Study e-Learning (Internet-based education)

Article in Advances in Environmental Biology · July 2014

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Available from: Alireza Emadi
Retrieved on: 06 November 2016
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ABSTRACT

Using the internet as a pedagogical tool for teaching is growing rapidly. Many organizations are attracted to the opportunities provided by information and communication technologies. Educators are interested in providing efficient and easy access to information, better communication between teachers, students and colleagues, and better learning opportunities. Economic potential of advanced technologies and their potential role in the transformation of higher education have focused the attention of university leaders. This is lead many universities to begin the integration of information technologies in their academic training. In the last decade, the implementation of new technologies in education result in new and enriched forms of learning pedagogy. This led to inclusion of web technologies (Web) in the face to face lessons as an effective information tool for distance learning courses.

INTRODUCTION

The traditional approach to teaching, bring learner and teacher together in a classroom where learning occur. This class is a learning environment. In this learning environment, the teacher explains the new concepts and ideas and learner have the opportunity to ask questions of the teacher. All participants in the class can benefit from the question and its answer. Students can learn from numerous on-line learning materials and resources that provided by online learning environments. In addition, learners can communicate with their teachers via email. [1]

Internet as learning environment, take advantage of classroom learning environments and postal services learning environments. Internet allows learner to choose the time and place of their own education, and yet can interact with teachers and other learners and participate in class discussion.

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The online learning environment patterns can be used by all the universities and academic disciplines, and there is no limitation for any major or fields of study.[2]

However, some topics are presented better than other topics through this type of media. For example, theoretical issues have more consistency and adaptability to this method than practical topics. But new approaches to teaching practical lessons has made it possible.

Internet-based learning pedagogy:

Both traditional classroom learning environments and postal system learning environment are allowing the interaction between teacher and student. Interaction is an important element of teaching. One of the basic assumptions in the internet-based learning is to use the benefits of in-person training. Although there was not

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any interaction between students and teachers in the first use of Internet-based training, or the interaction was minimal, but a lot of possibilities for interaction between teacher and student have provided recently.

In the distance teaching, some of these strategies could be integrated with printed materials.

Internet-based education can make used of all the strategies that presented in the above table. This table shown the online learning strategies which are equivalent to classroom learning strategies. [3]

Meyer introduce three key competencies that learner must met prior to using online learning environment, as follows:

1- Convey ideas and information
2- Work with others as a team
3- Use of Technology

Gery Web (1977) is divided the internet use into three main categories:
1- Using the Internet as an information source
2- Using the Internet as a communication medium
3- Using the Internet as an electronic trading system (exchange)

Alexander (1995) argued about the new opportunities have been established for the use of online learning environments in universities: the use of new educational technologies for its own sake is almost always fail. Online learning environments shouldn’t be used as an alternative to traditional classroom unless it have huge benefits for faculty or learners.

New opportunities provided for universities through the use of online learning environments are divided into two categories:

1 - New Business Opportunities
2 - Improving the quality of education

Some of the ways through which they can expand their market and provide more learning opportunities for youth include:

1- Increasing the number of students by providing remote lessons (flexible learning)

This allows the University to:

- Distant learning, for example, parents who have the primary responsibility for child care, staff rotation (with working shifts, military personnel, residents of other countries, etc.) could continue their education.
- Expand their territory to other countries such as registering foreign students (through the virtual campus) for continuing education.

2 - To gain more income through competition for contractual training workshops.

3 - For specific topics and lessons developed an “advance centers”. In this case, for example, the Sydney institute of information technology is famous for programming and data analysis. [3]

The quality-improvement of education:

Internet learning environment plays an important role in distance education, but can also improve the quality of real education. There are many ways in which online learning environment could improve learning and teaching, including:

1- Repeatability of lessons: Students can review lessons over the internet and study on their own pace.

2 - The student never lose a lesson or a class. Students can lose a course or part of it due to possible causes other than illness:

- A concurrent commitment to work and career (many students have full-time jobs that require them to travel).
- Family obligations (especially parents who have to take their children from child care centers, or take care of their sick children.)

3- Commuting problems: Some students attend classes from a long distances, so they have to spend too much time traveling.

