Evolving technologies have impacted learning in the asynchronous and synchronous online world. An examination of the asynchronous online world is conducted and a review of the existing hypotheses surrounding learning is assessed. New technologies are assessed and suggestions are made as to how to use these technologies to create dynamic online classes.

Introduction

Online learning, distance learning, or virtual classroom are phrases which describe taking a class on the Internet. Delivering
online education has its challenges and rewards. Traditional brick and mortar colleges and universities offer students face-to-face contact. Asynchronous online classes remove that element. However, technology can help instructors bridge the gap between face-to-face contact and online classes. The element of human interaction is not lost in the virtual world. Technologies such as PowerPoint, Instant Messaging, Skype, Jing, and Animoto can bring the classroom into the student’s living room.

Jeffries (2011) traced distance learning back to the 1700s when correspondence courses originated. In 1892 Penn State University introduced one of the first correspondence courses to nontraditional students (Banas & Emory, 1998). These students could obtain degrees without attending on-ground classes. In the 1900s distance learning evolved to include a variety of technologies used to deliver education. Instructional media, such as tape recordings and interactive TV, were used to educate students unable to attend in a traditional classroom. The emergence of the Internet in the 1990s allowed colleges and universities to begin the creation and development of online classes.

Technologies used in online classes can be grouped into two categories: synchronous and asynchronous (Hrastinski, 2008). Synchronous learning requires all learners and instructors to be present at the same time. Classes are delivered through technologies such as web conferencing and live streaming, which allow users to connect into a live web conference. Asynchronous learning allows users to access material from a central site with no designated time assigned to it. E-mail, message boards, and blogs are the main modes of asynchronous communications (Hrastinski, 2008).

Some authors argue that the traditional classroom cannot be compared to an online classroom. These authors propose that the online classroom experience lacks vital elements that convey an effective learning experience, leaving students less engaged or motivated in the learning process (Bigelow, 1999; Clark, 2001; MacKinnon, 2000; Ponzurick, 2000; Thach, 1995). Other authors support the equivalency theory (Simonson, Schlosser &Hanson, 1999), which states that the closer the online classroom is to the traditional classroom, the more the results will emulate one another. Therefore, the results of face-to-face contact in a traditional classroom as compared to face-to-face contact via a form of technology should result in similar outcomes. If technology is used appropriately, the online experience can be as rich as the traditional classroom (Brower, 2003). According to Trier (1996) “interactive video versus videotape versus ‘live’ instructor has little effect on student achievement as long as the technology used to deliver the content is appropriate and all participants have access to the same technology” (para. 3).

In a study conducted by Hrastinski (2008), asynchronous and synchronous online learners were interviewed and a comparison was made of their opinions about the type of learning they received. An analysis was conducted on their perceptions of communication and the type of education they received.

The results of the study revealed that synchronous learners felt more motivated and aroused due to real-time conversation because it was similar to face-to-face contact. Whereas asynchronous learners believed they could reflect and cognitively process information more due to the lack of verbal and face-to-face interaction. Both groups thought their learning could be enriched and more effective if both types of e-learning were blended together.

Two hypotheses are in play concerning the impact of online learning on the student. The two hypotheses are Media Naturalness and Media Richness. Kock’s (2005) hypothesis about Media Naturalness states that decreased face-to-face contact in learning increases cognitive ability. The Media Richness hypothesis postulates that humans prefer face-to-face contact that involves communication and technologies that deliver face-to-face contact, or as close as possible; this contact proves more effective (Daft & Lengle, 1986) A large number of studies exist that support both hypotheses. This leaves room for future studies to investigate e-learning that incorporates the use of technology that uses audio and video to bring in an enhanced form of human interaction in asynchronous learning.
Asynchronous Online Learning Technology

Audio

The use of audio in asynchronous classes can establish a caring environment and assist those who are auditory learners. Using various forms of audio software in the asynchronous classroom to engage learners, one can discover many positive outcomes. Software such as Jing and PowerPoint allows instructors to pre-record, save, and post those files to the online class or send them individually to students.

