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Recommended Citation

Jacobs, Pearl. "The Challenges Of Online Courses For The Instructor." *Research In Higher Education Journal* 21(2013): 1-18.

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The challenges of online courses for the instructor

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ABSTRACT

Universities across the country are steadily increasing their use of online courses. Society's demand for lifelong learning will encourage the advancement of distance learning. Research tells us that today the average person changes careers every ten years. In addition, the U.S. Department of Labor estimates that about 10% of workers change jobs every year. These trends suggest a constant need for continuing education and re-education. The online delivery of education is well suited for this. To be effective, however, there are several required components. This paper will review some of these essential components.

Keywords: interaction, reflective learning, transformative approach, collaborative learning.



INTRODUCTION

The students of the 21st century have grown up with computers and the Internet. They have experienced the world in ways that students of previous generations could never have imagined. They want to see the application of knowledge immediately since the world is moving so fast. Rapid technological changes foster rapid social changes. The importance of a Bachelor's degree in this new era is apparent. "A Bachelor's degree is one of the best weapons a job seeker can wield in the fight for employment and earning" (Carnevale, Cheah, and Strohl, 2012, p.3). Research indicates that by the year 2018, 63 percent of positions in the workforce will require some level of college education. Given the pace of modern society, online learning is an appropriate addition to the 21st century educational system.

Universities across the country are steadily increasing their use of online courses as a means of generating lifelong learning. Lifelong learning has become a way of life because of the dynamic nature of modern day society. Clearly, this is a trend that will continue and society's demand for lifelong learning will support the continued growth of online learning. In 2002, the United States General Accounting Office stated that 84% of the nation's four year institutions offered online courses and 1.5 million students were taking these courses. By 2006 records indicated that about 3.2 million students had taken one or more online courses. Also in 2006 it was noted that 96% of institutions with 15,000 students or more were offering online courses (Keramidas, et. al. 2007). This growth has been made possible by the increased use of the computer. In 1990 only 15% of households in the U.S. owned a computer (Shelton and Saltsman, 2005). It has been reported that by 2008, 78.7% of households owned a computer (United Nations Development Programme, 2010).

Recent trends suggest a constant need for continuing education and re-education that is easily accessible. These trends provide further support for the continuing growth of online education. For example, research tells us that today the average person changes careers every ten years (Cetron, 2003). In addition, the U.S. Department of Labor estimates that about 10% of workers change jobs every year (DeAlva, 2000). Furthermore, people are delaying retirement (Cetron, 2003). Research has found that Fortune 500 companies are paying the tuition for employees to continue their education in order to keep up with the rapid changes in society (Markel, 1999).

In order to remain current and advance career-wise there will be increasing demand for accelerated programs. The online delivery of education is well suited for this. To be effective, however, there are several required components. This paper will review some of the steps which must be taken to ensure the success of online programs.

The Importance of Interaction and Planning

There have been many studies indicating that there is no significant difference between online and traditional courses in terms of their effectiveness in imparting knowledge. Studies have determined, however, that different teaching strategies are needed for effective online teaching (Dasher-Alston & Patton, 1998).

Engaging the student in the learning process is as important in online education as it is in traditional education. The challenge is developing appropriate methods of engagement for online education. It is essential that interaction be incorporated into online education. Research supports the fact that course satisfaction is contingent upon course interaction. The use of a computer does not insure interaction. In fact, research has suggested that the primary disadvantage reported by

students in online courses is the absence of interaction between instructor and student (Brunet, 2011). This perception can lead students to view the quality of the course negatively. The instructor must find ways to help the learner feel truly engaged in the course. Research has found that as the level of interaction in the course increases so does the positive attitudes of the students in the course (Chang & Smith, 2008). The interaction must give the student the chance to enter into discussions with other students as well as acquiring feedback from the instructor. The instructor feedback reinforces the course material and encourages the students to become more engaged in the learning process.

Interaction is not only important for course satisfaction. It is also important as a means to keep the student working on the course. In traditional course students have the face to face contact that reminds and encourages them to remain on task and complete assignments. This is not present in online courses. There is research evidence that suggests that the processes necessary for learning and knowledge retention occurs in dialogues. Learning utilizing the computer often lacks the social interaction necessary for the development of these critical dialogues (Kreijins, Kirschner, and Jochems, 2003). It is up to the instructor to use the computer creatively to provide continued interaction with all the participants in the course. Interaction with other students in the course also supports the acquisition of knowledge.

