An application of the seven principles of good practice to online courses

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ABSTRACT

Online learning has become a more common way to earn a college degree during the past ten years. Therefore, curriculum designers must evaluate the best ways in which to deliver information and assess student knowledge in an online forum. One way in which online courses can be designed is by using Chickering's Seven Principles of Good Practice (1996). This article analyzes the usefulness of each of the principles and suggests ways in which the principle can be implemented effectively in an online forum.

Keywords: online learning, Seven Principles of Good Practice, constructivist learning, online curriculum design, distance learning

INTRODUCTION

Online learning has become increasingly popular over the past several years. The rise in popularity appears to be the result of the flexibility of the classes in terms of location and time (Harris & Martin, 2012). When choosing online courses, students are able to attend college despite work and family responsibilities. Furthermore, students in remote locations are able to attend college without relocating.

Although the convenience of online courses makes them attractive to many students (Harris & Martin, 2012), it is important that online courses maintain a high standard of quality. Therefore, the curriculum of online courses should be as rigorous as their traditional classroom counterparts (Simonson, Schlosser, & Hanson, 1999). One way in which online courses can be designed to promote a deep understanding of the material is to use the constructivist model of learning (Gold, 2001). The constructivist model emphasizes that learners should be actively engaged with the learning material, relating the new material to previous knowledge. In this manner, the learner constructs new knowledge as they learn (Gold, 2001).

One of the most well known constructivist models is the "Seven Principles of Good Practice" (Chickering & Erhmann, 1996). The seven principles of good practice involve seven principles that an instructor can implement in order to make their course more learner-centered and increase the level of learning among students. The goal is to increase the learner's depth of understanding regarding the course material by encouraging him/her to become more actively engaged with the material. The seven principles of good practice have been implemented in both traditional and online courses (e.g., Smith & Valentine, 2012; Bigatel, Ragan, Kennan, May, & Redmond, 2012). However, studies have demonstrated that instructors in traditional courses still rely heavily on didactic teaching methods such as lectures despite their acknowledgement that learner-centered activities promote a deeper understanding of the course material (Smith & Valentine, 2012). Online courses present a unique opportunity for teachers to move from a teacher driven to a learner centered approach because lectures are not easily adapted to the online environment (Beaudoin, 2006). Therefore, the seven principles of good practice can be routinely applied to online courses in an effort to promote a deeper understanding of the material among students. In addition, online instructors should be required by their educational institutions to learn about the seven principles and should be encouraged to implement them in their courses.

The purpose of this paper is to describe the seven principles of good practice in teaching (Chickering & Gamson, 1987) and evaluate their effectiveness for traditional and online teaching. The effectiveness of the principles will first be examined through a review of the relevant literature. Then each principle will be analyzed in regard to whether online courses contain the necessary tools by which the principle can be implemented.

THE SEVEN PRINCIPLES FOR GOOD PRACTICE IN TEACHING

The seven principles for good practice were written by Chickering and Gamson in 1987 in order to summarize the results of a task force composed of university professionals and students. The task force's purpose was to examine the characteristics of effective undergraduate education courses (Bigatel, et al., 2012). The principles were originally written in regard to face-to-face learning, but have also been applied to online learning (e.g., Bigatel et al., 2012). The principles include: encourage contact between students and faculty, develop reciprocity and cooperation among students, encourage active learning, give prompt feedback, emphasize time

on task, communicate high expectations, and respect diverse talents and ways of learning (Chickering & Gamson, 1987).

Principle 1: Encourage Contact Between Students and Faculty

As seen in the above list, Chickering and Gamson (1987) state that the first principle for good practice is the encouragement of contact between students and faculty. Chickering and Gamson state that faculty need to demonstrate concern for students so that they feel supported when they are struggling academically. In addition, Chickering and Gamson indicate that faculty members can serve as role models in regard to career commitment. Research regarding students' attitudes about faculty/student contact supports this first principle. Blignaut and Trollip (2003) and Young (2006) indicate that most online students desire routine interaction with instructors and that they perceive themselves as learning more as a result of increased interaction. Students have also reported feeling less isolated when they have more interaction with the instructor (Bigatel, et al., 2012). Faculty and administrators also indicate that teacher presence in the course is one of the most important factors for success (Bigatel, et al., 2012). Finally, increased interaction between the instructor and student has not only been considered important by students and faculty, but the increased interaction has resulted in better academic performance (Gunawardena & Zittle, 1997).

