Intellectual Production #4

Slide 1

In this video I'm going to explore two different educational technologies – gamification and the clicker.

Slide 2

This week I read, *Examining competitive, collaborative and adaptive gamification in young learners' math learning* which was published in Computers & Education by Jagušt et al.

Slide 3

After reading the article by Jagušt et al., there are two main ideas that I took away from the article.

First…

Gamification improves the way learning takes place by immersing the learner in an experience or an activity that is seen as fun or enjoyable. It uses standard game elements (badges, levels, and leaderboards) of game play to facilitate learning. Gamification in learning assumes that the kind of engagement gamers get, can be used in an educational context by facilitating learning and influencing student behaviour. Gamification fosters engagement, motivation, and performance in learners. However, in this study not all learners were motivated to learn by the game and as the game got more challenging for learners, the performance levels dropped and learners grew more frustrated.

Second…

Flow theory can explain how gamification can improve learning. Games designs should emphasize the challenge-skill dynamic. Flow experiences are enhanced when individuals use their skills and knowledge to meet a challenge. The findings in this research study were consistent with flow theory, in that the best engagement and performance appear when a game player is challenged at levels aligned with their skills and knowledge.

Slide 4

Gamification supports different communication methods in the classroom. Gamification allows learners to receive immediate feedback from the game they are immersed in. Reporting of games scores allows learners to see their score in comparison to the class, this provides them

with the opportunity to improve their performance and also allows them to see that they are not the only ones facing challenges when they don't succeed. Gamification allows learners to achieve a higher level of understanding a skill by succeeding in challenges that are of higher mastery than required for a learning outcome. Finally, progress indicators allow learners to collaborate individually and as a group.

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Quote:

As an educational tool, gamification is used to facilitate learning, to encourage motivation and engagement, to improve learning participation and lesson interactivity, and to stimulate learners to expand their knowledge. When implemented properly, gamification can increase intrinsic motivation and engagement and represents a powerful tool for teachers at all levels in the educational system (Jagušt et al., 2018, p. 1).

Read:

Gamification, when used correctly, fosters competitive, collaborative, and adaptive learning opportunities for students. These learning opportunities can improve learner participation by motivating and engaging them in an alternate way to achieve a learning outcome.

This quote represents the article because it provides a context to the research study conducted. Gamification interests me because it is an educational tool that I haven't explored in my own teaching practice. Teaching in higher education specifically in the Faculty of Business, I feel, the learning outcomes my learners are trying to achieve, don't often encourage the inclusion of gamification opportunities. I've used gamification methods to encourage learners to learn keyboarding skills, which is often received with mixed reviews from business program learners in my classes.

Slide 6

This week I also read, *Clickers in the Large Classroom: Current Research and Best-Practice Tips* which was published in CBE – Life Sciences Education by J. Caldwell.

Slide 7

After reading the article by Caldwell, there are two main ideas that I took away from the article.

First…

There is a wealth of journal articles that explore the use, benefits, and outcomes of clickers. Most academic research agrees that clickers improve exam scores or passing rates, student comprehension and learning, and that students like using clickers in their learning experiences. Generally, the use of clickers as a teaching tool have offered an efficient means for educators to facilitate peer learning, monitor learner progress, and intervene when learners are confused or has less understanding of a concept. Clickers have improved, or not harmed, exam scores in learners. They have increased the likelihood of active participation and engagement during lectures for learners. When linked to grades, clickers have increased attendance, increased student attrition due to learners attending class more frequently and because they attended class were more prepared for examinations. They have decreased content coverage that an educator covers during a lecture but increased just-in-time-teaching opportunities for educators using clickers. As well as, provided the learners with a perspective that their teachers were more aware of their needs and teaching style. Clickers have increased educators' attitudes towards the use of clickers due to being able to check learner understanding quickly and conveniently.

Second…

In order for clickers to be an effective educational tool, the questions asked must be asked in a thoughtful way. It takes practice to develop clicker questions. There are a number of suggestions to ensure the effective use of clickers in a class. Including:
- planning out why you are using a clicker during class
- explaining to your learners why you are using a clicker during class and how it will affect their attendance and grades, if you plan on linking clicker questions to their overall attendance or grade
- encouraging class or group discussions and encouraging class discussions of incorrect answers
- teaching learners how to use the technology and providing them time to download or purchase the technology you are going to use in class
- keeping a log of clicker questions that lists effective questions and ineffective questions that may need to be re-worded

Slide 8

Clickers support different communication methods in the classroom. According to Caldwell, clickers allow educators to pose questions to learners and based on the instant responses from learners, allows the educator to make on the fly instructional choices. Clickers maintain learner attention during a lecture and allow for immediate feedback from educators and peers. Clickers promote active engagement during a lecture and allow educators to check for immediate understanding. Clickers encourage participation, discussion, collaboration, and engagement from learners and allow educators to adapt their teaching to meet the needs of their learners. Finally, clickers allow shy and unsure students to participate in class anonymously, providing the learner with a safe space to give a wrong answer.

Slide 9

Quote:

Uses of [Audience Response Systems or Clicker] technology vary widely and include spicing up standard lecture classes with periodic breaks, assessing student opinions or understanding related to lecture, increasing the degree of interactivity in large classrooms, conducting experiments on human responses, and managing cooperative learning activities. Students and instructors who have used AR systems are generally positive and often enthusiastic about their effects on the classroom, and many researchers and educators assert their great potential for improving student learning (Caldwell, 2007, p. 1).

Read:

Clickers can improve standard lectures by providing a learning experience that help the educator assess learner opinions and understanding, increase interactivity between learners, and encourage and manage cooperative learning activities between learners and educators. Generally, educators and learners who have used clickers as a learning experience note positive learning effects and great potential for improving overall student learning.

This quote represents the article because it provides a context to the research conducted. The use of clickers as an educational tool, interests me because I use them in the classes I teach. I was particularly interested in learning about how to write effective clicker questions and the best practices that outlined how to use a clicker effectively with learners. I often use clickers questions to gauge student understanding of a concept, start class discussions, provide learners with a break from a lecture, and to make on the fly instructional choices. After reading this article, I would like to integrate the use of clickers into student participation, as well as, will keep a better log of the click questions that I use and how effective they were during my lectures.

Slide 10

There were many similarities for using gamification and clickers as teaching tools. They both provide opportunities for collaboration with peers, learners to receive immediate feedback, shy or unsure learners to get the wrong answers and allow a safe space for them to get the wrong answers, and educators to monitor learner understanding.

How does educational technologies change pedagogical interactions between educators and learners?

References

Caldwell, J. E. (2007). Clickers in the large classroom: Current research and best-practice tips. *CBE—Life Sciences Education, 6*(1), 9–20. https://doi.org/10.1187/cbe.06-12-0205

Jagušt, T., Botički, I, So, H.J. (2018). Examining competitive, collaborative and adaptive gamification in young learners' math learning. *Computers & Education, 125*, 444-457. https://doi.org/10.1016/j.compedu.2018.06.022