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Issues for Effective Distance Learning: a Challenge in Online Education

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Abstract
Online distance learning promotes the opportunity to meet the needs of students who are unable to attend on-campus classes. There are many distance learning benefits: increased access to learning, enhancement of life-long learning, ability to do interactive teamwork between groups, access to experts worldwide and to a tremendous volume of online databases, the use of higher order thinking strategies by the learners, and the development of self-directed, autonomous learners. However, the success of online distant learning will depend on the demanding roles for both teachers and students, and an adequate, effective, and strategic use of the synchronous and asynchronous modes of communication.

Key words: Distance Learning, Asynchronous Communication, Synchronous Communication, video conferencing, web forums, threaded discussions, World Wide Web

Resumen
La educación a distancia vía Internet promueve la oportunidad de cumplir con las necesidades de aquellos estudiantes que no pueden asistir a clases regulares en el centro educativo. La educación a distancia ofrece muchos beneficios: un aumento del acceso a la educación y al aprendizaje para toda la vida, habilidad para realizar trabajos interactivos en grupo, acceso a expertos alrededor del mundo y a una enorme cantidad de volúmenes de bibliografía en línea, el uso de estrategias metacognitivas por parte de los estudiantes y el desarrollo de estudiantes autónomos y autosuficientes. Sin embargo, el éxito de la educación a distancia vía Internet depende de los retos cambiantes en los roles de docentes y estudiantes, así como del uso adecuado, estratégico y efectivo de los medios sincrónicos y no sincrónicos utilizados en este tipo de comunicación.

Palabras claves: educación a distancia, comunicación no sincrónica, comunicación sincrónica, video conferencia en línea, foros en línea, discusiones en cadena, Internet

Successful distance education systems involve interactivity between teacher and students, between students and learning environment, and among students themselves, as well as active learning in the classroom. (L. Sherry, 1996, p. 2)

Introduction

With the rapid growth of new technologies and the evolution of systems for delivering information, distance education, with its ideals of providing equality of access to education, has become a reality. *What, exactly, are the prospects and promises of distance education?* Keegan (1980) as well as Willis (1993) have identified key elements of distance education: separation of teacher and learner, use of media to link teacher and learner, have a two way exchange of communication, meet the need of students who are unable to attend on-campus classes, link students from different social, cultural, economic, and experiential backgrounds, have learners as individuals rather than in groups, incorporate outside speakers or experts who would otherwise be unavailable, among others. In other words, in distance education, teaching is focused on the relationship between the teacher/student and student/knowledge. The student is guided to learn to be more autonomous, participative and more responsible for his/her own learning.

Distance learning does not work by itself. It is married to online learning. Before the Internet, the only opportunity most students had to speak with their professors was during scheduled class sessions or office hours. Now, with online education more professors can be in touch with students and viceversa at any time (morning, noon, and night), seven days a week and where every student at any part of the world can study at his/her convenience. It is also true that distance education is enriched by worldwide professionals working in open, educative networks and virtually reaching students, from different countries, whose budgeting constraints would not have allowed their sharing of expertise.

Optimal learning environments can be reached through online distance learning, such as opportunities for meaningful interactivity, in the target language as well as the presence of a real audience, involvement in authentic tasks, exposure to and involvement with creative and real language environments, promotion of learner autonomy, experiencing of motivational strategy use, guided mentoring and support, among others. This paper addresses the benefits of online distance learning through research findings. It summarizes what is meant by effectiveness in this type of education, and how authenticity can be accomplished. A classification of the different modes of communication in online distant learning is also explained. Finally, this paper also defines the importance of collaborative work and brings out the role of the facilitator as well as the role of the learner for successful online learning.

Distance Learning and Research

To determine the effectiveness of Distance Education, research on this field has been developed in order to examine the purposes and situations for which distance education is best suited: technology assisted or face-to-face teaching,

characteristics of effective distant students and teachers, importance and form (s) of teacher-student and student-student interaction in the distance education process, cost factors when planning or implementing distance education vs benefits for the learners.

