This individual study is composed of four reports.

Report #1 **Brief Overview of Learning Theory and Distance Learning Theory**

Introduction

An increasing number of Internet-based education technologies such as online discussion forum, blog, and wiki have been used in distance course design and instruction in higher education. However, effective use of these technologies to promote learning effect demands more knowledge and skills than simply shoveling slides, tutorials, and reading materials onto a web site. The knowledge on learning theory and distance learning theory is definitely helpful in instructional design of the distance courses. This paper reviews the three major schools of learning theory, behaviorism, cognitivism and constructivism, and their implications on distance learning theory and practice and gives a brief overview of the distance learning theory.

Learning Theories

Behaviorism

"Behaviorist psychology arose in the 1920s and 1930s from an attempt to model the study of human behavior on the methods of the physical sciences" (Bates & Poole, 2003, p. 31). As a result, the theory of behaviorism concentrates on the study of overt behaviors that can be observed and measured. It views the mind as a "black box" in the sense that response to stimulus can be observed quantitatively, totally ignoring the possibility of thought processes occurring in the mind (Good & Brophy, 1990). Behaviorism places an emphasis on the association between the exterior stimulus and the learner's behavioral response. As Chance (1994) said, "It is a function of building associations between the occasion upon

which the behavior occurs (stimulus events), the stimuli itself (response events), and the result (consequences)". Essential to the strengthening responses with these associations is the repeated continuous pairing of the stimulus with response and the pairing consequences (Skinner, 1969).

Behaviorism has a deep impact on the theory of distance education. Behaviorism's theory has led to the development of teaching machines, measurable learning objectives, computer-assisted instruction, programmed instruction, and individualized instructional approaches, all of which influenced the theory and practice of using technology into distance education. However, because behaviorism studies the learning process with the mechanical methods of the physical sciences and totally ignores human's cognitive ability, the great power in the learning process, "today, there has been a strong movement away from behaviorism approaches to teaching in higher education" (Bates & Poole, 2003).

Cognitivism

Cognitivism stresses the importance of human cognitive ability in the learning process and concerns itself with "the internal mental processes of the mind and how they could be utilized in promoting effective learning" (Mergel, 1998, p.15). Cognitivists see learning as an internal process, and argue that the amount learned depends on the processing capacity of the learner, the amount of effort expended during the learning process, the depth of the processing (Craik & Lockhart, 1972; Craik & Tulving, 1975) and the learner's existing knowledge structure (Ausubel, 1974).

The influence of cognitivism on educators is obvious. No matter in traditional education or in distance education, teachers pay attention to developing students' cognitive ability such

as reflection and analysis to promote learning effect. "Cognitive approaches to learning--with their focus on abstraction, generalization, and creative thinking--seem to fit much better in higher education" (Bates & Poole, 2003, p. 33).

Constructivism

Constructivism regards learning as a constructive process by the individual unique learner. According to constructivism, the learner is actively constructing his or her personal knowledge kingdom. As Carl Rogers (1969) said, every individual exists in a continually changing world of experience in which s/he is the center. Based on the constructivism theory, "learners interpret information and the world according to their personal reality, and that they learn by observation, processing, and interpretation, and then personalize the information into personal knowledge" (Cooper, 1993; Wilson, 1997). Apart from this, another contribution of constructivism to the learning theory is that it stresses the significance of cooperation in the learning process. On the one hand, learners learn not just from the teacher but also from fellow students, friends, and colleagues. On the other hand, knowledge is mainly acquired through social processes or institutions that are socially constructed: schools, universities (Bates & Poole, 2003, p. 34).

Constructivism has greatly influenced the theory of distance learning. Based on the theory of constructivism that learning is "a social process, requiring communication among learner, teacher, and others" (Bates & Poole, 2003, p.35), the theory of distance learning emphasizes interaction among learner, teacher, and learning content with the support of technologies. Researchers are studying on the media characteristics of different technological means in an effort to better use them to promote interaction in the distance learning process.