A common problem in online courses is the tendency to ignore the importance of interaction since these courses take more time to design and implement than traditional courses. Interaction in any course is an important supporter of learning. Satisfaction with the course is linked to the amount of interaction provided. How satisfied the learner is determines how much knowledge is received. Satisfaction and interaction are more likely to occur when the courses are well planned and interaction options are explained.

Planning prior to the beginning of a course is critical. Researchers describe this process as:

...developing objectives that provide learners with clear guidelines, which can be effectively achieved by modularizing or organizing course content into topics. Properly created modules assist student expectations by providing well-written directions that assist them toward remaining on a required pace and keeping track of assignment due dates (Fish and Wickersham, 2010, p. 281).

Well planned courses allow the student to focus on learning and, thereby, receive the greatest benefit from the course. The planning process also includes the incorporation of lower and higher level intellectual processing within a reasonable number of assignments. Some instructors believe that in order to achieve the same academic rigor as a traditional course, it is necessary to include numerous assignments. These assignments only serve to overload the student. They do not create a collaborative environment which is what is needed in online courses. Assignments must be consistent with the course learning objectives.

The effectiveness of an online course is also dependent upon students feeling connected to the instructor. Such an environment is made possible by quick, pertinent, and constant feedback. Instructors must take the initiative to regularly communicate with students. Students feel more at ease when they feel the instructor is concerned about their progress. Research determined, “that students who received consistent personalized instructor feedback exhibited higher satisfaction levels and academic gains compared to those students who received strictly collective feedback” (Fish and Wickersham, 2010, p. 282).

Admittedly, supplying online students with continuous feedback can present problems. It has been recommended that instructors indicate specific times during which they will be available to provide immediate feedback. It might also be helpful to post some of the responses to questions asked by students in order to reduce the responses. It might be possible to limit continuous feedback by presenting students with clear expectations of what is required in the course.

Online Student Differences

Even in traditional courses one may find that not all students learn at the same rate. Things such as age, reason for taking the course, preconceptions about the content of the course, are just a few of the factors that may affect learning. In traditional courses a determination is made of what the most significant factors might be and the course is modified accordingly. This is the same approach that should be taken with online courses.

Instructors of online courses should consider the most important factors that might affect their course. The next step is to determine if these factors do exist for their students. This can be done through online surveys. For example, a survey could be used to determine just how familiar the students are with the technology required for the course. An additional survey could be distributed during the course if the instructor notices a lack of participation by some of the students.

The design of an effective course requires a good system for interaction. Such a system requires some knowledge of the backgrounds of the students enrolled in the course. Different types of students learn differently. It is important to identify the types of students enrolled in the course in order to design an appropriate interaction system that will not only allow the student to learn but also to enjoy the experience. Researchers have identified two types of learners and described how these individuals experience an online course differently.

“Assimilators,” who preferred abstract conceptualization and reflective observation, got the greatest satisfaction from their online courses.

“Convergers,” who preferred abstract conceptualization and active experimentation, got the least enjoyment from their online courses (Brunet, 2011, p.36).

It is, therefore, important to determine the type or types of learners enrolled in the online course in order to design the appropriate interaction system.

Establishing Good Online Learning Characteristics For Students

In addition to understanding student differences and adjusting courses accordingly, it is also essential to help students develop the characteristics that will lead to success in an online course. Two such characteristics are self-motivation and self-direction (Parker 2003). Students must become comfortable as active learners. They cannot retain the role of passive learner as is so common in the traditional classroom. The online learner is obligated to participate in the learning process. They must be encouraged to analyze and think critically. They must learn to apply new ideas to the resolution of problems.

It is possible that the learner characteristics required for the online student can create obstacles to both teaching and learning. For example, some students are used to learning through interaction in the classroom. They may find that an online course does not provide them with the

support they are used to. Diversity in student experiences and knowledge and sustained interaction can be a great benefit to these students and help them adjust to online learning. In addition, a sense of being connected can be created if there are immediate responses to student questions.

The goal is to create a transformative learning environment. This means using innovative techniques and a variety of resources in the learning process. “A transformative approach to online learning may result in increased reflection due to writing and peer interaction and improved problem solving and critical thinking due to peer modeling and mentoring” (Mayes, et. al., 2011 p. 154).

