
The future of global education

Nadia Yusuf

King Abdul Aziz University, Jeddah

Keywords

Internet, education, progress, online learning, technology

Abstract

This paper emphasizes the development of a computer to a medium of education. Evolution of this room-sized machine comprised a purely web-based set of tools, resources and techniques used globally by all to supplement the classroom experience. Through the advent of eLearning students are empowered to embark on active, independent learning. They can access course information and do research, all with the help of this virtual space provided by the World Wide Web. They can also enjoy peer-to-peer learning and interactions. The new learning landscape is a multichannel learning environment that can be seen as a Complex Adaptive System. For the most part, this environment is self-organizing and because of that it is difficult to predict exactly how it is all going to turn out in the next five years. But, there is no question that a major shift is taking place – a turn from instructor-centered curricula towards learner-centered searching for relevant resources of learning as needed.

Introduction: The workstation

We live in a world that is changing so rapidly each day that at times what is considered an innovation today could easily be redundant tomorrow. Technologies emerge and evolve every moment, and we are quick to adapt or abandon them depending on the kind of use we are able to find for them. One such revolution began in the late sixties with the advent of a room-sized machine, the computer that today sits pretty in our palms. And this mainframe computing can safely be defined as the beginning of the era of e-learning for mankind. But it really didn't take off until the advent of CD-ROMs and the World Wide Web. Multimedia CD-ROMs in the early 1990s allowed us to develop programs that had color, action, and interactivity. These were a major advance over text on monochrome screens that characterized educational computing in the 1980s. Despite all this hectic development, the 1980's were still very different and rather primitive from the way things have evolved today. But the invention of the World Wide Web (WWW) changed the scenario by taking centre stage of most learning and interaction platforms globally.

Then - Internet

The invention of the WWW in the early 1990s introduced the ability to access resources from anywhere in the world through Universal Resource Locators (URLs). But the web was a step backwards in terms of animation and interactivity because of the slowness of computers, modems and the network at the time it was introduced (Youssef, 2008). It is only now that the capabilities of networked computers are catching up to the level necessary to produce the quality of eLearning that was possible using CD-ROMs. ELearning has been taking the world of education by a storm. Computer based eLearning has been eradicating geographical boundaries

and barriers to make knowledge more accessible and more universal. This technological development has brought education to the forefront and it has people taking a keen notice because societies all over the world not only realize the importance of education but they also put a huge amount on emphasis on it. Education must be considered a key investment in modern economies because within the framework of a knowledge-based economy there are strong and positive complementarities between economic activity and education in the explanation of economic growth. E-learning can contribute to the beneficial dynamics by increasing access to education in society as a whole, avoiding traditional constraints related to the space, time and pace of person-to-person teaching and learning systems, and allowing educational access to many people who would otherwise not enroll in courses (UNESCO, 2010).

The Prospect

Coinciding with this revolution are explosions of population, and of knowledge. Indeed, knowledge has increased beyond learners' capacities to attend to all there is to learn. These developments challenge education, and in particular the problems of increasing learner demand and the shortage of instructors in higher education (Algahtani, Abdullah, Faleh 2011). The impact of these conditions necessitates research about options in learning and requires educational institutions to develop efficient and effective systems that can meet the needs of communities driven to absorb tremendous scientific and technological progress (Amer, 2007). Therefore, educational communities must remain viable for growth in the midst of global market competition and must benefit from the ICT revolution by employing it to respond to contemporary pressures.

The Progression

Accordingly, new ways of teaching and learning have begun to emerge globally, the most important of which is eLearning. E-Learning has become a reality that it is impossible to ignore, especially for workers in the educational sector. The need to know about its concerns, related concepts, skills, tools and so forth drive this development forward. It also seems reasonable to expect that researchers will rate the computer as the greatest invention in human history in terms of facilitating global communication. The marriage of computers with knowledge has now opened the field to the entirely new concept of eLearning.

Education is no longer about teachers and teaching. Societal forces now demand that the focus be on learners and learning. In parallel, the ICTs are opening up a varied supply of new and powerful possibilities for learners and learning. Some characteristics have enabled eLearning to give a credible and strong competition to methods of conventional education in a very short period since it came to be formally identified, defined and accepted:

- **Computer-mediated Classrooms:** Faculty members and learners communicate through the computer means making face to face interaction less frequent;
- **Separation in time between Communications:** Communication between faculty members and learners can be also in an asynchronous modes;
- **Availability of Services Online:** Learners are not only provided by online learning experience but also with online services such as advising, registration, and library services.

Advantages of E-Learning

E-Learning has been able to emerge as a credible alternative to conventional education due to its inherent benefits that work wonders when put to work in over-populated or geographically diverse countries. According to renowned researcher Mayer in his landmark study of 2003, eLearning presents the following key benefits to the students:

Learners can get the best tuition available: The extensive popularity of eLearning program makes learning more flexible and gives freedom to learners to choose the best course which fit their needs.