Research indicates that the instructional format itself (e.g., interactive video vs. videotape vs. "live" instructor) has little effect on student achievement as long as the delivery technology is appropriate to the content being offered and all participants have access to the same technology. Research suggests that distant students bring basic characteristics to their learning experience which influences their success in coursework. These students are voluntarily seeking further education, are highly motivated and self-disciplined, and are older. (Willis, 1993)

In regards to instruction, well-planned distance teaching practices are very similar to well-planned traditional teaching practices with universal factors that affect the process in both types of instruction (Wilkes & Burnham, 1991). However, in a study performed by Schlosser & Anderson (1994), the results revealed that distance education and its technologies require more extensive planning and preparation, and must consider the following in order to improve their effectiveness:

1. Extensive pre-planning and formative evaluation is necessary. Teachers cannot "wing it". Distance learners value instructors who are well prepared and organized (Egan, et al., 1991).
2. Learners benefit significantly from a well-designed syllabus and presentation outlines (Egan, et al., 1991). Structured note taking, using tools such as interactive study guides, and the use of visuals and graphics as part of the syllabus and presentation outlines contribute to student understanding of the course. However, these visuals must be tailored to the characteristics of the medium and to the characteristics of the students.
3. Teachers must be properly trained both in the use of equipment and in those techniques proven effective in the distance education environment. Learners get more from the courses when the instructor seems comfortable with the technology, maintains eye contact with the camera, repeats questions, and possesses a sense of humor (Egan, et al., 1991).

Research on the need for interaction and student collaboration have provided some important information for instructors organizing online courses. Millbank (1994), for example, studied the effectiveness of a mix of audio plus video in corporate training. When he introduced real-time interactivity, the retention rate of the trainees was raised from about 20 percent (using ordinary classroom methods) to about 75 percent. (cited in Sherry, 1996). Likewise, Garrison (1990) has argued that the quality and integrity of the educational process depends upon sustained, two-way communication. Without connectivity and effective interactivity, distance learning degenerates into the old correspondence course

model of independent study. The student becomes autonomous and isolated, procrastinates, and eventually drops out.

Effective distance education should not be an isolated form of learning; it should approach an authentic learning experience because it represents the connectivity students feel with the distance teacher, the local teachers, aides, and facilitators, and their peers. Indeed, interactivity is paramount, and it takes many forms, not only audio and video as it is wrongly believed. In regards to the students, learners value timely feedback regarding course assignments, exams, and projects (Egan & Akdere, 2005). Learners also benefit significantly from their involvement in small learning groups. These groups provide support and encouragement along with extra feedback on course assignments. Most importantly, the groups foster the feeling that if help is needed, it is readily available (Willis, 1993). For this reason, utilization of on-site facilitators who develop a personal rapport with students and who are familiar with equipment and other course materials, increases student satisfaction with courses (Burge & Howard, 1990).

Regarding costs vs. benefits, research studies have revealed that despite the high costs (technology, transmission, maintenance, infrastructure, production, support, personnel) of offering distance learning courses, benefits to the learner include accessible training to students in rural areas, completion of students' course of study without suffering the loss of salary due to relocation, exposure to the expertise of the most qualified faculty. The primary benefit to educational institutions through distance education may be the increased number of non-traditional students they are able to attract and serve. Research also suggests that as programs become more efficient, program costs should decrease (Burge & Howard, 1990).

Distance Learning and Effectiveness

One of the questions many people ask themselves is whether distant students learn as much as those who engage in face-to-face instruction. Within the context of rapid technological change, distance education has proved to be as effective as the traditional face-to-face instruction. Indeed, the only difference is the distance between the instructor and the student. Technology has tried to shorten this distance by bridging the gap with technological options such as voice, video, data and print through Computer-Assisted Language Learning (CALL). CALL offers many advantages in distance learning:

a. interactive audio or video conferencing that provides real time face-to-face (or voice-to-voice) interaction. This is also an excellent and cost-effective way to incorporate students, professors, guest speakers and content experts.
b. Computer conferencing or electronic mail that can be used to send messages, assignment feedback, and other targeted communication to one or more class members. It can also be used to increase interaction among students.

c. Pre-recorded video tapes that can be used to present class lectures and visually oriented content.
d. Fax that can be used to distribute assignments, last minute announcements, to receive student assignments, and to provide timely feedback (Willis, 1993).