The transformative learning environment utilizes various asynchronous course management tools. Perhaps the most popular among them is Blackboard. This tool provides access to course material 24/7. Students then have the time to achieve a greater understanding of the material. Researchers have suggested that this type of access increases group communication and collaborative learning. Furthermore, it provides for a level of insightful interaction not found in the traditional classroom. (Mayes, et.al, 2011).

Mayes, et al., (2011) offers a series of strategies to support online education and transformative learning. They include the creation of a course site where students have access to all materials relevant to the course. The researchers agree that audiovisual material is useful; however, they recommend that it be limited to 20 or 30 minutes. It is also important to establish appropriate norms for interaction at the beginning of the course. Finally, the researchers support the use of technology and encourage instructors to seek out and use innovative learning techniques.

One technique that is often discussed in the literature is problem-based learning. It is reported that this type of learning creates cooperation and collaboration among the students and develops and helps support critical thinking skills. The mistake that some online educators make is to believe that students all have the ability to work together to solve problems. It is up to the instructor to demonstrate problem solving and use techniques that encourage the students to work together in problem solving situations. This collaboration leads to greater student satisfaction and lifelong learning.

Adapting the Traditional Teacher to Online Teaching

The original role of the online teacher was to facilitate online discussion. The technological world advances each day. There are now virtual worlds and various other learning environments. As a result, some researchers have suggested a different role for online instructors. It is a role that focuses on, “informal, collaborative, reflective learning, with user-generated content” (Berge, 2009, p. 412).

In order to be effective as online instructors today, those involved must have continuous training and support. They must be familiar and comfortable with the latest technological developments and related software. Research has demonstrated that, “universities staying current with technological innovations results in improved online course development outcomes and satisfaction” (Fish and Wickersham, 2010, p.280). Researchers have also recommended that online instructors network with others who teach such courses whether within the same university or at other universities (Fish and Wickersham, 2010). This would keep instructors current with advances in the field.

The increasing number of online courses has made education much more accessible and involves a different approach. The online instructor becomes the facilitator rather than the provider of content. There is a shift from the traditional course which is content-centered to courses that are now learning centered involving collaboration. This collaborative discovery leads to greater student satisfaction.

Online learning creates a situation in which the instructor may not be readily available to provide feedback. This can actually enhance the learning experience for students. It forces the student to be more involved in the learning process. This includes stimulating their fellow students to learn. It forces them to depend on each other and results in more collaboration and ultimately increased learning. Online learning should encourage and support a student centered environment.

Researchers have reported that, “the teacher moves from being at the center of the interaction or the source of information to the ‘guide on the side’ (Baran et al., 2011, p.429). This means that instructors create the learning activities but the students assume the responsibility for learning by coordinating and regulating their educational accomplishments. In order for students to succeed they must understand the various features included in the online course such as chat rooms and discussion forums. Technological issues can be address through a section of answers to frequently asked questions.

There is agreement in the literature that online education is quite different from the traditional classroom approach and; therefore, must develop its own pedagogies (Baran et al., 2011). One characteristic that is often mentioned as lacking in online learning is higher-order thinking (Baran et al., 2011). This may be lacking because instructors attempt to take traditional classroom practices and superimposed them on online courses. This may be due to the limited online teaching experience of the instructors. This has the effect of making the online course less of a learning experience because often the transferred traditional approaches were not effective in the traditional course.

If instructors create an effective online learning environment, it will lead students towards higher levels of learning. Students will become actively involved in the course. Studies have shown that their involvement is enhanced by the development of course content that works in an online environment and is also applicable to real world situations. This is what encourages the development of critical thinking skills and creates the lifelong learner. (Fish and Wickersham, 2010).

Among the issues that must be considered in creating an effective online learning environment is the fact that online instructors need to collaborate. This collaboration provides the online instructor with support and assistance in the development and delivery of the online course. However, due to time restrictions, online instructors can become isolated from associates. They lose that sense of collegiality which often produces useful discussions. Research suggests that this can be remedied by, “forming communities of practice where instructors can share ideas and assist each other in online teaching” (Crawford-Ferre and Wiest, 2012, p.13).

This collaboration among instructors leads to greater critical reflection by the online instructor which in turn leads to better education for the students. Research suggests that teachers should not accept the competencies and roles created by others. Online instructors should reflect on their own roles and become critical of their own suppositions regarding online learning (Baran, 2011). Currently, roles and competencies are created by the so called, “experts” in online education. The present online instructor has limited input in this process. Research suggests that this creates the potential for instructors to lapse into passive roles (Baran, 2011).