Principle 2: Develop a Reciprocity and Cooperation Among Students

The second principle for effective teaching involves developing a reciprocity and cooperation among students. Chickering and Gamson (1987) consider learning to be more effective when it is social rather than competitive. They stress that students should collaborate, share ideas, and respond to each other's ideas. The collaboration would then lead to a deeper level of understanding for all of the students. Many studies indicate that students are more satisfied with online courses when they have a high level of interaction with other students (Blignaut & Trollip, 2003; Tu & McIsaac, 2002; Bachman & Panzarine, 1998). Studies also indicate that students perceive themselves as having learned more when they had high levels of interaction with other students (Blignaut & Trollip, 2003) and they felt more prepared to complete their assignments as a result of their interaction with other students (Ryan, Carlton, & Ali, 1999). Students' perception that peer interaction improves learning may be accurate, as demonstrated in a study by Wang and Newlin (2000) where students who had higher levels of contact with other students also had higher grades than the students who had little contact with other online students. Kuh, Pace, & Vesper (1997) also found that cooperation among students predicted academic gains in college.

Principle 3: Encourage Active Learning

Chickering and Gamson's third principle involves the use of active learning methods rather than relying on passive methods such as text books and lectures. They indicate that students need to relate the material to their own lives. This requires that students talk about what they are learning and write about it, not just memorize the material for tests. This type of pedagogy is within the constructivist realm. It is learner-centered rather that teacher driven. Research indicates that most college teachers recognize the need for learner-centered,

constructivist assignments, but many still do not use them in traditional classes (Smith & Valentine, 2012). In regard to online courses, faculty rate an active learning approach as one of the most relevant competencies for instructors (Bigatel, et al., 2012). In addition, instructors have found that online courses allow a unique opportunity for active learning because students often initiate their own Web research on a topic and then share the information in class discussions (Newlin & Wang, 2002). Niederhauser, Bigley, Hale, & Harper (1999) noted that their online students had improved in their ability to be self-directed and do independent research. They indicate that this is a special feature of online courses because there is so much information available in online libraries and on Websites. Thus, overall, the research indicates that online courses encourage active learning as stated in Chickering and Gamson's model.

Principle 4: Give Prompt Feedback

Supplying prompt feedback to students is the fourth principle of Chickering and Gamson's theory (1987). They describe feedback as necessary to allow students to assess their level of knowledge so they can determine what they still need to learn. Feedback can be used to focus future learning efforts. Chickering and Gamson (1987) state that students should also be given frequent suggestions for improvement. Research indicates that many online faculty agree about the importance of transparent and prompt grading as a highly valued competency among online instructors (Bigatel, et al., 2012). Young (2006) also found that students support the principle of prompt feedback. In her study, students indicate that giving prompt feedback is an important behavior for effective teachers. Although studies indicate that faculty and students place a high level of importance on prompt feedback, at least one study (Ryan, Carlton, & Ali, 1999) indicated that students believed that they could get more immediate feedback in traditional courses than in online courses. This may be because of the asynchronous nature of online learning.

In regard to giving feedback, Wang and Newlin (2000) found that they could use feedback after the first week of class in order to encourage non-participating students to become more involved in the course. The study authors used the online feature of student attendance tracking to determine how much time students spent in the online course room during the first week of class. There was a strong correlation between the amount of time students spent in the course room during the first week and their final grade. The study authors suggest that instructors should monitor attendance during the first week and provide feedback to students who have low attendance in order to help them avoid failing the course or dropping out.

