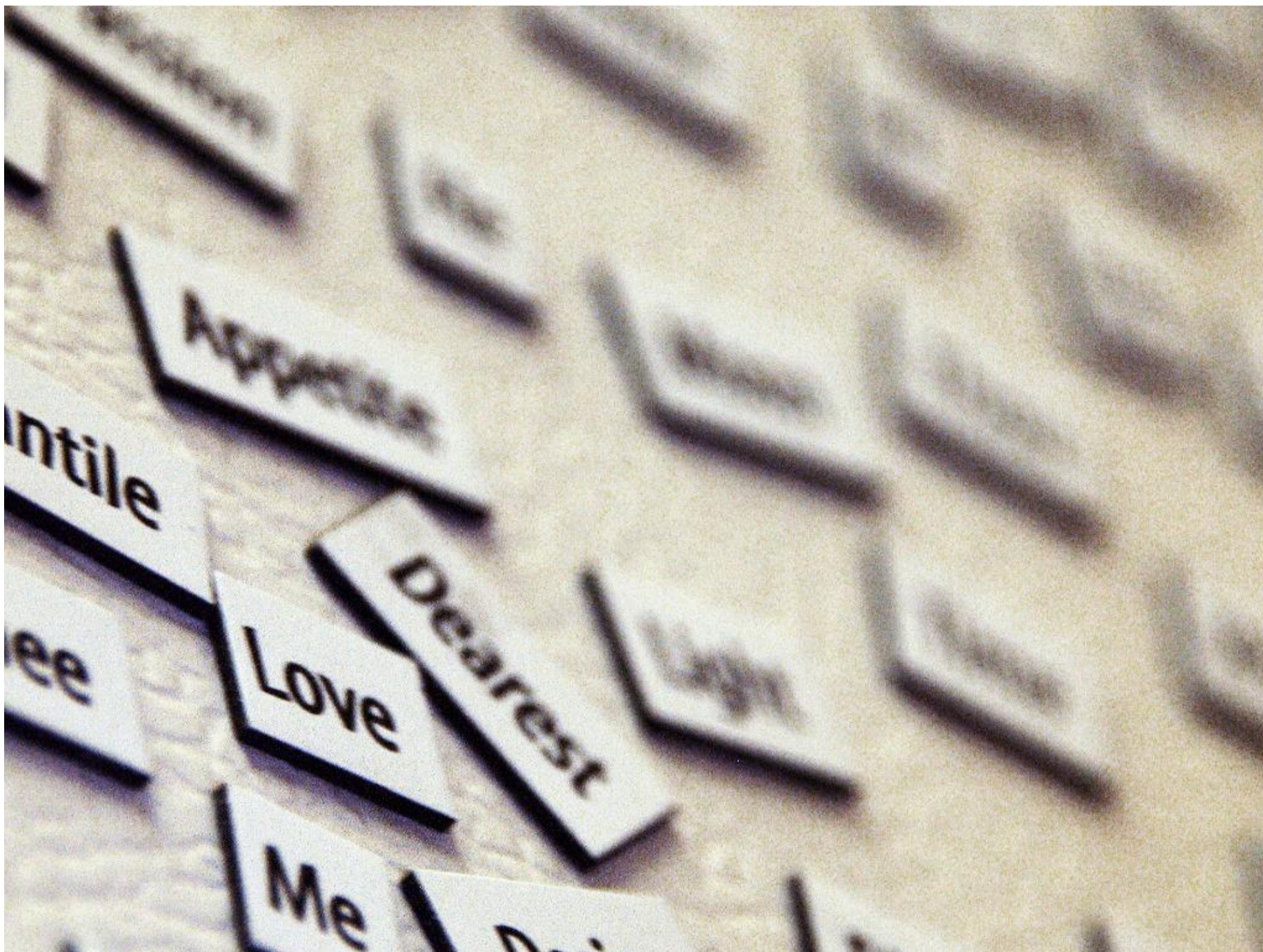


With both my son and I having a central auditory processing (CAPD) issue, this principle struck a nerve with me. In my own daily experience, when I am given a huge chunk of new information having no preexisting schemata, I have a very difficult time following. I scramble to take notes and make sense of them when I have time to slowly work through the ideas and concepts and see how they fit together. If there is a word I do not understand, I need to look it up before I can go on. That is one of the benefits I appreciate when reading on a kindle and online reading with the instant definition option. I believe if I had been given small bits of information during a process of learning just at the right time, or when I asked, my school experience would have been significantly different.