Overview of Distance Learning Theory

Compared with study on other disciplines in the humanities and sciences, theory on distance education is still in its infant stage. However, the leading theorists in the field have developed conceptual synergies. One such important concept is centrality of the learner. "The centrality of the learner is one of the distinguishing features of distance education and understanding this fact is essential for discerning why it is essentially different from other forms of education" (Saba, 2003, p. 4). Distance education is learner-centered education and demands the active participation of the learner. Unlike students in traditional classroom learning, distance-learning students have greater learner control over the pacing of the learning process including deciding when and where to learn. Moreover, some researchers found that learners differ considerably in their participation in the technology-based distance education and therefore put forward the concept of "learning styles". There are some different categories of learning styles: deep and surface learners (Marton & Saljo, 1976), auditory, visual and tactile-kinesthetic styles (Barbe & Swassing, 1979), and so on. Some researchers have advocated that distance course designers should design courses to accommodate the individual differences. However, there are some opposite voices. Their reasons include the following: it is hard to label a learner as one specific type learner; no evidence is showing that learning styles influence learning results; modifying the instruction to accommodate the individual styles will lead to dependent learners (Bates & Poole, 2003; Dillon & Greene, 2003). They put forward their solution--helping learners learn to modify their approaches to accommodate a variety of learning situations. This solution, in my opinion, is more reasonable for two reasons. First, I agree with Dillon & Greene (2003) that the so-called

"learning styles" are kind of learner traits. It is the learning approaches rather than the learner traits that influence the learning results. Further research should shift the focus from learner traits to learner approaches that improve learning. Second, even if the "learning styles" have some impact on the learning process, it is impossible to design a course to accommodate all of the possible styles.

Another important concept in distance education is interaction. Interaction is a complex learning and teaching process in all forms of education. With the help of technology such as computer and the Internet technology, distance course designers in higher education can design their courses to engage students at a distance into different interaction activities. Moore (1989) described three forms of interaction in distance education: interaction between students and teachers, interaction between students, and the interaction between students and content. Anderson (2003) extended the scope of Moore's theory by adding teacher-teacher, teacher-content, and content-content interaction.

Interaction is one of the most important characteristics of distance learning. Through designing courses using various interaction modes, teachers help students develop their cognitive ability to promote learning. By being engaged in the different forms of interaction with their teachers, fellow students, and learning content, students learn to construct their knowledge kingdom.

Conclusion

Learning theory plays an important role in guiding teachers to design and teach courses effectively. As Wilson put it, "Learning theory is an obvious source for inspiration, insight,

and new perspectives on instruction and its design" (Wilson, 1995). It also produces an impact on the evolution of distance learning theory. Theorists have put forward some important concepts and theoretical framework such as learner-centered teaching and interaction models in their efforts to develop the theory of distance education. However, compared with other disciplines in the humanity field, the development of distance learning theory is still in its elementary stage. Further researches and studies are needed to explore the complex distance learning process and discover effective ways to distance course design and teaching.

Report #2 **Internet Technologies and Pedagogical Strategies in Online Distance Course Design and Instruction**

Introduction

It has been a long tradition to integrate technology into distance education. In the past, postal service, television, radio, telephone, and fax have been used to deliver classes to adults and working people to receive higher education at the time and place convenient to them. Today colleges and universities have developed web-based distance courses as complements to the traditional classroom courses to accommodate the needs of their part-time students. Nevertheless, with an increasing number of technologies available for use in distance education, educators are faced with the challenge of how to select appropriate technological tools for distance course design. Are there any important factors to consider in using technologies for distance course design and instruction? As the Internet-based online distance course is the common mode offered by colleges and universities, this paper will discuss issues associated with use of the Internet and World Wide Web in distance course design.

The role of technology in distance education has been a controversial issue. While some insist that technology itself can promote learning, most maintain that teaching methods rather than pure technology make distance learning efficient. The study on online pedagogical strategies is still in its infant stage, but some pioneer researchers have reported their findings. This paper will explore some pedagogical strategies put forward by those researchers.

Factors to Consider in Selecting Technologies for Distance Course Design

Learner Autonomy/Learner Control

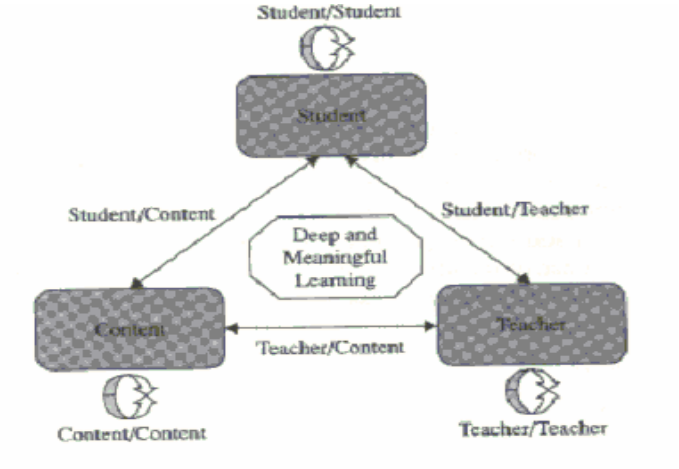
One of the distinguishing characteristics of the distance learner from the traditional on-campus learner is that the former has learner autonomy or learner control during the learning process. "Learner autonomy" refers to the amount of control the learner has over his or her learning situation (Shearer, 2003). Learner autonomy is important for the distance learner for two reasons. First, students participating in distance education set their learning goals and arrange their time and place to learn and achieve their goals. "The amount of control that the design of a distance education course provides these learners is critical to their successful completion of the course" (Shearer, 2003). Second, based on the constructivist's learning theory, learning is an active process. "Helping the learner develop the ability to be self-directed in his or her own educational experiences is conducive to interactive meaning construction and the development of learning-how-to-learn skills" (Katsworm & Yang, 1992). What is more important, Katsworm and Yang (1992) pointed out that learner control can be a dynamic process and the distance course should be designed to develop the distance learner from the beginning stage with high instructor dominance to the latter stage with high student dominance in the learning and teaching process. At the beginning stage, learners prefer guidance, clarity and security. As learners become more knowledgeable and skillful, they are able to design their own learning experience and gain more learner control. Undoubtedly, learner autonomy is essential to building meaningful and positive learning experience for distance learners.