4 - Easy access to a world of information that is achievable only through the World Wide Web. For example, access to the frequently asked questions, news groups, library catalogs and product’s information.

5- Creating important and key competencies through the use of learning environment

6 - Growth of Internet literacy through practice. (Internet literacy is a necessity today, just as ten years ago computer literacy was a necessity). [4]

Information and content:

Content is one of the key elements of each academic course. When studying a lesson, students use many different from of content (such as lectures, textbooks, articles, websites, handouts, lesson notes and reading materials). Teachers and their curriculum, their perception on the combination of content knowledge, its presentation through various media, cross-connections and organizational structure, and supporting data tracking; forms their knowledge domain. Many efforts and many resources are spent on development and
implementation of real courses. While there are not any complete agreement between traditional education planners and the students perceptions of course content, learning objectives; and it is more time consuming and expensive.

In the traditional physical classrooms, the most common form of evaluations are examinations, reports, projects and exam. These tools provide specific and limited information for instructors about the extent of interaction between students and the content. But in the case of web content, the situation is different. The data that are used in this assessment may be reported directly by the computer and or collected by the mean of special software packages.

Features of Online Education:
1- cooperation: Without a doubt, the most important changes that happen due to online learning is increasing the tendency of cooperation between students and faculties.
2- Being connected: Online education provides a joyful relationship. Students can easily communicate with their instructors and peers via e-mail through visual dialogue. They can also easily communicate with their parents and professionals in their field of study. And in this way, they can find a way in learning networks and access to collaborative projects. 
3- Learner-centered: Although teachers and university professors played a key role in creating and organizing the class, but it is students’ participation and activity that determine the class direction. Teachers develop goals and facilitate the learning process, but learners discover their own content and do assignments or projects. This means that online courses are less structured and more learner-centered than traditional classrooms.
4- Borderless: online education bypass the classroom walls. This means that it is possible for students to access any information and people anywhere in the world. In addition, it opens itself up to more students. Online education remove any spatial and temporal boundaries on student learning. This type of education is very useful for students who live in remote locations, students who moving frequently and students with disabilities.
5- Community: Learning takes place in the community, whether in a learning community determined by a school, particular organization, or in actual physical community, such as a city or town. Online education can connect communities through increased accessibility and social interaction. Creating a home page on the web which provides possibility of connecting earlier separated elements such as online catalog, emails, or phone numbers; contribute with creation of learning communities.
6- Exploration: many online activities take an exploratory learning forms. If computer games can be a lot of fun, why formal learning couldn’t. A more formal type of it is exploration and problem-based learning, which generally used as professional training (such as law, medicine, engineering, and business teaching). In this approach, students are provided with problematic situations and asked them to make a diagnosis, solutions, strategy and design.
7- Knowledge Sharing: However, the core of education is knowledge sharing, but before computer networks, only a limited ways of doing this was possible. Obviously, the book is an excellent technology, relatively inexpensive, portable, and durable for doing so. But the book can contain small portion of human knowledge, and library shelves can keep a limited number of books in his place. When you put information on the Web, through a computer connection, another person from another part of the world can immediately achieve it. Good or bad, anyone can be an author or publisher.
8- A multi- sensory nature: Obviously, learning will be more effective when encompass multiple sensory channels (e.g., image, color, movement, sound, touch, smell). We also know that people have different tastes and sensory preferences (cognitive styles).
9- Accuracy and suitability: Online education inherently have great authenticity, which is one of the main reasons for the correlation between collecting and sharing knowledge. The virtual world is much more realistic than traditional classes. Online classroom activities are real, because students can have access to experts and real databases. In fact, one of the main weaknesses at all levels of education is lack of congruence with the real world.

Elements of Online Learning:
1- E-mail:
   The foundation of any online teaching and learning approaches is electronic mail. In fact, we can use email alone for teaching a lesson; yet it is an invaluable learning experience. The most cost-effective methods in terms of required network resources and machinery (computer systems) is email application, because we can use it with minimal equipment, soft wares and facilities.
2- Threaded discussions:
A threaded discussion is the most interesting element in online learning after electronic mail, which is also called asynchronous conferencing, congress or bulletin board. Headings and subheadings are already set and people post their messages about their title of choice. There is a message sender, subject, and body included in each messages. Reading any message requires the selection of a title or sub title and then clicking on the messages available below it.