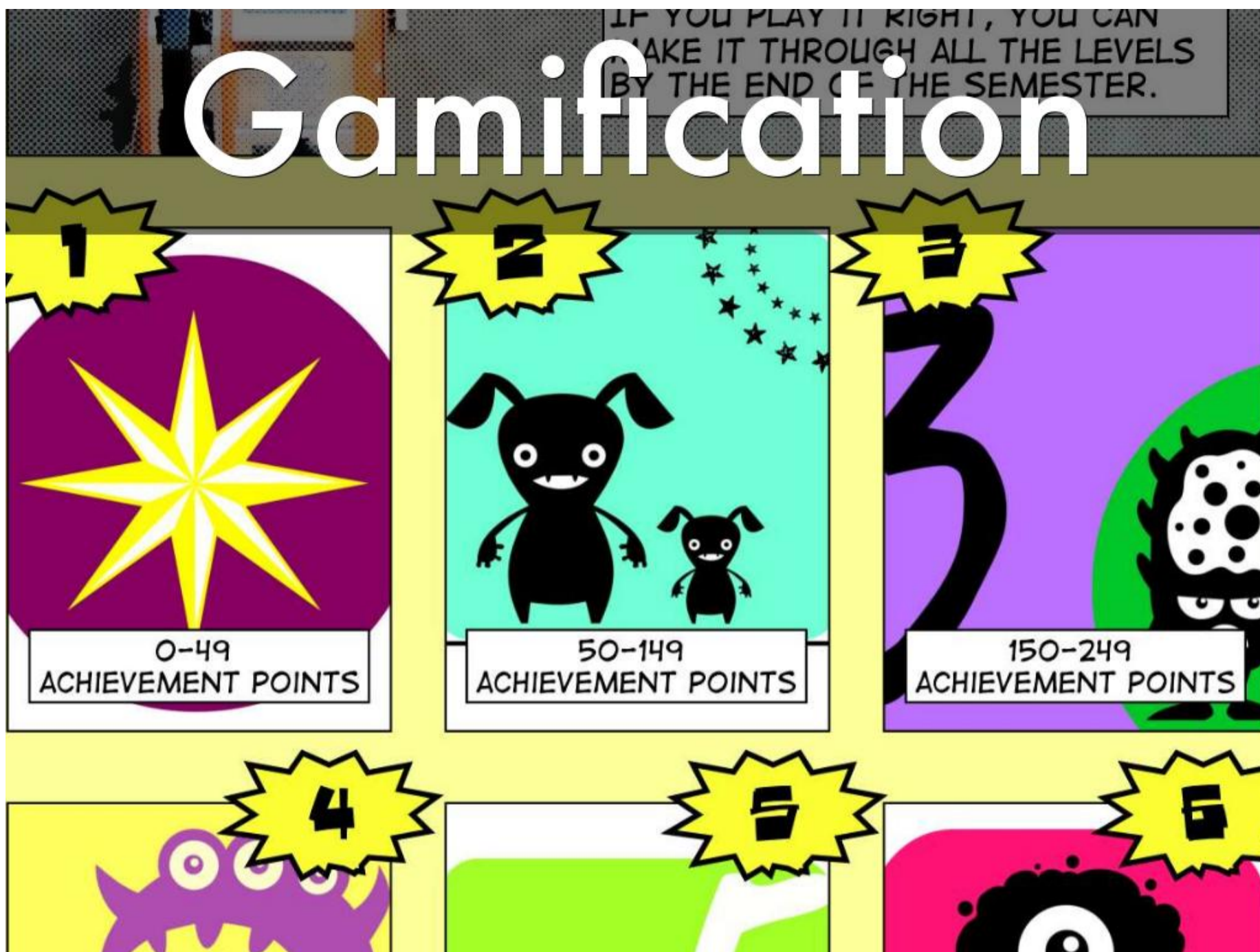


Situated Meaning

Situated meaning – How do words get meaning and how do people understand them? To really understand a new word, we need to associate an image, experience, action or goal.



With teaching Kindergarten, this principle is a common one for me. When good K teachers plan or teach a lesson, they do so with the assumption, that for many kids, whatever is being taught, is probably the first time they have heard it. In September, it is obvious which children have had a variety of experiences to connect information to and which have not. K teachers spend a lot of time helping kids to see and make those connections. We also start at the beginning of making words by learning letter sounds. “In the beginnings of our lives, however, sounds become words through repetitive opportunities of experiencing the parent, teacher, or caregiver making the connection between the sound and an object, or the sound and a behavior, or the sound and a feeling. That's why it's so important that we spend time with our young children and infants teaching them language” (Perry, 2000). We incorporate singing with action songs, poetry, books with rhyming and repetition to allow students time to explore and experience language. We use pictures and actions to help connect to word meaning and spend time teaching directed drawing to provide students the tools to write their first stories as drawings and labels.



Gamification – Using the successful game principles and mechanics in a non-game setting to teach. The game and does not require defined objectives and rewards and points such as badges and leveling up can be earned from a collection of tasks. They use winning and losing as motivation to act. Gamification principles can be applied to a variety of learning and management programs. (Upside learning/Custom Elearning, n.d.).