Interaction

John Dewey (1938) is among the pioneer educators who view education experience as a

"transaction taking place between an individual and what, at the time, constitutes his environment" (p. 43). Some other researchers also reinforced Dewey's point of view. For example, Duffy and Jonassen (1991) said that learning is not an objective search for prescribed knowledge, but one that is experienced and formulated based on how we interact with our environment and others. Laurillard (2000) argued that a university education must go far beyond access to information or content and include "engagement with others in the gradual development of their personal understanding" (p.137). These researchers' viewpoints highlight the importance of interaction in the learning process. Technology in distance education should be used not only to transmit information, but also to provide environments for interaction and collaboration amongst students and instructors. Garrison (1990) argued that without interaction, distance education degenerates into the old correspondence course model of independent study, in which the student becomes autonomous and isolated, procrastinates, and eventually drops out.

Then, what is interaction? Wagner (1994) gave a definition on interaction as "reciprocal events that require at least two objects and two actions. Interactions occur when these objects and events mutually influence one another" (p. 8). Anderson commented Wagner's definition as the best so far in that the definition "does seem to include the essential components and nature of interaction without compromising or restricting the wide range of possible types of interaction" (Anderson, 2003). Moore (1989) classified interaction into three categories: student-teacher interaction, student-student interaction, and student-content interaction. Anderson and Garrison (1998) have extended the scope of interaction to include three other forms: teacher-teacher interaction, teacher-content, and content-content interaction.



Modes of interaction in distance learning. From "Learning in a Networked World: New Rules and Responsibilities" by T. Anderson and D. R. Garrison in C. Gibson (Ed.), *Distance Learners in Higher Education Madison*, WI: Atwood Publishing, 1998.

Despite the significance of interaction in distance education, embracing interaction into distance education poses some challenges to teachers. First, teachers worry about the high workload that distance education demands. Berge and Muilenburg (2000) reported their survey results that identify teacher concern about time requirements as the largest barrier to adopting networked forms of distance teaching. Cravener (1999) reported that faculty workload was the one major area that faculty members identified as difficulty in carrying out computer-mediated distance course teaching. Regarding the concern on the heavy workload for distance education, some researchers put forward their suggestions. Lesh (2000) and Hislop (2000) found that once teachers become experienced with both the course content and the delivery media, the time requirement of Web-based courses and courses delivered at the traditional classroom setting do not differ significantly. Anderson (2003) also made his suggestion, "Teachers must learn to plan activities that maximize the impact of interactions

with students and provide alternative forms of interaction when time constraints become excessive" (p. 134).

Second, how to deal with the relationship between "independence" and "interaction" in distance course design? It is well known that some students choose distance learning only for it "allows for study that is independent of contact and the temporal restraints associated with paced and interactive form of campus-based education" (Daneil & Marquis, 1988). In other words, they choose to take distance courses for the sake of "independence". However, various interaction activities, especially the student-student interaction activities, in the distance course design will probably run against the will of those students. Anderson offered two suggestions for teachers to cope with this problem The first suggestion is to "ensure that the instructional designs promote student interactions that are pedagogically grounded and produce enough learning and motivational gains to justify the restrictions on the student's temporal independence", and the second suggestion is to publicize distance courses so that "students can make informed choices that meet their individual needs and desires for student-student interaction" (Anderson, 2003, p. 135).