Overall, the research studies regarding the use of prompt feedback in online courses are mixed. The studies indicate that students and instructors perceive feedback as an important factor for effective teaching. However, some studies suggest that receiving feedback through an asynchronous course is effective (Young, 2012) and other studies indicate that feedback in online courses is delayed in comparison to traditional courses (Ryan, et al., 1999).

Principle 5: Emphasize Time on Tasks

An emphasis on the amount of time spent learning is the fifth principle. Chickering and Gamson (1987) indicate that instructors should help students to realistically estimate how much time should be allocated to assignments. In addition, they advocate that instructors should help students to learn good time management techniques. Since many students are adults who have

jobs and families (Moore, 2003), time management is often a critical issue. Finally, Chickering and Gamson (1987) indicate that learning takes up time and therefore students have to be allocating ample time to their learning tasks if they are to be effectively learning.

Many research studies indicate that internet courses encourage more time to be spent on the learning tasks. Bachman and Panzarine (1998) compared a traditional class to a class that had traditional and web components. The students with the web components spent more time interacting with other students and doing research for the course. Other studies have found that students in online courses went beyond the assignment requirements, spending extra time on the course (Kirkpatrick, Brown, & Atkins, 1988). In addition, the number of postings in online classes has been found to correlate with the final grades in the course (Wang & Newlin, 2000). Therefore, internet courses may encourage students to spend more time on the material and perform better academically as a result.

Principle 6: Communicate High Expectations

The sixth principle of the theory is that instructors should communicate high expectations. Chickering and Gammon (1987) indicate that setting high expectations for students leads them to put forth a higher level of effort. They indicate that the instructors' expectation level for the students becomes a self-fulfilling prophecy for those students. Therefore, when the instructor's expectations are low, students are less likely to be motivated to learn. Suzanne Young (2006) found that online students thought teachers were more effective when they motivated students to perform at their best. Therefore, many students appear to want to be challenged to work hard. In addition, Niederhuaser, Bigley, Hale, and Harper (1999) found that their online students felt challenged and empowered to learn within the online forum. Finally, the constructivist approach used in many online learning classes has been shown to place a high expectation on learners (Gold, 2001) and has led to successful outcomes.

Principle 7: Respect Diverse Talents and Ways of Learning

The last principle says that good instructors present a range of learning experiences in order to accommodate students with different learning styles. Chickering and Gamson (1987) indicate that this involves using various "hands on" activities as well as lecture. Research indicates that most instructors agree that a range of learning opportunities should be offered, but that most instructors still do not incorporate a variety of learning tasks (Smith & Valentine, 2012). Smith and Valentine advocate more training for traditional and online instructors in order to encourage them to incorporate a variety of learning tasks.

One way in which courses can be made more effective is to address a variety of learning styles. For example, Suen (2005) found that her students taking an online epidemiology class were demonstrating a variety of learning style preferences. Therefore, she effectively addressed these preferences using various options for learning such as small group discussions, telephone contact with other students, and email. Other teachers advocate using case studies, power point presentations, and video conferencing (Gunawardena & Zittle, 1997).

Instructors also report that online classes also effectively assist students with special needs. For example, instructors have reported that students with learning disabilities make more of a contribution to the course than they would have done in a traditional classroom (Todd, 1998; Suen, 2005). This may be because of the increased anonymity in online courses (Suen, 2005).

In addition, shy students who would not ask questions in class appear to be more likely to participate and ask questions online due to the increased anonymity (Newlin & Wang, 2012). Thus, online learning may be particularly helpful in increasing the participation of shy students or students with learning disabilities.

METHODS OF INCORPORATING THE SEVEN PRINCIPLES FOR GOOD PRACTICE IN ONLINE COURSES

Another way of evaluating whether the seven principles of good practice can be effectively used in online courses is to evaluate whether the tools available in online learning can be efficiently adapted to the seven principals. Several educators have proposed methods by which online courses can be used to fulfill the seven principles of good practice (Billings, 2000; Suen, 2005; Newlin & Wang, 2002). However, these proposals have been fairly general and have not analyzed many individual online tools (such as discussion forums or chat sessions) in regard to how they can fulfill individual principles. Therefore, a proposal will currently be offered to demonstrate how specific online tools can be used to ensure the use of the seven principles of good practice.