Distance learning serves many functional purposes. It is used in parallel programs where similar courses work collaboratively in on-line projects at the university level. Students take advantage of the Internet to enrich their own courses by accessing a similar course from other universities through partner programs. Pullen (2006) has explained that "distributed education via the Internet is a growing practice in many institutions, making education more attainable by improving accessibility dramatically for students who experience barriers of schedule or distance to class attendance" (p. 1).

According to Baker (1999), there are several instructional delivery models for distance learning to ensure effectiveness: **a. text**, where the instructor assigns a list of bibliographical references and the learner investigates, reads, analyses, and so forth by himself or herself, and there is no real interaction between the instructor and students or students vs students; **b. audiocassette lectures**, where students receive supplementary personal comments, suggestions or other information from the instructor or other information about topics or discussions shared in the classroom. With this mode, this is lack of visual content; **c**. **videotaped or televised lectures**, which enables the instructor to use more charts, graphs, television clips, or other visual information precluded by audio lectures. There is a more personal connection with the instructor since they can visually see the instructor as he/she teaches, and more enriched content can be shared. Similar to audio taped lectures, students have the opportunity to rewind the information as many times as possible to grasp the content of the lecture; **d. videoconferencing or full-motion teleconferencing** allows two-way conference calls through specially equipped rooms with cameras, microphones, and television screens. Everyone then participates in a traditional class experience whose only distinctive is that the students are physically in remote rooms. However, the students watch the instructor live, can ask questions, mingle with fellow classmates, and often the instructor can view the various remote sites as well; **e. Online distance learning**, one of the most recent trends and one that is growing rapidly. Online classes really shine in the interactivity arena but in the instructional delivery category they generally adopt one of the four previous models. Some programs place lecture material on the World Wide Web for reading and printing, others deliver it using streaming audio or video technology, or replicate the videoconferencing model. Sometimes the course material is developed as an interactive multimedia presentation which is available online.

Furthermore, Willis (1993) has suggested an appropriate instructional development for distance education (online) courses. This will provide a process and

framework for systematically planning, developing, and adapting instruction based on identifiable learner needs and content requirements. Willis has described four stages: *design, development, evaluation and revision.*

a. Design Stage

In the first stage, the design stage, it is necessary to decide the need for instruction by determining what external data verify the need, what factors lead to the instructional need, and what past experiences indicate that the instruction being planned can effectively meet this need. It is also important to analyze the audience in terms of age, cultural backgrounds, past experiences, interests, educational levels, urban or rural origin, undergraduate or graduate education, among others, to know about their needs, wants, and lacks. An analysis of the audience will assess its familiarity with the various instructional methods and delivery systems (technology-based). In addition, the design stage should consider the instructional goals and objectives.

b. Development Stage

In the development stage, it is necessary to create a content outline, review existing materials, organize and develop content, and select and develop materials and methods. The online course should direct learners to the completion of the objectives. The materials to be used may not be pre-packaged; some pre-packaged materials have been designed for traditional classes, or have been marketed to reach students with similar backgrounds and experiences, and many have little relevance to distant learners. Reviewing these materials is a must, in order to adapt them for distant learners. As the instructor organizes and develops content, he/she creates student-relevant examples (transparent), allowing learners to focus on the content being presented. Another issue is the selection of delivery methods which often require integrating print, voice, video, data technology. This selection should consider identifiable learner needs, content requirements and technical constraints. The delivery systems should be available to all distant learners.

c. Evaluation Stage

In the third stage, the evaluation stage, it is important to assess if the instructional methods and materials are accomplishing the established goals and objectives. An evaluation strategy can be implemented to evaluate the effectiveness of the instruction too. Both formative and summative evaluation can be used. Through formative evaluation, students can fill-in "mini-evaluations" to give feedback on the strengths and weaknesses of the course, on technical or delivery concerns, and on content areas in need of further coverage. Summative evaluations can also be conducted through open discussions with a local facilitator to brainstorm ways to improve the course. Data of both formative and summative evaluation can be collected through qualitative and quantitative methods.

d. Revision Stage

Finally, the revision stage implies a reflection stage on the entire process and framework of the online course. During this stage, significant feedback is collected from the distant learners, content specialists, and colleagues on the following aspects: use of technology (familiarity, concerns, problems, positive aspects, attitude toward technology), class formats (effectiveness of lecture, discussion, question and answer; quality of questions or problems raised in class), class atmosphere (conducive or not to student learning), quantity and quality of interaction with other students and with instructor, course content (relevancy, adequate body of knowledge, organization), assignments (usefulness, degree of difficulty and time required timeliness of feedback, readability level of print materials), tests (frequency, relevancy, sufficient review, difficulty, feedback), support services (facilitator, technology, library services, instructor availability), student achievement, student involvement, student attitude, and contribution and involvement of the on-line instructor (roles, effectiveness, organization, preparation, enthusiasm, openness to student views (Willis, 1993).