Access

Traditionally, access in distance education is thought of an issue of geographic separation between the learner and the teacher. However, distance learners select distance education not only for geographical reason, but also for other reasons such as gender, culture, financial, supply and demand, disabilities, preparedness (entrance exam qualifications), motivational (self-esteem), and language (Shearer, 2003). Even in the higher education setting, students could take distance courses due to reasons other than geographic concern. For instance,

Cheris Kramarae (2003) from Center for the Study of Women in Society, University of Oregon, said, "The majority of U.S. undergraduate college students are women and the majority of U.S. students taking online course are women". Because college students may take distance courses out of reasons other than geographical concern, distance course designers in higher education should consider the potential students that one specific distance-learning program could have. Shearer (2003) pointed out, "Designing distance education courses and curriculums of student without acknowledging the variety of access issues that the independent audience may face can lead to the exclusion of many who may otherwise be interested in or need the course of study" (p. 279).

Costs/Economies of Scale

Shelf life of the distance course and the student audiences are the two major factors that will affect the costs/economies of scale of distance education. The longer the shelf life of the distance course is and the larger the student audiences are, the better costs of scale. When we select technologies to use in distance course design, we should try to achieve better costs of scale.

Use of Internet Technologies in Distance Education

Nowadays, computer and the Internet technologies have been increasingly employed in distance education in colleges and universities. It is true that the Internet technologies have brought benefits to distance learning such as strengthening interaction in the distance learning process, allowing students to learn any time and at any place, but the disadvantages of using the Internet technologies in distance education have not been paid much attention to. As

Shearer pointed out, "in the rush to use the new Internet technologies, issues of access, cost to students, and learner autonomy have not been widely addressed in the literature" (Shearer, 2003, p. 284).

The Internet could produce a negative impact on learner control, access, and costs of scale. One obvious disadvantage associated with using the Internet technologies in distance learning is that both the distance course teacher and the students have to learn the basic technology knowledge to teach and learn. In addition, the learner has to have a computer terminal to access the learning materials. As a result, the learner who does not have the technology knowledge or does not have a personal computer will be unlikely to take the distance course. Another demerit of using the Internet technology in distance education lies in the impact on learner control. As Shearer (2003) explained, "In many ways we may be establishing pace, sequence, interaction requirements, and technology requirements that eliminate the ideas of anytime and any place". The learner may find the taking a distance course is so time consuming that they will lose their learner control and then decide to drop the course.

Furthermore, the Internet technologies affect the costs of scale of distance education in the following aspects. First, using the Internet technologies will limit the number of students who can enroll in one distance course. Because when the course designer designs the various teacher-student interaction activities, the designer may be limiting the number of students that a faculty member can effectively interact with. Second, some distance course management tools such as WebCT and Blackboard allow faculty and designers flexibility to update and revise the course. Nevertheless, there is a conflict between updating and revising the course

content to improve the academic quality of the course and keeping the course stable to ensure the long shelf life, because when the course contents are revised, the shelf life of the course reduces, which also produces an impact on the economics of scale. Therefore, as Shearer (2003) suggests, "A decision needs to be made between what content can exist in a fixed form for three to five years and what aspects of the course can be updated each semester or year through means of electronic postings to bulletin boards" (p. 281).

Role of Technology in Distance Education

There has been a long debate in the academic literature about the role of technology in distance education. Clark (1983) catalyzed the debate by stating: "Media do not influence learning under any conditions… media are mere vehicles that deliver instruction but do not influence student achievement any more than the truck that delivers our groceries causes changes in our nutrition" (p. 445). He held that the methods of teaching rather than the medium used affect learner performance. Similarly, Russell (1999) reinforced Clark's conclusion by claiming that there is no significant difference between media in the delivery of education. However, detractors argued that media does have an impact on learning. Kozma (2001) stressed that the particular attributes of the computer are needed to bring real-life models and simulations to the learner, thus the media does influence learning. Bates and Poole (2003) pointed out that it is true that the method of teaching plays an important role in influencing the learning performance, but Clark's arguments that assumes independence between methods and media is groundless. They reasoned that humans are multimedia animals, using all kinds of senses to learn. They cited an example of using television in

education.

> The educational value of television lies not in its merely replicating a lecture, but in bringing students experiences that would be difficult to replicate in the classroom, such as documentary material or complex animations. This use of television in turn would require the teacher to do something from a straight lecture, and more important, it would require the student to approach the learning task in a different way (Bates & Poole, 2003, p. 71).

I agree with Clark that the teaching method has a more important impact than the media on students' learning performance. But I do not agree with Clark on the analogy between using media and technology in education and using truck to deliver grocery goods, because the media has its impact on the learner's learning process and the teacher's teaching process, but the truck does not affect the nutrition acquisition process of the customers who buy the goods delivered by the truck. In other words, media and truck are incomparable in this case. What is more, I believe Bates and Poole's argument to be true that the current debate on the role of technology should shift its focus from the study of whether using technology is more or less effective than face-to-face teaching to the study of how the media can facilitate learning. In other words, are there any pedagogical strategies that teachers can use to better integrate education technologies to facilitate online learning?