Prior to the designing an online program in which the course room tools are used to promote the seven principles, an online instructor should consider two factors: the characteristics of the learners and the type of curriculum (social sciences, arithmetic, etc.). Therefore, the choice of pedagogical techniques and course tools should be made on a case by case basis, depending on the learner characteristics (Cercone, 2008) and the curriculum involved (Korkmaz, 2011).

Learner Characteristics

The majority of online students are adults with families and work responsibilities (Moore, 2003). In a survey as to what motivates students to choose to study online rather than in a traditional classroom, the top four reasons were the convenience of completing coursework at any time of day, lack of access to college campuses, family obligations, and working around job requirements (Harris and Martin , 2012). The majority of the online students in the study were over 40 years old. Because online learners are primarily adult learners, they are also likely to benefit from an experiential learning approach (Merriam, Caffarella, & Baumgartner, 2007). Research indicates that adult learners have more positive outcomes when they are given assignments that are relevant to their own experiences (Dunst, Trivett, & Hamby, 2010). In addition, constructivist practices such as evaluating and reflecting on new knowledge were also associated with positive learner outcomes with adult learners. Because the seven principles of good practice in teaching are within the realm of constructivist pedagogy and because the principles stress a learner-centered approach, they appear to be particularly well suited for online courses in which adult learners are prevalent.

Curriculum Characteristics

The characteristics of the curriculum topic should also be considered when designing an online course. Although most experts regarding online instruction advocate constructivist teaching techniques, some courses may also benefit from more traditional teacher-driven

techniques. In a survey of online college students, Harris and Martin (2012) found that multiple choice exams are still frequently used in online courses. Despite the fact that written assignments were most popular, multiple choice exams were used only slightly less frequently. Multiple choice tests may be helpful in persuading students to read the entire reading assignment rather than focusing on the one aspect needed to respond to a discussion question. In a review of literature regarding students' reading of the material, Lineweaver (2010) found that students appear to be less likely to read the assigned material before class when the material is not being formally assessed. Although this research was conducted in traditional college courses, the same is likely to be true for online students, particularly when they have many other responsibilities. Therefore, online multiple choice tests are a way to ensure that all of the assigned reading has been completed.

Mathematics courses may also benefit from both constructivist and didactic teaching approaches since students are likely to benefit from both real world problem solving and practice in manipulating numbers. A survey of online math courses indicated that students in online math classes are often administered math questions that involve a combination of constructivist problem solving and practical mathematical practice (Korkmaz, 2011). The author found that many programs are using instructor modeling of metacognition during mathematical problems and then requiring students to complete similar problems. He recommended that this be done in collaboration with other students in small online groups.

COMBINING LEARNER CHARACTERISTICS, CURRICULUM CHARACTERISTICS, AND COURSE TOOLS TO IMPLEMENT THE SEVEN PRINCIPLES

When developing a list of online activities that will address the seven principles of effective teaching, the previously mentioned learner characteristics and curriculum characteristics should be taken into account. Therefore, the most appropriate activities are likely to be relevant to the adult learner's own experience and encourage experiential problem solving. Activities should also be designed that encourage students to read all of the required course material. If discussion questions are not comprehensive enough to cover most of the material, multiple choice questions may encourage students to read more. In addition, when math or science courses require students to learn computational techniques, practice problems need to involve mathematical computations as well as theoretical problem solving. Often these types of math problems can be assessed with multiple choice tests (Schwartz, 2012).

In applying the seven principles for effective teaching to the design of an online course, it is helpful to examine each principle individually. Again, the choice of online tools should be appropriate for the learners' characteristics and course curriculum as well as for each individual principle. Therefore, the choice of tools may involve using both constructivist and didactic pedagogy. In addition, the instructor is somewhat limited by the type of Web based online program that he or she is using. Most programs are asynchronous, but some also have synchronous components such as chat rooms in which teachers and students discuss the material by typing messages to each other in real time. Therefore, the available course tools are another component to consider when applying the seven principles to an online course.