“The notion of emphasizing standards-driven, technical, one-size-fits-all online teaching approaches is insufficient for addressing the complex educational needs of each unique online teaching context” (Baran, 2011, p.431). For example, students learn differently in different disciplines. This has to be considered in the development of teacher roles and competencies. Understanding these different learning experiences will help teachers seek out and use appropriate online technology.

Online instructors are also challengers. The challenging instructor “requires learners to integrate past experience and current knowledge and experience to reflect on and create meaningful connections with course content”(Edwards, et al., 2011, p.108). This approach helps students develop critical and reflective learning skills and increases student satisfaction. Students are encouraged to accomplish work they did not believe they were capable of. “When teachers challenge students, it propels them to be more active in their learning, to take responsibility at least in part for their achievements...”(Edwards, et al., 2011, p. 108).

The Not so Tech Savvy Students

The various social media and networking sites that students participate in have led to the belief that students are all tech savvy. This is a false belief. Recent research suggests that students are not well acquainted with ordinary desktop applications that have been taught to them (Grant, Malloy, and Murphy, 2009; Hoffman, 2010). This generation of students uses technology to communicate with others frequently. This is quite different from using technology in education.

The difference is that younger students use technology to interact socially far more frequently than students or teachers from older generations. But social use does not translate directly into educational use—it does not mean that these students are “capable of employing technology strategically to optimize learning experiences and outcomes” (Pedro, 2009:25). Even if they use the Internet to post photos or stay in touch with friends, this does not mean they know how to learn online. Nor does it mean they have the discipline to work in an academic discipline, but also to model effective use of the online environment for learning (Hoffman, 2010, p.16).

In order for students to benefit from online courses, they must be comfortable with the technology. That means that the technology employed must be user friendly. The course should be easy to navigate to the links provided. Mobile devices are suited for this task.

The Use of Mobile Devices in Online Education

The ownership and use of mobile devices has radically changed the technological environment over the last five years. It has been reported that as of February 2012, 46% of adults in the United States owned a smartphone (Pew Research Center, 2012). This is significant to online education because most students are at ease with the use of such devices. Recent research has determined that the use of such devices can improve the online learning experience by improving communication. (Fuegen, 2012). The use of such devices offer flexibility in learning as they offer access to material regardless of time or distance. This is particularly true in areas where there is no computer access.

Interaction between student and teacher and student and other students is important in the learning process. Online learning can create an impersonal and distant environment which may inhibit the learning process. Mobile devices have the potential to increase the communication and interaction among participants in an online course. They create, “diverse learning contexts with increased dialogue and communication have great potential to overcome the transactional distance divide that is inherently a part of distance learning” (Fuegen, 2012, p. 50).

The fact that these mobile devices are both portable and easily programmable allows them to create a customized learning experience for both student and teacher. Yousef (2007) has conducted extensive research on the benefits of mobile devices for online learning. He suggests several precise benefits that they can bring to online education.

- Can be used for independent and collaborative learning experiences
 - Helps learners to overcome the digital divide
 - Helps learners to be more focused for longer periods
 - The provision of course content to off-campus students
 - The provision of feedback to off-campus students
 - The provision of student support services to off-campus students
 - Student-to-student interactivity
 - Student to tutor and institution interactivity
- (pp. 117-118)

Advantages of Mobile Devices for Students

A majority of students enrolled in online learning are working full-time and juggling many activities. Mobile devices provide these students with the opportunity to access material when it is most convenient for them. It allows students to learn at their own pace thereby increasing their learning potential. Some researchers also believe that mobile learning is, “more interactive, involves more contact, communication, and collaboration with people” (Yousuf, 2007, p.121). Students are very supportive of mobile learning. They believe it provides immediate feedback and support in the online education world.

Mobile devices help students organize and share material through instant messaging and file sharing. These devices have a variety of user friendly utilities. The versatility of these devices allows students to develop and comprehend data individually as well as in groups.

Perhaps the greatest reason for encouraging the use of mobile devices in online education is the fact that the current generation of students has grown up with the Internet and is at ease using computers and mobile devices. In fact they expect to be able to use these devices for learning. This generation of students is often characterized as bright but impatient. They expect immediate feedback. Mobile devices cater to these characteristics.