Truly, online learning programs are growing at a faster rate than face-to-face counterparts because of its many advantages: You can study from a location of your choice; you can study in your own time at your own pace, study materials are always available, shy students develop confidence; self-assessment materials are available to help students monitor the understanding of the content under discussion; it suits different types of learners by providing materials in different ways (text, audio, video, interactive activities); it encourages students to learn from fellow peers around the world with discussions that can take place in open environments; it offers greater adaptability to learners' needs; students who are uncomfortable asking questions in class can communicate more comfortably with faculty; students often have the opportunity to learn according to their preferred learning styles; students become more self-directed and responsible for their own learning.

Distance Learning and Authenticity

In online courses, authenticity is paramount and can be implemented through the use of web-based instruction strategies. Authenticity will be the element that would build a bridge towards effective and meaningful learning in online distance education.

Authentic learning allows students to explore, discover, discuss, and meaningfully construct concepts and relationships in contexts that involve real-world problems and projects that are relevant and interesting to the learner. Authentic learning implies several things: that learning be centered around authentic tasks, that learning be guided with teacher scaffolding, that students be engaged in exploration and inquiry, that students have opportunities for social discourse, and that a great variety of resources be available to students as

they engage in meaningful problems (Donovan, Bransford & Pellegrino, 1999). Authentic learning has its foundation on constructivism, a theory of learning that postulates that students learn best by engaging in authentic learning tasks, by asking questions, and by drawing on past experiences. In short, for learning to occur for students, it must take place in a way and in a place that is relevant to their "real" lives, both in and outside of the classroom (Brooks & Brooks, 1993).

According to Donovan, Bransford & Pellegrino (1999), an authentic learning environment meets certain characteristics:

- Students are engaged in exploration and inquiry.
- Learning, most often, is interdisciplinary.
- Learning is closely connected to the world beyond the walls of the classroom.
- Students become engaged in complex tasks and higher-order thinking skills, such as analyzing, synthesizing, designing, manipulating and evaluating information.
- Students produce a product that can be shared with an audience outside the classroom.
- Learners employ scaffolding techniques (an instructional technique whereby the teacher models the desired learning strategy or task, then gradually shifts responsibility to the students).
- Students have opportunities for social discourse.

Herrington, Oliver & Reeves (2002) have explained the importance of implementing authentic activities to accomplish authentic learning. These activities should have real-world relevance, be ill-defined, requiring students to define the tasks and sub-tasks needed to complete the activity, as well as comprise complex tasks which students will investigate over a sustained period of time. These authentic activities should also provide the opportunity for students to examine the task from different perspectives as well to use a variety of resources to examine the problem or task. One important component of these types of activities is collaboration. These activities should provide opportunities for achievable collaborative projects. Herrington, Oliver & Reeves (2002) have added the importance of reflection when using authentic activities. As learners work in the different tasks, they should have opportunities for making choices and reflect for both individual and group learning. Since these activities should encourage interdisciplinary perspectives, students grow in knowledge domain on different fields.