Methods of Increasing Faculty/Student Interaction (Principle 1)

Chickering and Gamson's (1987) first principle involves increasing faculty/student interaction. This can be done online by having the instructor make an online biography of himself or herself available to students. In addition, the instructor can require students to post an introduction of themselves in which they can indicate their interests and future goals. The instructor should respond to each introduction and take note of the students' interests so that they might be incorporated into discussion questions later in the course (Gold, 2001). An online course email system should be set up for private correspondence between the instructor and the students, and a public discussion forum can be designated for questions that all students could benefit from. In addition, the instructor can use an announcement system in order to relay important announcements that will "pop up" when the student enters the course room. This allows for announcements regarding schedule changes due to inclement weather or technical difficulties.

In addition to these asynchronous methods of communication, instructors can publish their phone number on the class web site and indicate when they are available for phone calls. If possible, they can hold office hours or tutorial sessions in a face to face manner at a regional campus for students who are new to or struggling with the online learning format. A more common method of synchronous communication in online courses is the online chat room. This allows students and the instructor to meet via the internet in real time. Therefore, questions can be posed and responded to immediately by the instructor. In addition, the chat room can allow for a lecture to be given in regard to difficult material.

Throughout the course, the instructor should be involved in the discussion forums with students. They should ask Socratic questions in order to stimulate students to apply their knowledge at a deeper level. Instructors can also share professional experiences that are relevant to the topics discussed in the course. In all communication, the instructor needs to maintain a friendly and supportive stance in order to continue to encourage students to maintain a high level of interaction with him or her (Blignaut, 2003).

Methods of Increasing Student Collaboration (Principle 2)

In regard to applying the principle of encouraging student collaboration, the course can involve small discussion groups and team projects. Group members must either have a group forum within the course room for discussion or should exchange contact information. Face-to-face meetings may also be helpful when possible. Groups may be asked to develop PowerPoints or other presentations that are then shared with the rest of the class. The grading of student projects might involve both self-evaluations and peer evaluations in order to assess how much each group member contributed to the team's product. Finally, in addition to group work, students can be required to read each other's discussion posts and comment on them. This will increase peer interaction, reduce a sense of isolation for students, and lead to collaborative learning. Thus online tools appear to be effective for encouraging student collaboration.

Methods of Increasing Active Learning (Principle 3)

Principle three can also be effectively applied to online learning courses. Because online learning does not easily allow for a lecture format, it is ideal for a constructivist learning

approach (Beaudoin, 2006). Therefore, students can be given problems to solve that require them to apply both the readings and their own personal experience. In addition, discussion questions can promote critical thinking and creativity. Questions can also require them to conduct library and internet searches, and then to apply their new knowledge to a sample problem. Supplementary reading material can also be made available for self-directed learning. Finally, students can be asked to present their research on a topic to other students in order to act as peer instructors to each other.

Methods of Providing Prompt Feedback from Instructors (Principle 4)

The use of prompt feedback from instructors (Principle Four) is also effectively performed in online courses. Students can ask questions through the course e-mail system and can receive feedback within 24 hours rather than waiting for a week as if often the case in traditional courses. In addition, students can receive grades and feedback on assessments more quickly through an e-mail system than through a traditional course. Instructors can also post exemplary work so that students can understand how to improve their performance in the future. In addition, instructors can use formative multiple choice quizzes regarding the reading material, which give an immediate explanation when a question is answered incorrectly. In this way, students can assess their own understanding of their reading and learn about their misconceptions. Finally, students can receive feedback from other learners and instructors through discussion posts.

Methods of Increasing Time Committed to Learning and Time Management (Principle 5)

Principle Five involves assisting students in planning their schedules as well as encouraging them to spend quality time on assignments. Research indicates that successful online learners have an internal locus of control and are effective in managing their time (Wang & Newlin, 2000). However, not all online learners are successful in this regard. Therefore, the instructor can use the course calendar, the syllabus, and weekly reminders to help students schedule and monitor their time. In addition, the college or university can implement a time management workshop as part of an online orientation program that is required prior to the beginning of the first course.