It is not just the so called, “Net Generation,” who are drawn to mobile education (Fuegen, 2012). All students in general are also more at ease with modern technology. Students want to be able to retrieve course material wherever they happen to be. They want more control of the learning process. Researchers have suggested that, “learners determine what they see, hear, do, and access. Thus learners are,” in class while they are washing clothes in the Laundromat, cooking dinner, or driving to work” (Jafari, 2006, et al., p. 58). This is moving online education to an all-inclusive electronic educational environment.

Mobile devices include the increasingly popular variety of e- readers and tablets.. They are beginning to be used in online education. They are easy to use and even students with limited technical ability can use them with ease. Students using such devices report that they give them the ability to study while traveling. Course content can be pre-loaded on the device. This eliminates the need to have Internet access especially while traveling.

The Use of Social Networks to Increase Interaction in Online Learning

The “Net Generation” is interested in keeping up with the rapidly changing technological world. Education must adapt its teaching and learning approaches to be consistent with the ever changing social world. Educational institutions must make use of the new systems available to promote greater interaction and collaborative learning. The Internet is not just a form of entertainment. It is also a valuable teaching tool.

One of the major problems confronting online education is the difficulty involved in stimulating student participation in the course. Online social networks could be used to increase interest and interaction in online courses. For example, Facebook has great potential for use in online education.

It allows users to access and comment on friend’s posts in almost real time. The user home page is constantly being updated with information related to his/her list of friends, such as profiling updating, new photos uploading, adding new friends or comment posting. This allows the users to keep up-to-date on their friends, depending, of course, on the information provided by them. This feature can be very useful in an e-learning environment, allowing students to keep updated on a particular course (Rodrigues et al., 2010, p.1148).

Twitter is also a very useful social network. Users communicate in real time. The user determines who will see the information posted. Businesses use Twitter to advertise their products. They provide links to web pages where interested individuals can find additional information about a product. Using Twitter extensively in online learning would increase interaction among participants, encourage more collaboration, and result in greater knowledge acquisition.

Online learning courses already make use of YouTube, a video sharing website. It provides a valuable ready source of current information. It is easy to use and it allows easy upload of content online. It has not only revolutionized the Internet, it has revolutionized online learning.

Blogs have become very popular. A blog consists of a website that provides information related to a specific topic. The website is accessible to others who can add comments. The comments are usually arranged in chronological order. This is a great asset for online learning.

The wiki has also become quite popular. It is a type of software that allows users to collaborate on the editing of documents. The fact that it encourages cooperation and information sharing among users makes it a wonderful learning resource.

The great advantage of these various online social networks is that they encourage students to take charge of their own learning process. They are no longer passive learners. They become active learners. They are directed to solve problems through a self-regulated process. “This takes an approach of social constructivism in which the student must steer his/her own learning process” (Rodrigues et al., 2010, p.1151). The learning process begins with a problem. Students are provided with the resources and support they will need to solve the problem. Social

networks provide the environment necessary for students to engage in a collaborative problem solving learning process.

Learning comes from sharing knowledge. Someone in possession of knowledge shares it with others in order to disseminate and promote the creation of more knowledge. In this context, online social networks can play a major role in disseminating and creating knowledge (Rodrigues et al., 2010, p. 1151).

Developing a Learning Community

The development of learning communities was originally conceived as a means of reducing the attrition rate for traditional college students. Specifically to help freshmen deal with that first year of college. Instructors were more involved with the students and the courses and this encouraged greater student involvement in the learning process. There is substantial research to support the fact that students become more involved in courses when they perceive the other students to be so involved as well. (DiRamio and Wolverton, 2006).

The online education literature has many references that support the learning community as a means of creating an effective instructional environment (Rovai and Baker, 2005). If students in an online course experience a sense of isolation, they will not benefit from the course. They must acquire a sense of community. It enhances the learning process.

There is research to support the fact that students in both classroom and online learning environments benefit greatly from strong feelings of a sense of community. Students who feel alienated do not learn well. (Rovai and Baker, 2005). It is the learner-learner interaction that contributes to greater learning. This type of interaction is possible in online courses. It should be encouraged and supported. Online learning communities provide the basis for the exchange of knowledge and learning.

How does one create a learning community in an online course? This is the challenge. There is no one approach. There are various approaches. One means might be to generate virtual teams. Berg (1999) explains:

The notion of community associated by pursuits is one that is useful in relationship to education—it leads to rich connections with both constructivist learning theory and lessons learned from teams in business environments (p.33).