A proof of this can be seen below with the types of web-based strategies that students have to experience as they are immersed in online learning. These are summarized as follows:

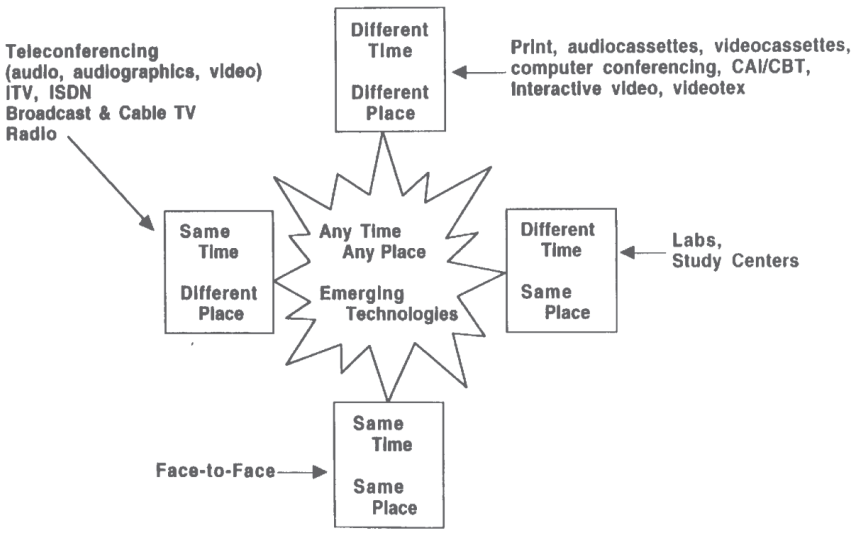
a. **Conversing, Discussing**: Students relate and compare perspectives with other students on different topics. These strategies can be applied through e-mail, listservs, discussion boards, or chat software

b. **Mentoring/ Questioning/ Supporting a Partner:** Students can get together with a mentor (s) to review their work and provide critique or can interview experts on line to research on topics assigned to them. They can also partner with other students and help one another succeed. These authentic online activities help to have e-mail, live, synchronous cameras for mentor/mentee to discuss, chat rooms with white boards, or digital drop boxes for file sharing and written critiques.
c. **Debating:** Through e-mail, discussion boards, chat or synchronous communication (skype, for example), students can experience more communicative activities like simulations, role-plays, scenarios, discussion on real-life events, problem solving, and so forth.
d. **Sharing Data/ Analyzing:** Authentic activities online also provide opportunities for collecting information locally and sharing it with others remotely and for making use of data collected globally to analyze trends and issues on updated topics around the world.
e. **Developing a new Product or Artifact**: As students work on a common project with others locally or at a distance they can design web pages or write articles; they can also share resources, exchange documents and working files, converting themselves into creative and resourceful partners.
f. **Traveling Virtually/ Situating Curriculum in the Context of Expeditions:** Meaningfulness can be experienced in online expeditions, communicating with travelers and learning about local cultures, using expedition data for interdisciplinary purposes (math, writing, history, geography or agriculture, among others)
g. **Seeking/ Collecting/ Organizing/ Synthesizing Online Information (Research)**: Students are required to accomplish some end goal with the resources, for example, students can compile, sort, answer probing questions, solve a mystery. Authentic research is not just reading web links provided by the instructor (coach), but fulfilling authentic tasks with these links.
h. **Exploring Real-World Cases or Problems**: Students are expected to explore real cases or use Web data (e.g., stock market, weather) to practice decision making. To do this, they can use virtual simulations with students testing personal hypotheses or designs. Authentic tasks would include strategies of prediction, testing, reflection, and revision that can support rapid conceptual change about complex course concepts.
i. **Accessing Tutorials with Exercises/ Quizzes/ Questions/ Online Drill-and-Practice**: Students review content material online; then access interactive exercises to practice or apply the material presented.

Distance Learning and Modes of Interactivity

But, online distance learning demands interactive teaching and learning at any time and place in a network environment, providing an easy yet efficient access to educational resources and obviously improving their quality. To accomplish this, online distance learning requires both approaches (synchronous- real time / asynchronous-non-real-time) to best support the amount and quality of learner-learner interaction as well as instructor-learner interaction. In order to describe the technologies used in distance education "The 4-Square Map of Groupware Options" developed by Johansen et. al. (1991) views distance education moving from highly individualized forms of instruction as in correspondence education, to formats that encourage teaching students as a group and collaborative learning among peers. This model is premised on two basic configurations that teams must cope with as they work: time and place. For example, learners can form teams or work in collaborative groups to reach a common goal in the same place at the same time as in face-to-face courses , and sometimes they must work apart in different places and at different times as in the use of asynchronous computer conferencing. They also need to handle two other variations: being in different places at the same time as in the use of telephones for an audio teleconference, and at the same place at different times as in workplaces, study centers or laboratories. Based on these configurations, the four square model classifies four types of technologies that support the group process: 1. Same Time/Same Place, 2. Different Time/Different Place, 3. Same Time/Different Place, and 4. Same Place/Different Time. These four categories are used for describing technologies that currently support distance teaching and learning.