3- Live Conferences:
Live Conference encompasses all forms of online simultaneous interactions. The simplest form of real-time conferences are chat sessions, in which participants exchange typed messages with anyone who can view messages as they sent. The sender name is included in the message, thus it is possible to identify the person who sends the message.

4- Video Desktop (PC):
The most advanced form of live conferencing is computerized video systems, basically a chat system that uses video images instead of text messages.
Videos (including audio) are recorded by mean of a digital camera connected to a personal computer. These are quite expensive cameras and can be installed on any computer. Connecting to a network server through using computer software or a stand-alone application, a video conference is launched, or through a direct connection with another person by IIP address, two-person video sessions (point-to-point connection) will becomes possible.[7]

Research related to online education:
A. The effect of learning on student achievement: The starting point of most research related to educational technology is analyzing the success rate of students in online education compared to traditional education. In many cases, the lessons that have already been taught in a traditional classroom, is now presented in online form, or taught simultaneously by both traditional and virtual methods. The observed differences can be attributed to the teaching method, if the course content, instructor, and learners are identical. Unfortunately this is not always true, because it is likely that a lesson in virtual classroom is held differently from traditional classes. However, it's important to note that knowing the results of comparing the virtual teaching with traditional teaching and its effects on student achievement is a significant issue.

B. The nature of interaction in the virtual classroom: Computer impact upon the interaction between teachers and students is one of the most interesting issues in the virtual classroom. The answer to this question depends on the nature and resources used in the online classroom as well as the teacher's role in the class. Other factors such as the subject or field of study, grade and student record of learning will also affect the nature of the interaction.

C. Virtual Conferences: Web conferencing offers a wider scale online interaction. Conferences are the main means for continuing education of professionals. They provide opportunities to keep them informed of new developments and ideas, learn novel techniques, and testing new products. Web conferencing can have highest thinking and social benefits of a real meeting, without financial hardship and difficulties of traveling.[8]

Learning communities:
Learning communities expand beyond the time frames of a special course or conference and allow learners to interact with each other in a specified period of time. Learning communities is desirable for staff training or expertise whom are benefiting from large-scale interaction and sharing of ideas and information between participants.

Online Learning:
A. Learning to learn: The main difference of online learning and other non-online learning approaches is the learner freedom in selection of time, space, and learning methods. As matter of fact, online learning is a student-centered approach, which provide learners with more autonomy in pursuing their interests and desired learning style.

B. But that freedom and independence comes with responsibility. Learners must have the discipline and innovation in their education, studies, and doing their homework. Students who appear poor in virtual class are those who lacked these skills. Writing and communication skills is essential for online learning, especially it is very important in the context of group interaction. In fact, this is one of the main reasons that students are not comfortable with online learning.

B. The social environment (cultural): Online learning is a group and collaborative activities than a personal one. Social skills play an important role in interacting through computer networks, especially when it involves
interaction and collaboration. Unfortunately, most people have little formal training in how to interact and communicate successfully. They are skills that are acquired implicitly through family, living, and school. Social environment of online activities are differ completely with regular personal interactions and requires new skills and behaviors.

C. The collaboration theory: learning theories and models have been developed over many years. Although many of these theories are somehow related to online learning, but few theories have been created specifically for this issue.

D. Online etiquette and customs: online communication with others require special code of behaviors, that they called it "netiquette" implicitly. [9]

Virtual Teaching (Online):
A: Interaction and cooperation: The main role of the instructor in online classes is ensuring a high level of interaction and participation. This means that the design and implementation of activities must encourage engagement of students in the subject matter and in cooperation with other students. Course work must focuses on projects and assignments which is inherently real and in accordance with realities of life. It must provide many opportunities for participation and engagement of students in learning activities.

B: The faculty involvement in class have deep impact on student’s interaction and participations. If teachers sent regular messages to discussion forums or convey his opinions through email, it will rose the student’s participation and involvement in subject matter. Therefore, one of the essential requirements of a good online teaching is teacher efforts in promoting students participation.

C: Feedback: The main task of the teacher is provision of feedback to the learner. In virtual classes, teacher usually provide feedback on student assignments through e-mail messages or comment on the assignments and returning it to the student.

