Playing Games in Class

A beginner's guide for Higher Education

Tamara Eyster

Abstract

Playing Games in Class is not a new concept, even though the research has been growing on this topic. The question most educators have is not how good or effective games are for learning, but "how can I put it in my class without spending more time, money or energy than I really have?" We will play this game and all come out winners.

Much of the research on using games to facilitate learning has been done with students in K – 13, with traditional first-year college students classified as 13th grade. These students are at the 'child-level' where game playing is expected and encouraged. Many adult learners, however, consider game-playing to be something to be done in their spare time and many feel that they do not have the time for it.

When learning can be made fun, students will be in a more relaxed mind-set. This will allow more learning to take place. As a math instructor, I have seen that the more a student stresses about learning the material, the less material they actually retain. One of my teaching goals has been to make learning low stress, so that it is more enjoyable and so is easier to retain and re-use.

The research that has been done that includes Higher Education students, shows that most fall into two main categories in regards to using games with learning; those who like it and those that feel it is a waste of time. When adding games into the class, it may be necessary to convince this latter group of the benefits. One of the benefits is a different way to look at the material, another benefit may be that the game will show how the material can be applied.

There are many different definitions for the word "game", for the purpose of this paper we will use a definition from Game Theory in the field of Mathematics: a game is the way a situation is represented in which the outcome depends upon the choices of the participants (Borowski, 2006). It is also important to keep in mind another important

idea of a game: "… it depends on your point of view. … In every job that must be done there is an element of fun. You find the fun, and SNAP, the job's a game."(Stevenson, 1964)

With the above in mind, any learning activity can be considered a game. The next important point would be to add in fun or engagement. This is important; if the students do not feel compelled to play, in a pleasant way, why would they do it? The problem again is everyone has his or her own meaning for fun, and not everyone will think learning belongs entwined with fun. When making games, the author should follow the adage: "Write what you know".

There are many types of games, and not all of them may be suitable for all classes. Also, some things that are not considered games may be good learning activities that are more fun than the basic methods. Traditional games include board games, dress-up games, sports, card games, role-playing, as well as others. Electronic games include hidden object, matching, shooter, role-playing, and many others. Other things that are good for learning activities include crossword puzzles, jigsaw puzzles, models, scavenger hunts and others. The only real limit here is the imagination of the author so that the activity is not just the traditional learning activity.

The first time I remember introducing a 'game' into class was on a review day. We all needed a break from the Pre-Calculus materials, so I brought in copies of logic problems and color by number puzzles from that month's edition of Games Magazine.

The students couldn't understand how it pertained to our topics, and directly it did not. However, it did sharpen their problem solving skills, which boosted their confidence in the course.

In math classes there are a lot of vocabulary words, but rarely are those words specifically tested. I started making crossword puzzles so students could test their knowledge of these words. I just used free crossword puzzle makers that I found online, which would allow me to copy and paste my definition and answer, then print it. Some sites required a little bit of finagling to get the layout that I thought worked best. Eventually, I found out about Quiz Game Master, which has site licenses available. In math, I found it was still really only useful for vocabulary quizzes, but it is more of a game than the crossword puzzle format.

Bringing a game into a class can sometimes prove challenging. There are students who don't want to try it, it may not be feasible to have 30 students play dress-up online, and should 30 people play charades or Bull in class? It is important to decide the type of game and how to use it in class. Another option is to have the game outside of class, then discuss the results during class.

Some game types are better for different types of materials. There are various quiz games for review or practice. However, the more the learning objective relies on the game structure, the more engaging it can be to the student. Simulations for nursing, adventure games for solving situations, explorations for learning new concepts, and

many others can be thought about. There are some commercial entertainment games that already have elements that work with learning objectives in some courses.

After one has decided to make a game, the next task is to pick a particular learning objective, and decide which type of game would work best with it. Will it be synchronous or asynchronous, will it be electronic, paper or face-to-face, will there be a discussion component? Some electronic games are based on other types of games including board games, mystery games, even the 'choose your own adventure' books.

I am most familiar with making electronic games, but some of the ideas would still work in a classroom. Some electronic matching games are based on the memory card game; match the two cards that are the same. With the electronic version you can have a word on one card and a definition on the other; this works well with some math concepts, language skills and other vocabulary based lessons. To make it a paper version, just print the cards.

Simulations can also be done in a class, 'Let's Pretend' is a game many remember from childhood, and in some courses it is called a "Word Problem" or "Story Problem", but if it can be brought to the students in a simulation method, the stigma of "I can't do word problems" can be avoided. Adventure games can also be used to explore topics, ideas or "what went wrong in history".

The incentive to win is a very important part of any game, just as a learning outcome is an important part of any lesson. If the student can eventually get through the game just by clicking, it does not reinforce the learning outcome. It will also be important to come up with how to reward the winners. Most games have a point system, even the adventure games. The point system allows for different levels of winning and to show improvement if played multiple times. Some people may want to compare these scores, but should there be competition or co-operation with the games? It depends on the situation.

There are many different types of support that must be provided to students if electronic games are to be incorporated into a course. The two most important forms of support are 'how to play' and 'what to do if it's not working'. Game support must be available to students, in case they get stuck at some point. Tech support also must be available to students, whether it is the instructor or the tech support provided by the creator, if created by someone else. There is also the option of "play at your own risk" for those that are suggested to students, but not tested.

Before I started writing this paper, I did not realize there was so much interest and research on this topic. I have found tons of sites that offer ready made educational games, which can be incorporated into both online and face-to-face classes. There are also a few places that have templates to build games. Warning, most of the games and information is for K – 13, not true college level students. There are some for Higher Ed,

but the way to find them is to explore. There are also numerous conferences held where education and gaming get together. I have compiled some information and links at math.ramshillfarm.com and will add more as I find them, just look for the "Games & Higher Ed" portion of the site.

If games are to be played in class, make sure all the parts necessary to put it together are carefully considered. Some of the questions to be asked to successfully implement playing games in class include: which type of game, what type of learning, which learning objectives, and what type of feedback or scoring system. How will the game benefit the student is the most important question. If there is no benefit, is there a point to playing the game?

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