Training time: Web-based and media training are available 24 hours a day and 7 days a week which allows learners to study when they need it without any conditions or constraints. They do not need to wait for tuition sessions or specified time to attend.

Learners set the schedule: Learners can study at their own time and they can take as many lessons as they need depending on their time and their schedule. For example, some of them may wish to study full-time while others want to study a few hours a week.

Learners get access to the instructor: Communication with the tutor(s) through web based eLearning systems can be more helpful than the traditional classroom approach.

Training adapts the learner's style: Many different learning styles can be integrated within an eLearning environment and the learner is able to adapt his or her style or series of styles which they prefer and in the way they feel is most efficient.

Learners get quick feedback: There is no need to wait while for the results and degree of the course, the results can be obtained immediately.

Learners treated more equally: A degree of anonymity is ensuring, therefore personal characteristics are not considered.

Saves time and money for learners: Hidden costs are eliminated in that here are no traveling fees, parking charge, etc. It is also efficient for time in that almost all the time is used on learning and no time is wasted on traveling.

Produces positive effects: Learners are constantly improving their other skills. such as computer skills. Internet technologies and how they apply the skills in their jobs.

According to Mayer (2003) the most common advantages for instructors can gain from e-learning are:

Tutors can teach anywhere: Tutors are able to teach the course from any location. All they need is connection to the Internet.

Tutors travel less: Almost all the time is spent on publishing, planning, designing, and producing the courses with no time wasted on traveling to attend the class.

Course can be dynamic: Tutors have the opportunity to deal with course stuff at any time and in any place such as Office, home etc.

Tutors save time: Time spent in preparing the course materials such as, handouts, having course paper printed is eliminated.

Disadvantages of E-learning

Everything has a positive and a negative impact. There are a few disadvantages as well (Bates, 2009):

1. Less impulsive learners with dire study practice may fall behind.

2. Without the regular structures of a traditional class, students may get confused about course activities and deadlines.
3. Sometimes while studying the student may need the help of the instructor and the instructor may not always be available.
4. Students may feel isolated from the instructor and classmates.
5. Technological constraints like, slow internet speed or older computers may make access to course materials annoying.
6. Students at the beginner level may find handling the computer more challenging than the actual course.

Whatever the reason, if online courses attract students who otherwise would not have attended higher education, this is of importance from a policy perspective as it has a positive effect on the accumulation of the human capital.

HOW does eLearning work?

This paradigm shift can be best examined through the following illustration, fig.1:

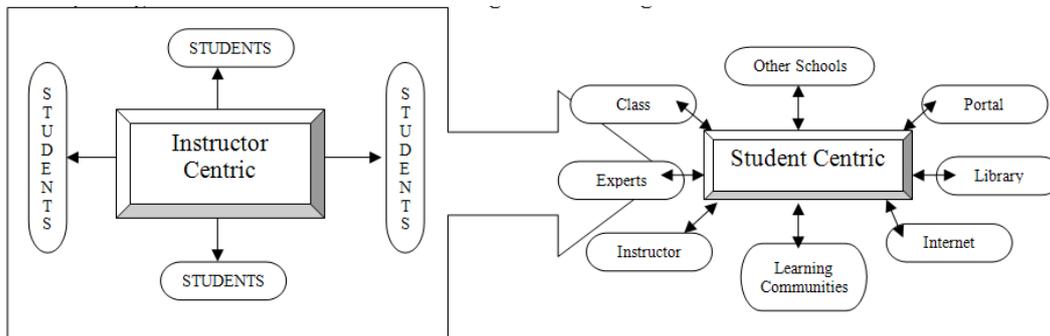


Figure1. The figure shows the shift from instructor-centric learning to student-centric learning.

Widespread use of ICT has led to new communication channels and accessible information, while the Internet has changed our learning methods (Ryder and Wilson, 1996). Indeed, the revolutionary thrust of ICT is derived from the alliance of the two types of rapidly developing technology, the first being personal computer (PC) technology, making small, affordable computers, including devices such as iPads and smart phones; and the second being directly wired and wireless networks, providing exchange between devices whether nearby or afar (Al-Fahad and Al-Mosa, 2002). Thus, the internet offers new and interesting opportunities for learning (Al-Salem, 2004), supported by the delivery and use of multimedia elements through new kinds of connected devices. Now, as we would have seen eLearning clearly stands head and shoulder above the rest on the global educational firmament with distinct advantages. It is because of this that governments and people across the world are rapidly adopting eLearning so much so that eLearning stands a clear chance of emerging as a mode of conventional education in the years to come.