Gamification

ideas for the classroom

Interestingly, my teaching partner and I have just been creating a points/reward system for behavior in our class to begin after Spring break. We have decided to build class points that can be awarded either for the whole class being on task, a table working well together, or individual students demonstrating a positive behavior. For older grades, I would like to try Classcraft. I appreciate the customization to fit individual class needs. I have also seen simple game dynamics used at my son's school to build school spirit. Each student is sorted (by the sorting hat) in 1 of 4 teams. Students can earn points for their team by participating in school spirit days, doing good deeds in the school or being chosen through a lottery draw. The kids love it. I have seen this done now through 2 principals in the same school which has highlighted the importance of presentation and enthusiasm of the leader. I would also like to try gamifying part of my curriculum to see how I could make it work with different grades and limitations. As I take in, and attempt to synthesize the benefits gamification has to offer, I think it would be fantastic to organize a 2-day professional development workshop introducing teachers to the principals of gaming and allow them to see and experience the positive success of incorporating gamification into their curriculum.



Sudan: Dying is a viral video game for change that provides a window into the experience of the 2.5 million refugees in the Darfur region of Sudan. Players must keep their refugee camp free of possible attack by Janjaweed militias. Players can also learn more about the genocide in Darfur that has taken the lives of 400,000 people, and find ways to get involved to help human rights and humanitarian crisis.

Game Based Learning- Using a game to teach curriculum. It will have defined learning objectives, uses winning and losing as motivation to act, the game can be intrinsically rewarding as players earn badges and points and can level up their position, and uses a story scene/narrative to relate content related to the real world for more retention. It tends to use a sequence of smaller and larger quests that can be completed individually or collaboratively (Upside learning/Custom Elearning).

Game-based learning

for the classroom

I use game-based learning principles by bringing simple games that help to support specific skills in my curriculum. Games to practice addition such as Snakes and ladders, Race to the Top, and Roll and colour sheets that students can work with another student to compete who will finish first. I use games in language arts such as "Swat"- the first person to swat the correct word wins, roll and cross of words, and groups competing with white boards to be the first ones to spell words correctly. After reading the book, "Level Up Your Classroom" (Johnathon, 2016), I have more ideas for use both with and without technology, on how to create and use game-based learning in my class. I could see myself using examples presented in the book such as learning about what makes a community through a collaborative class card game or teaching properties of storytelling through a card game spun around a storyline co-created created with students. If I taught older grades, one of the games I would definitely take advantage of, is Minecraft. It can be used to support all areas of the curriculum (Murry, n.d.). One of my major take-aways was just many games are on the market that could work for game-based learning.



Serious Game – “a game designed for a primary purpose other than pure entertainment and can be applied as an umbrella term for any game-based initiative that has an additional, ‘serious’ agenda.”(Growth Entertainment) They generally take on real-world problems and include simulated games for training and education.

Serious games

to use in the classroom

There are a number of serious game Apps that I can use with my students. A few I currently use are Star Fall, Word Wizard, and I'm looking forward to trying Dragon Box Numbers for my next assignment. Games such as these are used to build skills and develop memory. If I was to teach older grades I would use a search engine such as Serious Game Classification to search for appropriate games to use.

Simulations



Simulation - "A simulation game attempts to copy various activities from real life in the form of a game for various purposes such as training, analysis, or prediction. Usually there are no strictly defined goals in the game, with players instead allowed to freely control a character." (Wikipedia, n.d.)

Simulations

in the classroom

In Kindergarten, we begin with the most basic type of simulation. We role play many situations to help make sense of the world around us. In terms of computer simulated games, although a little advanced for my class, I really like the PhET interactive simulations and have used them with my own daughter to make up physics labs she missed due to illness.

I also think virtual based game play an interesting idea and one I have had limited experience at home with my son using virtual reality devices. Virtual immersion in game playing offers a new dimension in learning. Using Oculus Rift headsets, students have the opportunity to virtually immerse themselves in environments to experience any sphere of professional and life application at the learning stage. (Abrosimova, 2014).



Although I do not currently have experience with using COTS in the classroom (other than snakes and ladders), I have experienced my son playing games at home and school such as Minecraft and MinecraftEdu. Having learned Minecraft myself over the last month, provided me insight into the possibilities of integrating it into all areas of the curriculum. I am blown away by the number of games that I could currently use. After joining edWeb.net and searching for games, one of the many sites I came across offering game options that I will be considering for next year was: <https://www.filamentlearning.com/products> According to Van Eck (2009), there are many things teachers need to consider before introducing an off the shelf game into any classroom. "Because commercial games were not designed to teach content, none will be sufficient on its own as a teaching tool. As the designer, you will need to identify where there are gaps and inaccuracies in the game content, and where the strategies the game supports for solving the challenges do not align with your learning outcomes."

Conclusion



Conclusion:

There is no doubt in my mind that gamification and game-based learning in all its many forms will revolutionize the possibilities and options for education. How that happens is unclear. What I find interesting, is the notion that Marc Prensky presents. He states, as the focus in student-centred learning shifts, it will be the students themselves “who both are closest to the learning issues and most fully understand the power of games for learning, they are the natural candidates to fulfill this demand and create these games.”

References

References:

see accompanying document