Pedagogical Strategies

Online Classroom Activities

Distance course instructors can design various online classroom activities. For example, Bonk and his colleagues designed a series of such activities and classified them into four

groups: motivational and ice-breaking activities, critical-thinking activities, creative-thinking activities, and collaborative learning activities (Bonk & Reynolds, 1997; Bonk & Dennen, 2003). Self-introduction is a common activity that instructor often uses at the beginning of the course to "break the ice". When the class progresses, more critical-thinking activities like reading reactions, creative-thinking activities like role-play, and collaborative learning activities like group project will be added.

All activities are designed to build students' knowledge and develop their critical and creative thinking skills and cooperative ability. Of all of the online learning activities, attending online discussion forum is one of the most frequently used in the university-level distance education. "An online discussion forum is an area of a Web site where a group of students and an instructor can discuss a particular topic or group of topics around a common theme" (Bates & Poole, 2003, p. 217). Next, I will concentrate on the discussion of the online discussion forum.

Organizing Discussion Forum

1) Design Discussion Forum

Two kinds of online discuss forum, synchronous and asynchronous, can be used. Because the synchronous forum requires everyone to participate at the same time, which is hardly to be possible in distance education, the asynchronous discussion forum is more common.

Most of the forum topics are designed by the instructor, while a few could be initiated by the students. According to Bates and Poole (2003), the best topics are ones that require students to do some work in order to participate. I remembered in my distance course, the first assignment was to read one controversial article and then write and post our thoughts

about this article to the class. Our postings reflected our critical views about this article. Bates and Poole (2003) commented on this approach, "Such an approach requires students to make judgments and think through their answers and also allows students to disagree with or add to each others' comments" (p. 240). Moreover, all of the topics should have starting and ending dates and deadlines to contribute so that students know when they are expected to contribute to one online discussion topic and after the deadline they do not bother to spend time on this topic. This actually serves as a pacing function that the traditional classroom has. As DeGoede and Hoksbergen (1978) said that the regular classes in the traditional campus-based education serve a pacing function that helps to keep students focused on learning tasks and then move forward. Distance education will have significantly higher completion rates if substitute forms of pacing are used. In the distance education, pacing could be achieved mainly by "having regular online discussions with clear beginning and ending dates and specific deadlines by which students were required to contribute" (Bullen, 1998, p. 13).

Furthermore, it is a good idea to have a "social" area in the discussion forum. Bates & Poole (2003) call this area a "student café", in which students can "discuss a range of issues related or unrelated to the course…look for other students with similar interests for collaborative assignments or dealing with issues not directly related to the assignments of the course" (p. 217). There are several reasons to set up such a "student café". First, it benefits learning between students. According to the constructivist's learning theory, students learn not only from teachers, but also from classmates. The learning process could happen in the virtual classroom or in the café room. When students exchange their experience in understanding a concept or discussing their opinions on one of their forum topics in a light

atmosphere in the café room, the learning process happens. Second, it promotes the social interaction of online learners. In the café room, students get familiar with one another and the familiarity is conducive to their future collaboration in the virtual classroom. As Bullen (1998) reported in his case study of a university-level course delivered by computer conferencing, "Students felt they needed this form of communication in order to develop a social bond and that some sort of social cohesion was a prerequisite to meaningful discussions of the course content".

2) Strategies Encouraging Participation

There are many strategies that the online distance course instructor can use to encourage online participation. The following techniques are a summary from the literature (Johnson-lenz and Johnson-Lenz, 1990; Harasim et. al, 1995, Bush, 2005). First, creating a casual, warm, welcoming, and supportive atmosphere to encourage people to contribute to the online discussion. Second, the instructor should participate in the online discussion. From my own experience, I found that when the instructor participates in one discussion forum, more students would respond to the instructor's comments. The reasons why instructor's comments can increase student participation in the online discussion forum could be the following: students wish to get good impression from the instructor; the instructor's comments are more interesting and thoughtful to read and respond; students are more likely to discuss with the instructor rather than with their peers, assuming that the instructor will know more than any student in the class. Third, making participation expectations clear and grade the participation. "To show that participation is important, grade it" (Harasim et al, 1995, p. 178). Several researchers like Salmon (2003) agree that online discussion should be

graded. Furthermore, other techniques include model responsiveness, encouraging students to compliment or respond to one another, closing a discussion with a summary or weaving of the topic, asking participants to give feedback about the online discussion forums, and using telephone, fax or email to make sure that activities are well coordinated.