E-Learning Practiced In Saudi Arabia

King Fahd University in Dhahran has been working closely with UBC in Canada since 2003, with staff from King Fahd University visiting UBC for workshops a few times over this period

(Tony Bates, 2009). The exercise of e-learning at King Fahd University is extensive, both to support classroom teaching and in a hybrid mode, with a blend of reduced classroom time and online learning. However, there is still confrontation at the senior management level to offering completely online programs, which would be well-equipped, particularly for women students, who cannot access King Fahd University for Petroleum & Minerals (KFUPM) on campus. KFUPM is clearly the leading institution in Saudi Arabia in terms of e-learning experience. The main use in Uum-Al-Qura (Mecca) and King Abdulaziz (Jeddah) Universities is to support classroom teaching, although King Abdulaziz University has many students taking fully online distance courses. There are problems though with students accessing the Internet off campus, partly because many students do not have reliable and cheap Internet access from home, and because campus IT security makes it difficult for students off campus to access the servers on campus. The Saudi Government remains the major contributor to the development of the country's higher education infrastructure and is continuously raising the budget to be spent on the education sector (Garg, 2012). This in turn has led to the growth of eLearning across enterprises and educational institutions in the Arab World. During a short span of time, the National Center for E-Learning and Distance Education has undertaken successfully a number of educational projects which have become milestones on the Saudi Arabia's path towards the implementation of e-learning and distance education (www.icde.org). These projects include:

1. Tajsir eLearning Initiative: This proposal is concerned with the development and modernization of traditional education and its methods in order to keep pace with modern educational methods. It is based on support of university education institutions in the adoption of the most modern applications in the area of e-learning and distance education.
2. Educational Portal: Is a medium for the dissemination of knowledge, enhancement of skills, and exchange of experience related to eLearning and distance education, through the services made available by the portal.
3. Jusur System for the Administration of Electronic Learning: It is an integrated software system responsible for the management of the eLearning process. The student is able to access his own webpage where he can view his assignments and grades, while the instructor is able to design and administer electronic exams through the learning management system.
4. Saudi Repository for Learning Objects: The National Commission for eLearning and Distance Education have established the Saudi Repository for Learning Objects, a primary electronic channel which aims to raise the level of the educational process in general, enrich the educational content of digital courses, and overcome difficulties faced by students.
5. Excellence Award in University E-Learning: The Award seeks to recognize excellence in the field of e-learning, encourage the development of e-learning in the Kingdom and initiatives which enrich university-level e-learning, expand applications of eLearning, disseminate awareness regarding the culture of excellence in eLearning, and adoption of standards of excellence and innovation in eLearning applications.
6. Qualification and Training Project: This project aims to qualify and train faculty members and technical support staff in universities in the field of eLearning and its

applications. The training programs are presented by a group of qualified Saudi and international experts and trainers.

7. Saudi Digital Library: It is one of the pioneering projects inaugurated by the National Center for eLearning and Distance Learning. Its goal is to raise the level of the educational process in the Kingdom through support of the system of teaching and learning in general and electronic learning in particular and meet the requirements of scientific research, as well as strengthen skills and help build a knowledge-based society.
8. Saudi Center for Support and Counseling: It provides technical and academic support for e-learning users, both students and teachers through its modern telephone and computer communication capabilities, which provide direct voice communication, e-mail and chat, fax, and text messages.

Where does E-learning go from here?

The new learning landscape is a multichannel learning environment that can be seen as a Complex Adaptive System. For the most part, this environment is self-organizing and because of that it is difficult to exactly predict how it is all going to turn out in the next five years. But, there is no question that a major shift is taking place – a turn from instructor centric curricula towards learner centric searching for relevant resources of learning as need (Demiray, 2012). The shift is from instructor controlled classroom learning and instructor controlled eLearning to a mix of approaches that includes instructor control when appropriate (for specific certifications, for example) along with many different channels of resources and requirements from which learners can choose and explore. Emerging eLearning will not be simply mixed with face-to-face learning to form blended learning.

Rather, all learning will be multichannel learning. The 'e', in eLearning will gradually disappear, as electronic support for learning by any means becomes invisible and taken-for-granted (Woodill & Oliveira, 2006). Like we said, it will then stand a very real chance of emerging as a conventional mode of education. E-Learning continues to evolve with new delivery methods – to PDA or mobile phone (called m-Learning) and via blogs, wikis, Podcasts, and easier to-use tools. There is also a trend seen in the transition from training to learning that leverages the power of the Internet to go beyond e-Learning through knowledge management, competency management, and performance support and to HR processes like performance management, talent management, succession planning, and hiring. Web 2.0 (and e-learning 2.0) technologies are driven by collaboration.

