Learning Formats

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Abstract

This paper is an overview of various learning formats. Face to face instruction is very adaptable but not very scalable. Distance education has made huge strides in recent years. Asynchronous distance education courses allow for non-traditional students receive instruction, but they can seem impersonal. Synchronous distance education can help bring a face to face feel to a distance education class, but it also has some of the same disadvantages of both formats. Massive open online courses are inexpensive courses that are provided for many students, but they have a low retention rate. Intelligent tutoring systems can provide targeted instruction to learners but may not be the best tool for higher level learning. Blended classrooms are a combination of the technologies above. Each learning format has unique advantages and disadvantages for different learners.

Keywords: Face to face instruction, online learning, synchronous distance education, MOOCS, ITS, blended classrooms

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The rapid advance of technology has led to significant changes in how students are taught. This report will discuss the advantages of face to face (FTF) classrooms. Then it will does various distance education formats, online classes both synchronous and asynchronous, Massive Open Online Courses (MOOCs), and intelligent tutoring systems and how their unique strengths can benefit students. Finally, this paper will discuss blended classes, the combination of online and in person classrooms, and how they have changed modern classrooms.

Face to Face (FTF) Classrooms

Figure 1. Titled *Kids in my Class* (Unknown)

In order to discuss online learning, it is first important to understand the advantages and disadvantages of traditional FTF classrooms. While distance education technologists and educators have done much to close the gap in the communication between members of a class, for most students, it is easier to share "perspectives, disagreements, and emotions" in a FTF class (Aoun, 2011). An experienced instructor can read the verbal and non-verbal cues of a classroom and immediately adapt depending on the needs of a class.

This communication advantage extends to interactions between students. Online students often feel that the "lack of social interaction – and the accompanying need to be self-motivated to get their work done – can lead to feelings of isolation" (What Happens to the Social Aspect of Learning in an Online Course?, 2017). Outside of the classroom, traditional educations have "campus organizations, service learning, sports, school-spirit activities, and other experiences" that help "strengthen… [student's] identities and preparing them for the professional world" (Aoun, 2011).

Distance education struggles with traditional assessment methods found in a FTF class. At the moment, “automated quizzes and learning analytics” cannot “provide a sophisticated assessment of problem-solving and integrated skills application abilities” (The Massive Open Online Professor, 2012). It is far easier to provide a consistent testing environment when everyone is in the same room, which is very difficult to give online.

Traditional learning methods have their drawbacks. As an educator, the writer of this paper has seen far too often instructors in FTF situations, hired not because of their experience, but because of the lack of qualified instructors locally. In the industrial secondary education system, teachers often have to teach and repeat themselves several times a day. It is hard to keep the level of instruction consistent between periods due to classroom dynamics, fatigue, and random disruptions. In distance education, an instructor can perfect their lessons to the best of their ability and only release the most refined version of a lesson.

Online Learning and Distance Education

Online learning has made significant strides in the last decade. Once thought of as “easy way out” now well designed online courses can be as rigorous as traditional instruction (Andriotis, 2016). This section will be an overview of the advantages and disadvantages of distance education as a whole. Later parts of this paper will discuss the subtypes of distance learning courses.

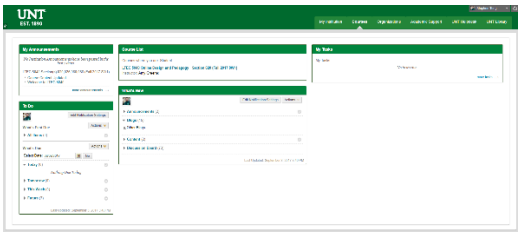

Figure 2. Backboard interface as seen for the course this paper is written for

Distance education is rapidly growing for good reasons. The format far is more accessible for non-traditional students, especially individuals who “juggle work and home” (Andriotis, 2016). When coupled with discussion boards, this provides opportunities for a wider variety of viewpoints.

Due to a larger pool of students, professors can teach courses that generally might be available due to low enrollment. Distance education can be more economical both for students and learning institutions. Distance learning is a boon for homeschooling students and parents, providing them a curriculum that is both rigorous and aligned to national standards.