The Four Square Map of Distance Education Technology Options
(Adapted from R. Johansen, et. al. 1991, p. 16)



These scenarios can be seen in the following table.

	Same time	Different time
Same place	Classroom teaching, face-to face	Learning resource centers, labs, study centers, where learners learn at their own pace
Different place	Audio conferences and video conferences, television with one-way video, two-way audio, computer conferencing with listener-response capability	Home study, computer conferencing, interactive video, tutorial support by e-mail and fax communication

Adapted from McIsaac and Gunawardena, 2001 p. 410.

Same Time/Different Place Instruction

In regards to same time/ different place instruction, there are two kinds of settings. One which describes a meeting through a telecommunications medium or teleconferencing where participants who are separated by geographic distance can interact with each other simultaneously, and the other one where there is a use of non-interactive media such as open broadcast television and radio to instruct a vast number of students at the same time without the ability for the students to call back and interact with the organizers of the program.

The first type, teleconferencing, can be classified into four separate categories depending on the technologies that they use: audio teleconferencing, audiographics teleconferencing, video teleconferencing and computer conferencing. Parker & Parker (2006) have explained that the term, "teleconferencing," refers to two-way electronic communications between two or more groups, or three or more individuals, who are in separate locations. In order to interconnect people, teleconferencing systems use telecommunications channels that range from regular telephone lines to satellite links. In order to participate in a teleconference, participants usually have to assemble at a specific site in order to use the special equipment that is necessary for a group to participate in the conference. We use teleconferencing as an umbrella term to cover all forms and types of conferencing activities; that is, audio as well as video, and as long as it meets each of the elements. The three major forms of teleconferencing are audio, audio graphic (which now includes computer conferencing), and video. Although these three methods differ in specific technologies they employ, they have several factors in common that contribute to a shared definition of teleconferencing, for they:

- Use a telecommunications channel and station equipment that provide reliable, high quality communication between all network points.
- Link individuals or groups at multiple locations.

- Are interactive, providing two-way communications and which provide a communications environment that duplicates as closely as possible a single site group.
- Are dynamic, involving active and easy participation of individuals.
- Feature a technical control center to supervise technical operation and origination facilities (Parker & Parker, 2006).

In regards to computer conferencing, there are two types: (a) synchronous computer conferencing, when two or more computers are linked at the same time so that participants can interact with each other, and (b) asynchronous computer conferencing, when participants interact with each other at a time and place convenient to them. Asynchronous computer conferencing is described under different time/different place instruction in the chart shown previously.

The difference between audio teleconferences and computer conferencing is that the latter can link up any individual who has access to a telephone and computer conferences can link up individuals, their computers and modems at home, or direct broadcast satellites that can deliver information directly to participant's homes. (Parker & Parker, 2006).

The advantage of teleconferences is that they provide for two-way interaction between the originators and the participants. Teleconferences need to be designed to optimize the interaction that takes place during the conference. Interaction needs to be thought of not only as interaction that occurs during the teleconference but pre- and post conference activities that allow groups to interact. Monson (1978) describes four design components for teleconferences: humanizing, participation, message style and feedback. Humanizing is the process of creating an atmosphere which focuses on the importance of the individual and overcomes distance by generating group rapport. Participation is the process of getting beyond the technology by providing opportunities for the spontaneous interaction between participants. Message style is presenting what is to be said in such a way that it will be received, understood and remembered. Feedback is the process of getting information about the message which helps the instructor and the participants complete the communication loop. Monson (1978) offers excellent guidelines for incorporating these four elements into teleconferencing design. The symbolic characteristics and the interfaces that are unique to each medium are discussed with the description of each technology (cited in Parker & Parker, 2006).