Quality and Evaluation of e-learning

Defining quality in eLearning and what should be considered when evaluating the quality of e-learning has been developed during the last 15 years. Despite the important contribution of each of those studies, a complete framework for evaluating the quality of eLearning couldn't be addressed (www.ukessays.com). Developed frameworks either describe the quality of e-learning program with an importance on the classroom environment only or overlooked some important aspects such as the impact of the institute on the quality of E-learning programs (Cashion and Palmieri, 2002). Such standards however, were developed to help institutions plan for their E-learning or as a self assessment tools, so they usually address in

general perspective academic standards, quality standards, standards of competence, organizational standards and service standards (Harvey, 1999). Researchers can help stakeholders and institutions make sensible decisions about the questions that result from eLearning. Methodologies must be designed to examine how technology enables or facilitates teaching and learning activities in the context of eLearning. It would be remiss to look only at the medium and then make comparisons across various delivery mechanisms. Technology is only a tool. The technology becomes necessary but not a sufficient condition. The focus of examination therefore becomes the interaction among several important levels of variables with the technology.

Conclusion

E-Learning is in its growth phase and holds tremendous potential for developing countries. However, it requires huge amounts of financial and human resource inputs to hit the fast lane. The growth or the dimensions of eLearning are almost wholly dependent on the growth and advancements in corresponding technologies. Models to judge the effectiveness of eLearning still need to be worked upon and fine-tuned. Although there are plenty of advantages that can apparently be associated with eLearning, the disadvantages too need to be ironed out before the full potential can be realized. Going by the trends in its growth, eLearning stands a real chance of being identified as a conventional form of education in the years to come. In a world where more is expected of individuals and organizations, with budgetary pressures continually increasing, eLearning may offer a viable alternative to traditional training.

References

- Ben Youssef, A. Ragni, L (2008). *“Uses of Information and Communication Technologies in Europe”*
Carnevale, D. (2000, February 28). Jones International U. to offer accredited online MBA.
UNESCO-supported e-learning association launched in Middle East, 24-02-2010, United Nations Educational Scientific and Cultural Organization, Paris.
- Algahtani, Abdullah, Faleh, 2011. *Evaluating the Effectiveness of the E-learning. Experience in Some Universities in Saudi Arabia from Male Students Perceptions*, doctoral thesis, Durham University.
- Amer, T. (2007) *E-learning and Education*, Cairo: Dar Alshehab publication.
- ICT market: the Middle East has the best growth potential in 2010), Sunday 24 Jan 2010, Global Arab Network.
- E-Learning Students Education, (www.ukessays.com/essays/teaching/e-learning-students-education)
- E-Learner web-page, *Advantages and Disadvantages of eLearning*, Iowa State University, www.dso.iastate.edu.
- Tony Bates, Nov 5, 2009. *A personal view of eLearning in Saudi Arabia*. Online learning and distance education resources, webpage.
- Vivek Garg, 9th Feb 2012, *Government Initiatives to endorse eLearning In Saudi Arabia*. The upside Learning webpage.
- E-Learning and Distance Education, Kingdom of Saudi Arabia, Ministry of Higher Education, Handbook, www.icde.org/filestore/Resources/Handbooks/e-LearningAndDistanceEducation.pdf.

- Ugur Demiray, 26th April 2012, Ph.d. *E-Learning in Ugur Demiray's Opinion*, Anadolu University, Eskisehir.
- Gary Woodill & Carlos Oliveira, 15th May 2006. *Mashups, SOAP, and Services: Welcome to Web Hybrid e-Learning Applications*, www.learningsolutionsmag.com
- Ryder, M. and Wilson, B. (1996) 'Affordances and Constraints of the Internet for Learning and instruction', *The Association for Educational Communications Technology Indianapolis*, [online] Available from: http://www.cudenver.edu/~mryder/aect_96.html. [Accessed 7/4/2008].
- Alfahad, F. and Almosa, A. (2002) *The Role of Communication Services in the Internet in the Development of Education Systems in Higher Education Institutions*, Research Centre, Saudi Arabia, Riyadh: King Saud University.
- Alsalem, A. (2004) *Educational Technology and E-learning*, Riyadh: Alroshd publication.
- Demiray, U. (2012). *E-Learning in Ugur Demiray's opinion*. Ph.d. Anadolu University, Eskisehir.
- Woodill, G., & Oliveira, C. (2006). *Mashups, SOAP, and services; Welcome to web hybrid e-learning applications* (www.learningsolutionsmag.com/articles/227).
- Cashion, J., & Palmieri, P. (2002). *The secret is the teacher: The learner's view of online learning'*. Leabrook, Australia: National Centre for Vocational Education Research.
- Harvey, L., 1999, 'Evaluating the evaluators' Opening keynote of the *Fifth Biennial Conference of the International Network of Quality Assurance Agencies in Higher Education*, Santiago, Chile, May. 8
-