Asynchronous Distance Education

Communication in online classes has many advantages over the traditional classroom. Due to the relative anonymity of students, online learning can "foster a higher and more balanced participation among learners of varied backgrounds . . . masking various social barriers such as age, gender, social status, and language proficiencies" (Miyazoe & Anderson, 2011). These communication benefits are even more pronounced in Asian cultures where students are discouraged to "criticize the writing of others to preserve group harmony" (Miyazoe & Anderson, 2011).

Conversely, just because a student may express a diverse viewpoint, that does not mean this opinion is read or accepted. Often students criticize online learning because they may experience "isolation and poor student-teacher communication" (Bernard, et al., 2004). Moreover, courses such as science laboratories remain challenging to replicate online. Furthermore, technical difficulties such a poor internet connection can interfere with a student's learning experience.

Despite many of the innovations of distance education, online courses tend to have far more retention problems compared to a traditional classroom (Bernard, et al., 2004). This retention gap may be because non-traditional students, such as working people, often have an additional set of priorities that traditional students do not have. Thus, they are more likely to drop out due to their schedule. Moreover, the act of traveling to a class may make FTF students feel

more invested in their class. Several technologies have been used to try to minimize these disadvantages.

Synchronous Distance Education

Teleconferencing can give online learners a more conventional classroom experience. Unfortunately, retention rates in these courses tend to be higher than that of asynchronous DE courses (Bernard, et al., 2004). Many students feel that "synchronous DE is a poorer quality replication of classroom instruction; there is neither the flexibility of scheduling and place of learning nor the individual attention that exists in many applications of asynchronous DE" (Bernard, et al., 2004). However, these studies are have found a large range of "heterogeneity in findings" between these classes (Bernard, et al., 2004).

Massive Open Online Courses (MOOCs)

Massive Open Online Courses are "usually free, credit-less and, well, massive" (Pappano, 2012). These courses often have thousands of students and cost very little to attend. As expected, retention in these courses is very low. Currently, few MOOCs provide traditional institutional credit. However, more conventional courses have incorporated some of the elements of these MOOCs into their curriculum. The additional content from MOOCs can be especially beneficial for courses taught in developing countries and remote areas where students have limited access to high-quality lectures and facilities.

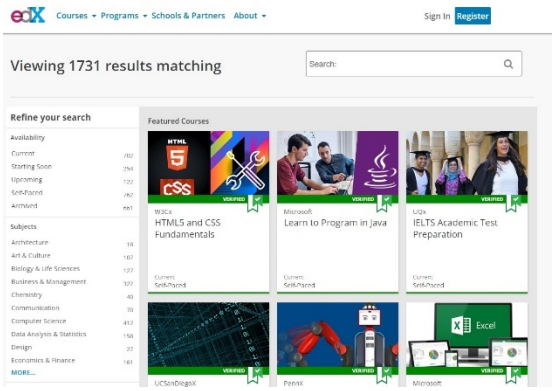

Figure 3. EduX as of 9/3/2017 at 4:20 PM CST one of the major MOOCs

Intelligent Tutoring Systems (ITS)

Instead of trying to replicate the traditional classroom, intelligent tutoring systems are software programs that teach students particular skills. For example, instead of drilling a student

on a standardized set of math problems, intelligent tutoring systems (ITS) provide students with questions that target the areas that learner's needs. Programs like these work well for basic skills such as reading or basic mathematics. It remains to be seen how well ITS can do with higher-level problem-solving.

Blended Learning

Instructors can use different combinations of these technologies to best suit their students. In some university classes, lecture time may be reduced but not eliminated. Students use online components to supplement their learning. Flipped classrooms are a trend in K-12 education in which students watch short video lectures at home while doing activities at school. Even the traditional classroom is augmented with software packages like Canvas, Moodle, or Google Classroom. Studies have shown that "students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction" (Blackboard, 2009).

Conclusions

Ultimately no matter what learning format is used, well-designed lessons. regardless of their format are far more effective than poorly designed versions. To achieve this, both instructors and learners must have passion, work hard, and have a willingness to experiment. As technology continues its advance, it will be interesting to see what new forms of learning formats might be on the horizon.

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Great job on the very informative paper. The most valuable piece of feedback I can offer is to make and stick to an outline because it is so easy to get off subject as new thoughts and ideas (important ones that you know must be included) jump in your head as you are writing.