3) Using Online Discussion Forum to Enhance Learning

Many researchers highlight the benefits of online discussion forum to the learning process. For example, Brown and Thompson (1997) stated the contribution of online discussion to knowledge building. They said that because writing is related to thinking, thus written online discussion can contribute to the construction of meaning. "It is through the actual process of writing or thoughts and working them over that we really come to understand. The written record allows for revision and encourages self reflection and these are important learning strategies for developing an understanding of new concepts". Moreover, online discussion increases participation and collaborative thinking through the reciprocal communication environments (Ruberg, Moore, & Taylor, 1996; Wu & Hiltz, 2004). The online discussions provide a perfect forum for an academic discourse which promotes increased student engagement, critical analysis and reflection, and the social construction of knowledge (Warschauer, 1997; Dehler & Parras-Hernandez, 1998).

On the other hand, however, other researchers doubt whether online forum can improve learning. Both Thomas and Bullen's studies demonstrated that online discussion forum itself does not necessarily promote collaborative thinking and critical thinking. In explaining why the online discussion forum cannot enhance collaborative learning, Thomas (2002) cited the words of Pincas (1998, p. 14): "for effective collaborative learning to take place in a virtual

learning environment, students need to engage in what they can perceive as normal discussion". Thomas said that his study has demonstrated that such ‘normal discussion’ did not occur in online environment. He attributed the result to three factors, "the isolated mode of participation, the structural organization of messages, and the conflict between the written form and oral function of technology-mediated interpersonal communication". Technology provides a virtual place where distance learners can discuss a topic, but that does not necessarily mean that technology promotes interaction between distance learners. Thomas found that "a significant proportion of the messages that were ‘submitted’ to the discussion forum were never viewed by another person", hence the online discussion "promoted an individualistic mode of learning rather than an interactive mode". Moreover, the threaded structure of the online discussion forum inhibited the interactive communication among students. As Thomas stated, "Although messages in an online discussion forum might appear to be interactive, in as much as they make reference to a previous message, the branching structure of threads promotes an incoherent development of ideas amongst the group of students". In the threaded online discussion forum, it is possible that the first student initiated his or her opinion on the topic, but the second and third students voiced their opinions which were not related to the first student's opinion. The third student suddenly put forward a new question in the discussion, and the fourth one said he agreed with the first student. When more people joined the discussion, the thread would extend right across the screen then continue underneath. It is inconvenient to read through these messages and get a coherent development of these ideas. Consequently, the branching structure of the threaded discussion forum leads to incoherent development of ideas. Furthermore, Thomas pointed out that

written discourse of the online discussion forum environment is quite different from the oral face-to-face discourse. In his study, "the fact that students felt they could not effectively communicate with each other through the text-based medium of the online forum, and the obvious lack of interaction in their messages, suggests that some major difficulties arise from this conflict between form and function".

Moreover, Bullen (1998) explained that some factors like the cognitive maturity of the students, the students' experience with a dialogical style of teaching in the online environment, and their understanding of critical thinking may prevent students from using critical thinking skills in their contribution to the online discussion forums (p. 24). Bullen stated, "For many of these students, the extent of their participation was showing up in classes on a regular basis. They were not used to discussing controversial ethical issues with their fellow students and instructors, and they were not used to being able to determine when, where, and how they would participate in class" (p. 18).

To solve the problems discussed above, some tentative solutions are proposed. Certainly, the instructor plays an important role in facilitating the online discussion and promoting the interaction. The instructor can take steps to encourage participation and design more activities to enhance interaction. This view is supported by the study of Ahern, Peck, and Laycock (1992). Their study revealed that a conversational style of interaction from the instructor produced higher and more complex levels of student participation. In addition, Bullen (1998) added that because students may be accustomed to a didactic style of teaching and content-based course, the instructor must be "prepared to be more interventionist and directive than is suggested in the literature in order to foster participation and critical

thinking" (p. 25). In addition, in response to the shortcoming of the branching structure of the online discussion forum, Thomas (2002) proposed that it is time to develop new systems and tools other than online discussion forum to support cooperative learning process. The interface design of the new system should promote a more coherent structure and true many-to–many interaction in the virtual learning space.

Conclusion

In selecting technologies to design distance courses, learner control, interaction, access, and costs of scale are four important factors to consider. As the Internet technologies are increasingly used in the distance course design in colleges and universities, distance educators should be aware the impact that using the Internet technologies has on learner control, interaction, access and costs of scale.