Jing software is owned by TechSmith (2011). The software has a wide variety of uses, including screen sharing and audio recording. Jing software is compatible with both Mac and Windows and can be downloaded in minutes. TechSmith (2011) offers a variety of packages available for sale with enhanced services like more audio recording time. The free downloaded version allows users to prerecord and capture a screen shot for up to five minutes.

Jing software allows instructors to provide weekly audio feedback to individual students, assisting them with both positive and constructive feedback. Using Jing or other audio software, along with the written comments in an assignment, allows a personalized touch. Sometimes written feedback can be perceived as harsh. Jing allows the instructor to connect with the student, personalize the feedback, and add that extra human element through verbal contact. Students enjoy listening to the feedback and find that the audio creates a connection with the instructor. The instructor becomes an actual person and not just one that sends weekly written feedback and posts grades.

Jing software also can be used to provide mini-lectures to students. A prerecorded lecture of five minutes or less can be used to highlight the assignments for the week, clarify information, and answer common questions students may have. A file can be attached in the announcement and made instantly available to all students.

Jing software is easy to learn due to the user-friendly icons. However, if some students find it difficult to learn, the instructor may want to post directions in the classroom.

Microsoft PowerPoint has a feature that allows sound to be embedded in a presentation. This feature allows an instructor to embed a story in a presentation that represents the material or can be used as an instructor’s biography. Exhibit 1 is an example of how one slide with several pictures and sound can tell a story. In an online class, students can click on the sound button and hear the instructor speak.

Exhibit 1

The addition of sound to a PowerPoint slide is easy. A sound file can be created, saved, and attached in multiple presentations within minutes. One can be creative and use this feature in multiple ways to build a dynamic classroom.

Animoto (2010) is a web application that allows the user to make videos using photographs and music. A free basic application version can be downloaded that allows the user to create a thirty-second video. This is an ideal application to use for biographies. The user uploads photographs, adds text, selects a background and music, and then sends it to Animoto (2010) to create the video. In a matter of minutes, an outstanding video is created.
and can be instantly exported to YouTube, Facebook, a personal website, or the online course. This is a simple tool used for creating dynamic lectures with all types of media. Assignments can be given that allow students to use Animoto (2010) as a substitute to PowerPoint. This technology has allowed the quality of presentations to reach new heights.

Live Video

The use of video in the asynchronous world can add a new dimension to the classroom. Technologies such as Skype and WebCam Central can present an interactive approach. WebCam allows a user to prerecord video messages and attach those messages as a video file in the classroom. This has been found to be a useful tool to replace written lectures; instructors can record their lectures and attach them to the classroom to be viewed at the student’s convenience.

Skype is a software application that can be downloaded for no charge and used to make free video calls and to send instant messages to other Skype users (Skype, 2010). Additional features are available, such as the group video calling feature that allows multiple video calls to be merged together, much like a conference call. An instructor can use Skype to hold office hours and interact with students who are Skype users. If several students have the Skype group video calling feature, they can work on group projects together. Skype allows the asynchronous online world to enjoy virtual face-to-face, real-time contact.

Future Research

Opportunity exists for additional research to be conducted in the area of asynchronous learning. A review of the literature reveals that limited studies exist on the impact of technology in asynchronous learning. Both qualitative and quantitative analysis should be conducted in asynchronous online classes to support the levels of student satisfaction associated with each.

Surveying students in asynchronous classes and gathering data that identifies effective technological methods will be helpful in this process. Research could also be conducted to analyze the extent to which technology-enhanced learning has created a social, caring environment that contributes to a student’s learning experience. This information would contribute additional support for proven practices that work in the asynchronous online world.

Conclusion

The use of technology in the asynchronous world can enhance the learning experience. A variety of technologies exist that can be used to create an interactive personal classroom. Several options exist for sharing audio and video to enhance adult learning in online modalities. Further studies are needed to identify the optimal ways that these technologies, as well as other emergent trends, can be used to further authentic student learning.

References