Connections are very important. It is an essential factor to building a sense of community in an online class. Students need to experience a connection to each other and to the course curriculum. According to Gabelnick et al. (1990) connections means “students and faculty members (recognizing) courses or disciplines as complementary and connected” (p. 19). The ability to create these connections is what stimulates a life of learning. Students who do not feel connected become stressed and do not learn as well.

Learning communities require experiences. Online education will improve when instructors move from teachers to creators of learning experiences. DiRamio and Wolverton (2006) describe such an experience.

An example of “Experience” in an online course revolves around instructor and students meeting at the home page of a famous art museum’s Web site and then entering as a group for a virtual tour. A chat room window remains open while the instructor guides the students through the museum, thus allowing for discussion about art, artists, and history (p. 109).

There is, of course, a problem with this approach. It is sometimes difficult for all the online students to commit to a specific time for this experience. This aspect still needs to be addressed. Perhaps new technology will solve the problem.

Another factor required for learning communities is responsibility. DiRamio and Wolverson, (2006) suggest that this, “refers to motivation and maturity, students being accountable for their own learning and empowered to learn in a manner that is best for them” (p.109). This also means that instructors must provide the necessary assistance. It requires frequent interaction between the instructor and the students. Another way of helping students develop responsibility is through the use of reflective writing assignments. In reflective writing students do more than just accumulate information. They try to understand what they are learning and internalize the concepts. It is important to continue to develop activities that support learning communities in online courses.

The Growing Population of Adult Learners and Online Education

Research indicates that the number of adult learners enrolled in higher education will either remain stable or increase in the current decade. Adult learners are defined as over twenty-five. (Hussar and Bailey, 2009). In 2007 it was reported that 38 percent of college students were twenty-five years of age or older. Given their numbers, institutions of higher education are developing and adapting programs to accommodate this population. Online education represents one such accommodation.

What are the characteristics of these adults? They have many roles from worker to caregiver. These many roles challenge these individuals to find the time necessary for education. Research indicates that these individuals will seek educational programs, “that provide them flexibility in time and locations for both course completion and for access to key student services” (Ross-Gordon, 2011, p.27). This need has resulted in an increase in innovative adult learning practices among traditional universities. These practices include online education and accelerated courses.

In addition to the scheduling flexibility of online education, learners also require prior learning assessment as a means of acquiring college credit. This combination makes the possibility of completing a degree more of a reality for all students especially adults. A recent study found that 43 percent of students who received prior learning credit were likely to complete a bachelor’s degree within seven years as opposed to 7 percent of students who did not receive this credit. (Klein-Collins, 2010).

Online education will become an important component of higher education in order to accommodate this growing population. The number of institutions offering degree programs entirely online will increase. A 2007 report indicated that thirty-two percent of all two and four year institutions offered degree programs entirely through online education. (Parsad and Lewis, 2008).

Knowles (1980) introduced a theoretical framework which describes the characteristics of the adult learner. These characteristics are consistent with what online education offers. Knowles called this theoretical approach andragogy. This approach suggests that adult learners possess the following qualities:

- prefer self-direction in learning,
- bring a vast reservoir of experience that should be considered in planning learning experience,
- exhibit a readiness to learn that is based on a need to know something or do something,
- exhibit an orientation to learning that is task-or problem-centered rather than subject-centered, and
- exhibit a relatively high degree of internal motivation.(Ross-Gordon, 2011, p.28).

These are characteristics that should be encouraged for all online learners.

Adapting Adult Learning Theory to all Online Learners

Andragogy can be applied to online learners of all ages. It focuses on self-directed learning. The emphasis is on having the learner take greater control of the learning process. This is the essence of online learning.

Transformative learning is an outgrowth of self-directed learning. In 2000, Jack Mezirow introduced a version of transformative learning that has received much attention. He suggested that transformative learning involves changing the students' way of looking at the world in response to, "disorienting dilemmas—situations that challenge adults' previous ways of thinking about the world and prompt them to reflect critically on previously held assumptions" (Ross-Gordon, 2011, p.28). Online learning has adopted this approach for all learners.

Constructivist learning is closely associated with transformative learning. It evolved from the work of Piaget and Vygotsky. Piaget's work emphasized individual cognitive constructivism whereas Vygotsky focused on how social systems influence individual learning. Social constructivist theorists believe that, "knowledge is socially situated and is constructed through reflection on one's own thoughts and experiences as well as other learners' ideas" (Ruey, 2010, p.707). Individuals learn from constant interaction with others in the real world. The focus is on why and how. Students are encouraged to actively participate in the learning experience by arguing, discussing, and problem solving. The instructor's job is to facilitate the learning experience. Continued engagement in the learning experience requires motivation which is achieved by designing the curriculum to reflect student learning needs, interests, abilities, and experiences (Ruey, 2010).