The advanced Internet technologies make possible that higher education delivered to students who cannot attend classes on campus. However, there is an increasing awareness that it is the teacher's course design and teaching rather than the pure Internet technologies that makes distance education work. Although the study on the distance course pedagogical strategies is still in the infant stage, some researchers have reported their findings and put forward valuable suggestions. Their suggestions cover organizing online activities, designing online discuss forums, and encouraging student participation. More contributions are needed from theorists and practitioners in an effort to better use technologies to not only enable learning at a distance but also improve learning efficiency for distance learners.

Report #3 **Evaluating the Quality and Effectiveness of Online Distance Course**

Introduction

Evaluation is an indispensable part in distance course design and development. "Evaluation is becoming increasingly important, both as a part of the design of online courses and as a mechanism for quality assurance" (Oliver, 2000). But what to evaluate and how to evaluate a specific course? This paper will discuss these questions based on my reading the relevant literature.

What to Evaluate?

Although there are different practices concerning evaluating online distance courses, reading the relevant literature suggests that these measurements can be classified into four categories: learning outcomes, instruction materials, instructor effectiveness, and technical facilitation.

First, perhaps the most important indicator to measure the quality and effectiveness of an online course is the learning outcomes, which could be the knowledge, skills, and attitude. In addition to knowledge and skills, the distance course designer hopes that students' distance learning experience is a positive one.

Second, instruction materials serve as an important component in the learning process and should be included in the evaluation of online courses. Davidson-Shivers and Rasmussen (2006) proposed, "Instruction materials include the instructional content as provided in the lectures, reading assignments, the discussions, and other group and independent activities" (p.

321).

Third, the instructor plays an important role in the distance course learning and should be evaluated. The online course teacher can help students increase knowledge and skills, and adopt a positive attitude about distance learning by designing and carrying out instructional activities (such as assignments and online discussions), enhance social interaction between students and between students and the teacher, and provide feedback and support for students to improve their learning efficiency.

Last but not least, the issue that whether the use of technology in the online distance course facilitates teaching and learning should be addressed in the online course evaluation. Whether the features of the website and web page such as text and graphics make it convenient for the learners to learn (Palloff & Pratt, 1999; Savenye, 2004). Achtemeier, Morris and Finnegan (2003) have asked a similar question: whether the web page format design makes it easy for learners to use the online resources in the learning process?

When and How to Evaluate?

Basis of Evaluation

"When running a course of any type, it is essential to start with a reasonably homogeneous student group, especially in terms of preknowledge. When it comes to online courses, this is particularly true" (Benigno & Trentin, 2000). Many online courses have prerequisites for registry with the purpose to ensure students taking this course have the same level of preknowledge and staring point.

Evaluating Learning Outcomes

One of the commonly used ways to measure the learning outcomes is by tests and examinations at the end of the course. It is a popular strategy for the evaluators to compare the same course taught in more traditional format versus a web-based model. Lockee, Moore, & Burton (2002) commented this evaluation method, "Such comparisons ignore the many factors that influence learning and false attribute success (or failure) to the distance delivery medium". I agree with them that evaluation of the online course can be done without taking the trouble to compare the learning outcomes of students who learn in the classroom and those of students who learn online.

Moreover, some techniques that have been used in the evaluation of face-to-face courses can also be used in the evaluation of online distance courses. Apart from the tests and examinations, neutral third-party observation is another such technique. In the traditional classroom teaching, a neutral third party is invited to sit in on the class and evaluate it. In the online distance course evaluation, a third party expert can be invited to evaluate the student performance in the online discussion forum. Henri (1992) put forward three levels in the analysis of individual message content: *what was said* regarding discussion content; *how it was said*; and *what processes and strategies* were adopted dealing with the contents. The first level concerns the results of learning, and the other two relate to the process that generated those results (Lockee, Moore, & Burton, 2002).

For measuring the student attitudes about distance learning, interviews, questionnaires, and focus groups could be possible ways. Comments such as "I always knew where to go for help when I needed it during the course" or "Compared to other online courses, this was one

of my favorites" would suggest positive attitudes about online distance learning (Lockee, Moore, & Burton, 2002).

Evaluating the Other Aspects

There are many guides and standards, based on which evaluators can use to evaluate the instruction materials, the instructor effectiveness, and the technical aspects. For instance, *Seven Principles for Good Practice in Undergraduate Education* compiled in a study supported by the American Association of Higher Education, the Education Commission of the States, and The Johnson Foundation were widely used in the evaluation. Based on these principles, some colleges and universities also developed their detailed distance course evaluation guides. For example, Grant MacEwan College has its distance course evaluation guidelines. Regarding the effectiveness of the online course web page design, the guide says, "Every page is linked to the previous page, and to e-mail so that learners may contact instructors and other learners for clarification and discussion; Illustrations can be seen easily on a computer screen, and JPEG files are used to accommodate different download speeds" (Wright, 2005) These detailed guides can serve as checklists for the evaluators to evaluate a specific online course.

