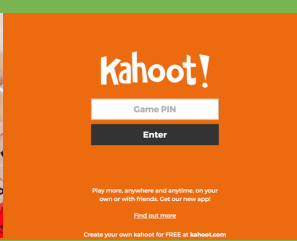


# TIM OFTEBRO PRESENTS



## WHY YOU SHOULD GAMIFY STUDENT LEARNING !

### Empowering Student Learning Principle

- Effective learning requires that learners feel like active agents, not just passive observers/listeners. For example, in a game like Bloxburg in Roblox, which my 8 year-old enjoys playing, she is able to create and simulate life-like worlds with her friends, (design, build and modify her own house, work part time jobs and etc).
- In well designed games, players feel that their actions and decisions and not just the designers actions and decisions are creating the world they are in and the experiences they are having. This is important to me as a teacher and for my students.
- Other games such as Minecraft (Minecraft EDU) also facilitate, co-design, customization, manipulation, identity and much more.
- In terms of my own classroom, I could try implementing Quest based learning through using Rezzly or something similar to integrate Gee's principles in my students learning.



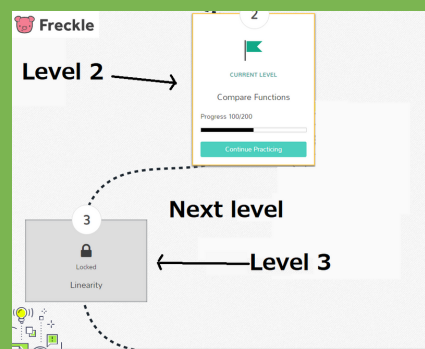
Good game principles:

Co-design  
Customization  
Manipulation  
Identity

### Problem based learning principles

#### Well ordered problems

- When a learner is confronted with a problem that is too complex or too abstract, they may become disengaged or give up or try to use other avoidance strategies that may lead them away from the desired learning goal/objectives.
- In the ideal world, problems should be presented in a way that is leveled by difficulty (from easy to hard) in a well ordered/structured manner. A lot of games do this very well, often this concept is called "leveling up". I use Freckle Education in my classroom, which is a gamified approach to learning where there are various difficulty levels that students progress through at each level (each level is little bit harder) and students earn coins as they progress through their learning. In Freckle, this is called Adaptive Practice. This is important because students need to be continuously leveling up.



### Pleasantly Frustrating Principle

- Learning works best when new challenges are pleasantly frustrating (Gee, 2013), where the challenge is still within the players/learners grasp of understanding and skills. For example, challenges feel hard, but are doable. In this context in-game, learners still see their effort is paying-off as they can see progression/no-progress within their activity(game) even if they fail.
- The key point above is that participants want to feel their effort and energy they have put in to the game/activity is leading towards progress or an intended result. Thus, if the game/activity design can ensure retaining of learner/player engagement, they will be inclined to return to the game/activity (repeat players). In my classroom, I would like to try using a game like 'Rise of Nations' that allows the player to customize some of the difficulty levels and gain feedback of whether things are getting too easy/hard. The challenge for me would be linking it to learning outcomes.



### Definitions:

#### GAMIFICATION:

My definition of gamification of learning begins with looking at how games and / or points systems can be used as tools or methods for student learning. Another way of looking at it is how teachers & students alike can add game elements to a non-game situations. For example, playing a Kahoot game for Chapter vocabulary review or using JeopardyLabs online or setting up a point system (XP points etc) to reward/penalize desired and undesired actions/behaviors and outcomes. I have used Classcraft in my classroom in the past as well as Kahoot and Jeopardylabs online and they have all worked well as extrinsic motivation for student behavior and outcomes. However, some students are less or more responsive depending on their own situations and learning styles. Another definition that I want to point out that is related to gamification is game based learning or 'GBL'. Game based learning is the use of games such a COTS or other non-off the shelf games to elicit/engage student learning. Please see explanation of COTS below.



#### SERIOUS GAMES

Serious games are as the name implies, gamified learning of a serious agenda or topic, where learning content is delivered in a game-based environment. A good example of this is the Mars Generation One argumentation game by Glasslab Games. Here Grade 5-8 students find themselves in a settlement on Mars where disputes are resolved through formal arguments. To succeed, players must search for evidence that can support the claims they are trying to make. I am planning to try this out in my classroom as this meets goals of critical thinking and communication skills.



#### SIMULATIONS

Simulation games re-create real-world like environments and situations that allow you to perform a wide scope of activities without any real-life consequences. Some people like J. Gee call them learning sandboxes. Games like Farming Simulator 17 on Steam are a great example of this. This game in particular teaches time and resource management, economic concepts and personal/business finance / management as well as farming husbandry. This would be a great way for students to learn about agriculture and personal/business finance etc in my classroom which is something they do not have much knowledge or skill in.



#### COTS (COMMERCIAL-OFF-THE SHELF GAMES)

COTS games are developed typically by gaming companies. They have reputations for building effective, engaging, and entertaining games. Typically, they are not built specifically for educational purposes but rather for entertainment. Having said that there are some educational-like COTS games that combine entertainment with more of an educational kind of perspective are games like SimCity Pollution challenge or Civilizations etc. I want to try using GlassLab Games Simcity Pollution Challenge in my class and tie it in with a science unit on the environment. I think that connecting learning and games this way meets many of 13 principles James Gee has brought forward as well as hits on many of the points raised by J. Trybus as to why game based learning is effective.



# Conclusion

In terms of good learning design, gamification of learning and game-based learning are more effective at deep learning outcomes than traditional teacher and textbook centered learning models in my opinion. Although there are and always will be challenges with use of technology/devices etc, as well as teacher/student acceptance and familiarity, I think that if done properly, student learning and curricular outcomes can be maximized to their greatest potential. I firmly believe that innovation in learning today includes technology and teachers, students (their parents) as well as school boards as agents in the movement towards meeting the needs of all learners in the most effective way possible.

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