In constructivist online learning the instructor assumes the role of the facilitator. The tasks of the facilitator include providing feedback and summaries of class discussions, promoting class discussion when there is a lag, and urging students to provide immediate feedback to other students in order to increase learning in the course. Student participation can be encouraged by allocating a high percentage of the class grade to such activities.

There have been several models proposed to facilitate online activities. One such model was proposed by Salmon (2012). It consists of five stages. The five stages include:

1. access and motivation (setting up the system, welcoming and encouraging);
2. socialization (establishing cultural, social learning environments);

3. information exchange (facilitating, supporting use of course materials);
4. knowledge construction (conferencing, moderating process);
5. development (helping achieve personal goals). (Ruey, 2010, p. 708).

Johnson and Aragon (2003) suggested that an effective online learning environment requires a combination of the following seven principles:

1. address individual differences,
2. motivate the student,
3. avoid information overload,
4. create a real-life context,
5. encourage social interaction,
6. provide hands-on activities,
7. encourage student reflection (Johnson and Aragon, 2003, p.34).

Johnson and Aragon (2003) explain that students differ in their ability to process and apply information. This will affect their success in the course. The authors recommend the use of a variety of techniques to overcome this. They suggest the presentation of course material via a variety of formats from lectures with PowerPoints to WebBoard discussion groups as well as links to websites. Another way to deal with individual differences is to allow the students to navigate through the course topics as they desire. That is in the order they prefer. Collaborative work should also be encouraged through group problem solving exercises. This allows students to see all sides of issues.

Another factor to consider is information overload which reduces the amount of knowledge retained. Johnson and Aragon (2003) recommend following the Rule of Seven. This rule states that most people can digest seven pieces of information successfully at one time. It could be applied to online education by grouping the information into small units and giving the students the chance to comprehend each unit before proceeding to the next one. Some techniques recommended for achieving this include limiting recorded lectures to ten to twelve minute segments and the use of three component learning cycles. The first part of the cycle presents the information in various ways and the last part consists of evaluating the learning through self-assessment, peer assessment, and instructor assessment.

Interaction is another important factor. Individuals learn through interaction, imitation and reinforcement and cognitive reasoning. One way of encouraging this is to personalize the instructor. This can be done with an audio streamed welcome message from the instructor. Students can relate better if they can put a face to their instructor. Active learning also requires active participation by students in discussions. This can be encouraged by posting the questions prior to the sessions allowing the students to think about their responses. The instructor could provide comments to the discussions as well. Active learning also involves participation in some sort of learning activity. Johnson and Aragon (2003) recommend the use of think-pair- share. This involves students working in groups of two or three with the goal of having students brainstorm and integrate new knowledge.

The culmination of learning comes with reflection. This allows a person's ideas and experiences to be appraised and confronted. Reflection allows students to eliminate misconceptions," by revising their beliefs and challenging the nature of their knowledge" (Johnson and Aragon, 2003, p.41). Reflective journals which are maintained through the course are helpful. Timely and detailed feedback from the instructor is also essential.

Contract Learning and Peer Review as Part of Online Education

The concept of contract learning was introduced by Knowles (1986) as a means of organizing adult learning. It is well suited to use by all learners and should be considered a subunit of online education. It may be considered as an additional way to organize an online course. Knowles suggested that individuals learn better when learning activities reflect their life context. Employing contract learning in an online course would allow individuals to plan their own learning experience based on their own needs. The student's progress would be determined by the extent to which the student understands the material. Students would create their own learning objects and outcomes. This would enable them to, "better understand their learning style" (Ruey, 2010, p.708). They will then have, "better access to the desired course content" (Ruey, 2010, p.708). It is suggested that the learning contract be initiated in a face to face first session. This gives the facilitator an opportunity to make sure the requirements of the contract are clearly understood by the learner.

All online learning requires timely feedback and the use of contract learning in an online course reinforces this. The feedback aids the learner in the development of a self-assessment plan. The assessment process encourages students to become involved and sustain involvement in learning activities. It also encourages critical thinking and higher order thinking. It is, therefore, essential to evaluate the learner's self-assessment plan on a regular basis.