Pullen (2006) has pointed out several characteristics to both approaches that optimize their use in higher education today. The synchronous mode allows the instructor or students to inmediately respond to questions that clarify confusing aspects. This is done via voice communication or typed questions with voice response. If the resources like microphones, webcams, etc. are available in classrooms or labs, the web chat facility narrows the gap between the participants, and the communication becomes more real. Similarly, the instructor's graphic slides can be converted to use with shared whiteboards, and the instructor's pointer is replaced by whiteboard annotation tools.

Asynchronous mode, on the other hand, has the advantage of freedom of schedule, especially for working students. In other words, the Internet offers education

at "anytime", "any where". According to Pullen, "For students possessing the self-discipline to sustain self-study, no instructors or peers are necessary…Pure distance learning is possible without the mentorship of an instructor" (2006, p. 7). Peer interaction is difficult or impossible; however peer communication is accomplished by email, through threaded discussions and web forums, among others. Despite the fact that students have access to online chat rooms, each one of them is concentrated on a different topic (based on their needs or research), and time for discussion is reduced to a asynchronous environment.

Distance Learning and Collaborative Work

Blending both asynchronous and synchronous styles of online communication for distance learning enriches distance learning and is the optimal goal for a state-of-the-art accomplishment in this area. According to Dorbolo (1997), to accomplish optimal results where both synchronous and asynchronous modes are experienced, a learning strategy named "distributed directed discussion" can be implemented in online communication for distance learning. He has explained that distributed directed discussion allows students to engage in collaborative work in a series of debates, analyses, critical thinking, discussions, and others (mentioned previously). Dorbolo has explained that distributed directed discussion includes seven different modes of interaction:

1. Peer-Peer Exchange: pairs of students correspond in a specified sequence of exchanges. This model produces large-scale active participation with minimal increase in the instructor's workload.
2. Inter-group exchange: this conversation class is arranged into subgroups. Groups may be designated by topics or size. Each group member's work is broadcast to an entire group, but not to the entire class.
3. Extra-group exchange: their conversation class is arranged into subgroups. The task of providing comments to sub-groups other than their own is assigned to the whole class. This way, a group receives commentary from outside and can be directed to deliberate and respond as a group. This model can provide an impetus for subsequent inter-group exchange.
4. Intra-group exchange: two (or more) groups exchange results that each group produced in an inter-group activity. The key is to assign each group the task of fashioning a collective message to be sent to the other group.
5. Chain Exchange: a group of students performs a task sequentially passing messages along the chain. Starting the sequence with each individual allows all students to participate in all parts of the sequence. This model is effective for accentuating the articulation of a concept or process (e.g. an argument, a calculation, a sequence.)
6. Global exchange: what each student writes is broadcast to the entire class. This model is useful where everyone's concerns are at stake.

7. Auto-exchange: one student replying to his or her own writing. The instructions guide students through steps of revision and reflection initiated by their own writing (Dorbolo, 2000).

The purpose of these modes of interaction online is to complement or substitute face-to-face interaction among students through the use of computers. Likewise, they ensure breaking the walls of the classroom by bringing together numerous amounts of students around the world from different universities in similar online courses, and by motivating these students to collaborate in the preparation, delivery, and exchange of projects assigned in these courses, that is, online collaborative projects.

Distance Learning and Mentorship

How can the coach or class facilitator generate web-based settings that exemplify constructivist learning settings or authentic learning settings? Oliver & Herrington (2000) has provided some guidelines towards this trend. He suggests instructors to choose meaningful contexts for learning. This makes the information purposeful and the resources become artifacts to the learning process. Oliver recommends choosing learning activities ahead of the content by considering how the learning is to be used in real life and to replicate this form of activity. In order to do this, the instructor should consider learning aims and the forms of competencies that reflect the achievement of the task. He also says that it is important to choose open-ended and ill-structured tasks. In other words, they need to have different interpretations and to have different solution processes and many acceptable outcomes. Another guideline is to make the resources plentiful. These have to be extensive so that learners can explore, inquire, and derive their own meaning from these processes. Authentic learning environments include seeing many different outlooks, many different interpretations, viewing situations from different perspectives, and disregarding irrelevant information. Students' cognitive strategies will be triggered as they discover, inquire, analyze, and draw conclusions.