However, evaluation based on the checklists tends to produce a subjective conclusion. In order to make the evaluation objective, some traditional evaluation techniques like questionnaires, telephone surveys, interviews, and focus groups can also be used in collecting data for evaluation of the online courses. It is common in the middle of the course and at the end of the course to solicit students' opinions on the teacher's teaching effectiveness, the appropriateness of the instruction materials and whether the online environment facilitates

learning. Moreover, it may be difficult to conduct interviews or focus groups with distance learners, online questionnaires or creating a “feedback” discussion area would provide alternative methods (Oliver, 2000).

Conclusion

Despite the fact that a diversity of variables are being measured in evaluating the quality and effectiveness of different online courses, these variables can be categorized into four groups: learning outcomes, instruction materials, instructor effectiveness, and technical facilitation. Both traditional evaluation techniques such as checklists, third-party observation, and telephone survey and the new online methods such as online questionnaires and online "feedback" discussion area can be employed to collect the data for the evaluation.

Report #4 **Copyright Issues about Online Distance Course Development**

Introduction

Online distance course developers have to encounter the copyright issues. When the online course developer, usually a faculty member, has created the course, does the faculty member own the intellectual property right of the course? When the online distance course teacher wants to use others' materials for his/her course teaching, does the teacher have to get their permission? This paper will briefly discuss these issues and introduce the current practices to deal with these issues in higher education.

Issues

Ownership of Online Distance Course

Who owns the intellectual property right of the online distance courses provided by the colleges and universities? The faculty member or the college or university for which he or she works? Both the Canadian and the U.S. laws rule that the college or university owns the online distance course. Simonson et al (2003) pointed out, "At the core of the issue is determining whether the development of the course and/or the materials constituted a 'work for hire'" (p. 137). Normally, the author of the work is the owner of the work. However, if the author is hired by the college or university to create the work, the college or the university should be the owner of the work.

Nevertheless, the result will be different if the course is developed by a part time instructor. "Part-time instructors are legally considered contract employees, not work for hire,

and as such, own their own work" (Levy, 2003). In addition, there is also a hybrid model of ownership as an alternative. For example, in Mott Community College in Flint, Michigan, "when the faculty member is compensated for creating a course, the agreement assigns ownership of the completed course package to the institution. The faculty member, however, continues to own all notes and materials used in creating the course" (Axelson, 2001). Simonson et al (2003) commented on this model, "In this model, if the faculty member resigns and teaches elsewhere, she or he can take the course content to the new campus and use it there. However former institution still owns the course and can employ a new instructor to teach the course" (p. 137).

Using Others' Copyrighted Materials in Online Course Creation

Getting Permission

Some online course developers may borrow others' copyrighted materials to create their own courses. Simonson et al (2003) asserted, "Course web page developers must be careful that all page components either are original or have the necessary clearances" (p. 134). They give an example that when the course developer downloads the clip arts and other graphics from other websites and use the materials in their course creation, she or he has to follow the copyright policies within the site. "Some offer their graphics freely with no restrictions, others require notification of use and/or reciprocal links, while others charge fees" (p. 134). It is important for the online course developers to sharpen their awareness that under no circumstances should others' copyrighted materials be put on their course websites without permission.

When the course developers realize that they have to get the copyright holders' permission to use the certain materials for the course creation, how can they obtain permission? Simonson et al (2003) introduced, "Begin by contacting the publisher or distributor. In the case of printed publications, the Copyright Clearance Center is a potential source" (p. 135). In fact, in some universities or colleges, there is a special agency to help faculty members deal with obtaining permission from copyright holders. For instance, in Western Washington University, the Publishing Services is such an agency. After the faculty member fills in the copyright permission request form, the Publishing Services will "contact the publisher, request copyright permission, record and file the permission, and request payment for the royalties" (Western Washington University, 2002).

The Linking Issue

It is a popular practice for the online course instructors to add hotlinks in their course websites. The links will guide students directly to the articles published in other websites. However, some doubt whether the deep-linking practice is appropriate. As Murray (2002) said, "opponents of deep-linking argue that it costs sites in valuable advertising revenue if visitors are not required to visit the home page first" (Murray, 2002). Currently, neither Canadian nor U.S. law addresses the deep-linking issue. Educators, lawyers, website owners, and online publishers are still debating on whether deep linking is an infringement. Some educators suggested avoiding using hotlinks and offered this advice: "The best way around this [issue] is for the school to subscribe to one of the many periodicals databases that exist. These are a far better way for students and teachers to access online articles from periodicals [than deep-linking]" (Murray, 2002).

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