Instructors can also help students monitor their schedule by setting up assignments in a routine manner when possible. For example, when students know that they will be required to complete two discussion posts and one test each week, they can adapt their schedule to adjust for the work. In addition, students indicate that it is helpful in saving time when instructors post reading assignments in the weekly course room (Dabbagh & Kitsantas, 2005).

The other factor involving time management is the need for students to spend concentrated time on the assignments in order to improve learning. Therefore, the instructor can increase student involvement through group work, synchronous chat rooms, discussion groups, and conference calls. In addition, research indicates that students become more interested in course assignments when they are able to apply creative methods to complete them (Sansone & Thoman, 2005). Finally, one aspect of online learning that attracts students is that online learning requires less time commuting and allows one to complete course work at any time of day (Harris & Martin, 2012). Thus, the nature of online learning allows for students to manage their time more effectively so that they can devote more time to course assignments.

Methods of Implementing and Communicating High Expectations (Principle 6)

Instructors should demonstrate high expectations (Principle 6), according to Chickering and Gamson (1987). The objectives of the course and the instructor's expectation of students should be stated clearly on the first day. This can be done in a syllabus or in other introductory documents. The objectives and expectations should be consistent with what would be expected in a traditional on-ground version of the course (Simonson, Schlosser, & Hanson, 1999). The list of objectives and expectations should continue to be accessible on the course web site throughout the entire course period so that students can refer to them as needed. Students should also be required to read the policies on academic integrity and plagiarism, and the policies should be posted in the course room constantly.

In regard to individual assignments, rubrics should be made available when possible. The grading system should be clearly described. In addition, a sample of exemplary work may help students understand the expectations of the instructor. Finally, the instructor should provide prompt and specific feedback in the individual assignment forum so that students can determine whether they are meeting the instructor's expectations and adjust their performance accordingly.

Methods of Accommodating Diverse Talents and Ways of Learning (Principle 7)

The last of the principles involves accommodating diverse talents and ways of learning. Online courses can be used to accomplish this in a variety of ways. First, the instructors can use a variety of learning tools such as textbooks, web sites, synchronous chat rooms, discussion forums, typed min-lectures, PowerPoints, and concept maps with web links. This variety of methods can assist in addressing learners with different learning style preferences (Suen, 2005). In addition, instructors may be able to incorporate face to face time with students in the form of study groups or tutoring sessions. This may be helpful for students who are novices in online learning or who have strong preferences in regard to learning styles.

Online learning may also be helpful for shy students or for students with learning disabilities (Todd, 1998; Suen, 2005) in that the increased anonymity may make them feel less intimidated about asking questions or joining in discussions. Therefore asynchronous discussion forums or synchronous chat sessions may be helpful for students who desire anonymity. During group discussions, the instructor can also highlight culturally relevant points regarding the course material and ask learners to share their own cultural experiences. This assists students in being more interested in the course and in learning more about other cultures. Furthermore, group work can incorporate cultural factors within case studies or problem based projects. However, when encouraging cultural discussions in the course room, the instructor must stress that students demonstrate an appropriate level of respect for each other's cultural beliefs.

CONCLUSION

Although online learning is often preferred because it allows for flexibility for adult learners (Harris & Martin, 2012), it is essential that online courses meet the same rigorous demands of traditional courses (Simonson, Schlosser, & Hanson, 1999). One way in which online courses have been effective is in using constructivist learning techniques (Gold, 2001). One of the most popular constructivist models is the Seven Principles for Good Practice (Chickering & Gamson, 1987). The seven principles were originally designed for traditional

course rooms. However, research indicates that the principles can also be effectively applied to online courses (e.g., Young, 2006; Niederhuaser, et al.,1999). Furthermore, an analysis of the ways in which course tools can be used to promote the seven principles reveals that online learning programs involve an abundance of tools that can be effectively used to incorporate the seven principles in the course design.

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