Furthermore, Oliver and Herrington (2000) have explained that authentic environments require supports for learning. In fact, creating collaborative and cooperative settings for learners provides many advantages such as: articulation of ideas among peers, thinking strategies to develop understanding, scaffolding and structured support (hints/strategies). Another guideline instructor should consider its assessment. Using assessment with authentic learning activities provides an accurate measure of performance, achievement and development of learners' capacities.

Indeed, "learning comes from doing and talking about our experiences. From that learning, we create a personal history, an identity, in the context of the learning community in which the learning is taking place. What we learn is a function of who learns it with us" (Griswold, 2006, p.1). This is authentic learning, one that involves students in complex tasks that require them to use hig-

her level thinking skills. Authentic learning activities in conjunction with the use of new technologies have the power to stimulate the development of intellectual skills such as reasoning and problem solving ability, learning how to learn, creativity as well as the development of social skills such as cooperation among students in the same class and among students or classes in different schools or universities for the purpose of making them more aware of other realities and executing projects with a genuine relevance for the students themselves.

As can be seen, the responsibilities of the facilitator are demanding. They include those that deal with organizational ones since he / she has to set the agenda (objectives, rules, content, authentic tasks, timetable, requirements, among others) in order to reach the learning outcomes. This online facilitator must also create an environment that would ensure harmony, positive feedback, reinforcement, and social integration. He /she must also build a sense of encouragement and negotiation to promote student interaction and student integration in the discussion of ideas and the sharing of experiences, opinions, and different points of view. In regards to technical aspects, the instructor must manage technology and make it comfortable to the learners. In short, the commitment from the instructor is indispensable to effective and authentic distance education. But all of the responsibilities cannot be put only on the shoulders of the instructor/facilitator/mentor. It is a two-way process that also involves the learner.

Distance Learning and the Learner

Inevitably, the student must assume greater responsibility to match the increased control that comes with online learning. Based on the demands as well as the freedom online communication, participants must move from a relatively passive classroom experience into a more active online community of inquiry. In other words, the online learners must undergo an adjustment in the role they play in this type of education. The role assumed must be independent and interdependent, for autonomous learners and traditional learners need to work with others collaboratively. These two characteristics of the roles of the learners lead to self-direction and self reflecting learning.

Garrison, Cleveland-Innes and Fung (2004) have clarified that the transition to, and adjustment in, the role of online learner, is part of the current social climate in online education. While maintaining the usual expectations and privileges attached to the role of learner, online learners must have or develop

- knowledge on, skill with, and acceptance of the technology,
- new modes of communication with instructors, peers and administrators,
- increased levels of learner self-direction, and
- a new 'place' for learning in time (anytime, usually determined by the learner and his/her life circumstances) and space (anywhere, dependent upon equipment requirements).

Added to this, online students must learn to communicate and become familiar with other members of the community through a medium without the visual cues afforded in a face-to-face setting. The cognitive demands may well also increase as learners are expected to contribute ideas and share their thoughts, continuously, throughout the process. Thus, the main role of the learners is to become active participants, for they are expected to perform individually and collaboratively in investigations and explorations or in experiments and projects, regardless of location. In inquiry-based and project-based learning online, for example, the learners' roles can be narrowed to team member/collaborator, knowledge manager/leader, and self-learner.

Basically, online distance learning also promotes active, autonomous and transformative learning in the students. It provides students and teachers with competencies and technological skills that allow them to search for, organize, and analyze information as well as communicate and express their ideas in a variety of multimedia projects. The changing roles of both teachers and students engage them in collaborative, project-based learning in which they work together on real-time, real-world like, and language projects.

Conclusion

Online distance learning promotes, requires and facilitates "how-to-learn" skills. These skills include, among others, locating and accessing information resources, organizing information, conducting self-assessment, analyzing critical thinking and collaborating with others. To accomplish this, distance learning expects changes in behavior from both teachers and students. The distance education teachers are expected to succeed by becoming conversant with technological resources and by developing new instructional styles, moving from creating instruction to managing resources and students. The successful student in addition to many individual responsabilities should develop persistence, organization abilities and skills in self-directing work.

Among the advantages of delivering distance learning on the Internet, the most outstanding are: time and place flexibility, potential access to a global audience, life-long learning, availability of a vast amount of online bibliographical references, the possibility of synchronous and asynchronous interaction between the mentor and students, among students, and among students and technological resources.

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