Peer review is also recommended as a means to help students understand the quality of their work. In addition to improving the critical thinking skills of students, peer review has been found to create a rigorous grading function for the instructor. (Ruey, 2010). Peer led discussions generate more significant interaction including more responses to student posts. It is helpful to have some students assume the role of co-facilitator and assist the instructor in encouraging participation. This position could be rotated among the students so as not to create too much of a burden for them. That is, students would be required to provide feedback to a specific number of other students every other week.

Theories of Learning Motivation That May Be Applied To Promote Learner Success

Motivating students to do the work necessary is critical. There is research evidence to support the fact that sustaining learner motivation can improve learner success (Simpson, 2008). Learner motivation can be sustained if students have some freedom to direct their learning. Thus, self-determination is a critical factor. This includes the choice of what to study and how to participate in the course. Online learners have been known to experience disappointment and become anxious. Focusing on motivation can help reduce such feelings. Simpson suggests that the failure to admit that students experience such feelings creates problems for the online learner and sets the student up for possible failure. Students need motivational support. In speaking about the Open University in the UK Simpson (2008) states:

For example, nowhere on its extensive websites for learners does the OU UK have anything that admits that learning can be a painful and disappointing

process. It is almost as though educators believe that admitting such feelings can exist will in itself cause learners to experience those emotions. It sometimes feels as though much distance learning support material is written with a 'perfect student' in mind, one who is already independent, fully up to speed with information technology, and ready to explore the use of blogs, wikis, podcasts, etc.-and, of course, is fully motivated to learn (p.161).

Positive psychology which focuses on what makes people happy might also provide some insight into increasing student motivation. The strengths approach to learner support is a derivative of positive psychology. It states that learner motivation is increased by stressing the importance of self-esteem in the learning process. The basic components of this approach are:

1. Individuals are most successful when they concentrate on their strengths and not their weaknesses.
2. Individuals will not be successful if they focus on their weaknesses and try to overcome them.
3. Individuals are most successful when they identify and build on their strengths and then determine how these strengths can be transferred to the skills needed for their studies (Simpson, 2008).

The question then becomes, how do learners identify their strengths? There are problems with self-identification. It is possible that individuals may not know what their strengths are. For example, a stay at home mother managing children has certainly developed time management skills which she may not be aware of but would come in handy in a learning situation. In some cases individuals may believe that asking for help in ambiguous situations is a weakness rather than a talent. It is also possible that at some time in their life they were informed that what should be perceived as strength was interpreted as a weakness. For example, a talkative child may have been disciplined in class for this action when, in fact, it could have been seen as an example of the individual's ability to collaborate with others.

How can these problems be overcome? Researchers suggest nine things an online course instructor should do during an initial contact with a student. These things include:

1. Emphasize the positive during initial contact.
2. Focus on existing assets and competencies.
3. Draw out past successes and high moments.
4. Encourage 'positive affect' (hope and elevated thoughts).
5. Identify underlying values, goals and motivation.
6. Encourage narration (life story, putting life in perspective, making sense of it).
7. Identify resources, protective factors and potentials of learners.
8. Validate effort rather than achievement.
9. ONLY THEN, if possible, talk about uncertainties, fears, lack of skills (Simpson, 2008, p.165).

Boniwell (2003) suggests that the way to use this approach is to have the instructor ask the student to talk about himself in this first meeting; the instructor would then get an idea of the student's strengths. Again, the emphasis is always on the positive thereby resulting in a better feeling about the learning experience and the students' ability to succeed.

CONCLUDING REMARKS

The literature has provided useful information for improving the delivery of knowledge through online education. Research suggests that students prefer to pace themselves through a course rather than having to adhere to a schedule. It is also apparent that online learning is as effective as traditional classroom learning. How much or how well a student learns is determined by the quality of the online instruction. If a course is well designed and well implemented, students will learn more than in a poorly designed course.

Students should never fall into a rut of just reading and posting. In order to prevent this the instructor cannot think conventionally when dealing with online courses. The instructor must develop assignments that create feedback and have interactive elements incorporated within them. If this is not done, then what is created is a correspondence course that uses email. If an instructor tries to take a traditional classroom course and fit it into an online format without significant adjustments, it can only lead to failure. Thus innovative teaching strategies, course design specific to online education, and the development of good online teaching skills are important components of quality online education.

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