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Increased Student Incentive through Material Gamification

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## **Increased Student Incentive through Material Gamification**

### **Introduction**

Often said is that "life is not a sprint, but a marathon". The adage is also true for academic endeavors, where the student should not be prepping for a blast of classes to finishing in a timely manner, but for the steady, even slow, absorption and formation of higher level thought at the level of study he/she has entered. Students that may not have the full grasp on the longevity of the study, or those students that lack the desire to continue for such a long study may need more directed methods of motivation. A great start to motivate students is to bring the classroom to the students— where they are comfortable. Not literally, but in the form of making the classes more fun through gamification of lectures and quizzes.

### **Gamification**

Approaching a challenge should be seen as many Olympics approach their craft. Olympians see the torch and feel amaze at its tradition, see their competitors as worthy opponents, peers in a world wide endeavor to be the best. This drive is symbiotic, as it pushes all competitors to be the best, to get the glory of the Golden medals. This is the essence of playing games. The thrill of seeking the title and becoming more that when you started. In the classroom this is possible. In an overarching view of academia, it is true that students become more on a daily basis. Students refine their own craft, their studies, to become more knowledgeable; perhaps even to become the best in the field. This is however, on a macro scale approach. Day to day between classes, it may be challenging to keep one's sight on such a large over arching life goal. The minute details are easier to see and focus on – does my pen have ink, will my bus be on time, will my classmates pull

their weight in this project?

Instructors can harness the innate fun of gaming that captivates attention so easily and embed it in those day to day tasks, such that the focus and thrill is brought to much smaller detail and attention. That is, pull the attention of the students to focus on competing with each-other in the classroom such that the students coming in second all the way to last will not feel like they have lost, but have even gained as they challenge of the victor had pushed them into learning in a way they would not have entered into on their own accord, or entered but at a slower pace. The challenge becomes similar to a miniature coop, where instead of an entire course plan, the cooperation duration becomes the activity itself. Nonetheless fulfilling or rewarding. As indicated in the study by Burguillo where the prisoners dilemma was distinguished from the iterative prisoners dilemma such that the reward for multiple plays has to be adjusted to account for the player;'s overall reward. This adjustment changes the expected outcome of the behavior of the players. The under=lying rewards is such that cooperation with students will result in a base reward, betraying the other will result in the maximum reward, but the if both betray then both suffer. when the game is played multiple times it becomes iterative and the reward of two corporations has to be greater than a single betrayal (Burguillo, 2010). The necessity of these adjustments show that a gamified classroom can be adjusted when increasingly more data about student behavior becomes available so that they perform more in accordance with the class goal outcomes.

### **Opposing Views**

While gamification of the lecture and quiz material may be a great tool to increase the day to day motivation of students in the classroom, leading to an increased learning and retention of the material, there are those that claim such would not be the best way to motivate all student to the same end. For instance, some may claim the form of the

games may be distracting to the students to a point that they will not be able to seriously study the material. (Lister, 2015) While this is true for some students, this can be counteracted by allowing students the choice to participate in the game to benefit if they learn better by the methods, or to allow them the benefit of learning better through traditional lecture and quiz material.

Another pitfall in the gamification of the material is by having boring games to the point where it becomes distracting for the fact that the students don't care to pay attention to the game, causing a digression from the lecture material in the opposite end of the attention spectrum from the above mentioned. Uninteresting games come from careful deliberation of the instructor, as explained in (Furdu et al., 2017). In the same way the boring games are haphazardly designed, they can be avoided by carefully thinking about the intended audience, like any presentation, and then designed accordingly. After the presentation of this, the students that participated can provide feedback to inform the designer of the flaws for better experiences next iteration. So while the initial game designs may be less than appealing, the continued refinement through the guidance of the students themselves will create the engaging and rewarding environment for the students and teacher alike. As the common saying from saying from G. K. Chesterton goes, "If a thing is worth doing, it is worth doing badly." (Chesterton, 1910) With the feedback, the distractions can be tailored out of the competition such that students will become maximally invested in the content of the lectures. Similarly, if the competition is too intense, it can be toned down so the students are into at each-others throats. In contrast, if the lessons are too bland, they can be ramped up so the students engage more with each-other.

### Solution

To increase the learning and focus of students, the lecture materials and quizzes can be gamified. While not all students will appreciate the competitive game styles, the lectures and quizzes do not need to be competitive in nature. For example in the real world games, there are mine-craft and star-dew valley, which are games, but they have sandbox modes, where the game is not competitive and the player does not have the ability to lose health or resources, as they are provided in an infinite supply. The same concepts can be applied to the classroom, to simulate a sandbox feeling to the material, where the student has the freedom to "play" the material with other students or by themselves without feeling like there is something to lose in the pursuit. Similarly, there could be the competitive style games or options of the same for the students that appreciate the competitive style game. For competitive quizzes, there can be an extra 10 credit point assigned to the top 10% of students that finish among those that agree to take the competitive quiz. For the non competitive quizzes, there can be a base of one extra credit point for the students that solve the puzzle strewn throughout the questions of the quiz – like a riddle. This will be more of a game that incentivizes students to read the questions more thoroughly, as they would be seeking something akin to hidden treasure, which is a non competitive game.

To increase incentive for students that do not appreciate competitive lectures, there can be similar puzzle type activities, digital resource collection embedded in the lectures, which can then be rewarded in sort of a digital class game store. This is similar to Duolingo in the way they have a reward system for different challenges, and allows gems to be rewarded for completing language lessons which can be used to "purchase" avatar clothing, or special power-ups to aid in the language learning ('Learn a language for free', n.d.).

## Recommendations

Student incentive and motivation is crucial to their success in any goal they set. In order to assist them in achieving their academic goals while at institution of schools otherwise, it would be a good idea to assist them in the goals. A good way to help is by allowing the students a choice of participating in gamified lectures to keep their attention invested in the material, either directly or indirectly. Second is to carry the same choice into the quizzes where students will have the opportunity to view the quiz as like a quasi level to pass where they have the option to play the quiz competitively or in more of a sandbox method where the pressure from peers is not a blocker to performance. For the lectures, it will be the best idea to inform the students at the beginning of class that they will have the opportunity to compete in the material so they will have a heightened sense of attention leading up to the competition or game— that is, they have something to look forward to in the lecture rather than think of them as something to make it through and then revisit class notes later for concept memorization. In accordance with the counter to opposing views, the games should receive feedback from the students on each iteration of the gamified class material to know if there were any major disconnects with effective tools and those that could use a redesign.

In addition to making the games in the class, there can be a semester long score or reward, such as a point shop to cash in the rewards for something digital to aid in learning or to remember the competition for the duration. The shop system from the reward will work as incentive for the points that incentive the learning. the deeper and more entwined the game, the more interesting and empowering to the students it can be.

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