Comment on the work done by the student usually require correction of the original file submitted by the student and requiring him to save it for further comments. Group feedback can be in the form of e-mail messages in a discussion or conference that individual responses given to a particular topic or activity and urging the students to summarized or combined them.

D: The workload: One of the consequences of interactive courses and providing feedback for students is increasing the faculties’ workload. With a simple calculation, it’s apparent that the higher level of engagement and participation in class will entail more work for the teacher. Online teachers and institutions need to develop strategies to deal with the increased workload.

E: coordinate and facilitate: online teaching requires a skilled moderator and facilitator. Coordinator ensures encouraging students to participate in discussions and conferences. The facilitator can help prevent a student from influencing the whole class, discussions have taken on the subject matter theme, students are prompt to summarize, synthesize, and highlights the important points of discussions.

F: Effectiveness: There are many factors that influence the effectiveness of online teaching, including familiarity with the nature of online teaching techniques, and mastery of specific systems and applications that be used in a specific course.

G-faculty cooperation: Online courses provides ample opportunities for student’s interaction, as well as provide an opportunity for faculty members to work together. Although teachers are always willing to work together, often in traditional education system it is difficult or even impossible.

H: Student Evaluation: Evaluation of student learning is one of the main concerns of teachers in virtual teaching. They are worry that they could not assess the extent of student understanding and participation correctly and appropriately. It is interesting that they evaluate students. [10]

Education and work (job) patterns:
Online education provide high flexibility in terms of place and time, especially if it’s implemented on non-concurrent interaction basis. Learners can attend classes at home in the evening or weekends and continue their education in this fashion. Thus, there are not any requirements for faculties to teach in campus. They can perform their instructions at home and based on their own schedule. Also, there are possibility for continuing education or work at vacations, in travel time, or on hospital beds, providing availability of a PC and a tell line. But one of the main weakness of online education is management and supervision. Most people who have managerial or supervisory responsibilities (e.g., heads of schools, head of departments, directors, theses advisors, etc.) did not feel comfortable in carrying out such activities electronically. [5]

Education in the Information Age:
Obviously, the possibility and success of virtual education depends on easy and regular access of students and teachers to computers connected to the network. As a general principle, it is different between urban and the
poor rural areas of the world. There are limited number of computers and network access in these areas, or not at all. For such students and faculties, online education is currently impossible.

**Virtual schools:**

New and evolutionary forms of organization is possible through online education. For example, there is no reason that a group of experts in a particular subject area couldn’t manage their own institute whom provide a courses or seminars or offers degrees and grant certifications. Validation and accreditation is necessary to determine the purpose and usefulness of these virtual schools, although current system of accreditation targeted only large enterprises, but can be used to fit in the smaller one too. Offering lessons and topics that are of high demand (such as new areas of science, medicine, or technology) and providing them through well-known and reliable teachers, can contribute to the success of virtual enterprises.[9]

Duties of a teacher, administrator, or curriculum designer are as follows (in the design and implementation of online classes):

1. Search the Web for available online materials and courses with similar content, students, tool or similar purposes,
2. Talk with other institutions or individuals who have done what you want to do
3. Take an online course (select) if you do not have firsthand experience of this form of learning
4. Create a team for building the curriculum and additional support
5. Make sure your institute or organization is completely ready for implementation of online education.

**Summary and Conclusions:**

Application of information and communication technologies (ICTs) has changed the world and the people in the digital age. The results of these impacts and changes are pedagogy, the theoretical and practical aspect of education; which is always active and flowing. In the process of these changes, new Pedagogies are emerged and offered a new dimension for virtual education, and as an active part of the World Wide Web sites, opened its way in the modern virtual learning world; however, the scale and scope of the pedagogies create a new potentials and opportunities and stimulates intelligent interactive learning which provide self-motivation and self-guidance, accountability, responsibility, scholastic spirit for learners. With flexibility provided for teachers, they can use new approaches for using information technology together with new theories for improving student’s learning experience; and in accordance with information age, open new and better opportunities for students and teaching methodologies for teachers. Using these visionary and equipped with tools and technologies and new ideas, they can enter 21st century challenges and promoting better future for our descendants.

**REFERENCES**


