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E-Learning: Issues and Challenges

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E-Learning: Issues and Challenges

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Definitions

E-learning (EL) also known as distance learning, Web centric education, Virtual learning, and by many other similar designations, all refer to the process by which students and trainees in formal education and continuing education and training programs pursue their studies or training in a non-conventional pattern and in which regular physical attendance and eye-to-eye contact with the instructor(s) is not required. The bulk of the learning is done at home or in the office on a self-directed basis with limited contact with instructors and facilitators. The U.S. Distance Learning Association defines distance learning as the “acquisition of knowledge and skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance.” I was very fortunate to have been able to introduce e-learning to the University of Wisconsin in the early 90s when e-learning was in its experimental stage. Today the School of Information Studies (SOIS) at the University of Wisconsin-Milwaukee (UWM) has more students in its MLIS program who are DE students and the income generated from DE now exceeds more than 2.5 million dollars and growing in quality and international recognition. This shows that E-learning in most disciplines is here to stay and the net and Google generations will continue to expect e-learning on their campuses.

Brief Historical Background

As a concept, distance learning can be traced back to the 1700’s when there are records of correspondence education. At that time, educators used print technology, and the postal service for what became known as correspondence education by mail, which began in 1840 by Sir Issac Pitman, the British inventor of shorthand. Within five years he had 10,000 customers across the British Empire taking shorthand lesson by mail. By 1926, there was an established market for mail order education in the U.S., with some 300 private correspondence schools in operation. With the advent of broadcasting, the federal government issued in 1921 the first educational radio license to the Latter Day Saint University of Salt Lake City. In 1945, the first ETV broadcast in the world was introduced by Iowa State University as it initiated its television educational programs in 1950. Since the 1980s attention shifted to the use of computer networks for teaching and learning. In 1980, the development of slides, film, radio and then television opened up a new realm of possibility for transmitting information across space. DE was delivered via telephone, audio and video conferencing, compressed video and television.

Over the past decade, there has been a dramatic increase in the adoption of distance education methods. In the academic year 1994-95, nearly 26,000 distance courses were delivered via audio, video, or computer technology, enrolling more than 750,000 students and a total of 690 degree programs and 170 certificate programs were offered exclusively online. The U.S. National center for Educational Statistics (NCES)) reports that the number of higher education institutions participating in distance learning increased by approximately 33 per cent between 1995 and 1997 (NCES Distance Education). Also, the number of DE courses in that period doubled. It is estimated that the market of distance education is growing at the rate of 25 per cent annually and represents more than $3.5 billion in annual revenues for post-secondary education (Olgren, 2000).
Michael Spector reflects on how the field of distance education has changed over the years. The early focus in distance education was on external studies and correspondence education, but as time passed, distance technologies and instructional approaches became more sophisticated, open universities came into being, and new opportunities for distance education emerged. The new dimensions of distance remain a challenge for distance educators. (Spector, 2009). Hedge (1996) points out that there are estimated to be at least ten million distance learners worldwide, and there were projected estimates of revenue generated from DE in the US totaling eleven billion dollars by 2003. Today more than a million people in the United States alone are learning online. To make sense of the vast array of Web-based learning opportunities possible today.

The 21st century offers learners far more options to learn and grow intellectually. We are living in a world where eyeball-to-eyeball learning is no longer necessary. The Net and Google generations are students who were born after 1982—students who have never known life without the Internet. Today’s students, known as the Google generation (those after 1994) bring a consumer orientation to education, which they viewed as a commodity to be consumed, acquired and accumulated (Taylor, 2006).

**Types of Delivery of E-Learning**

Synchronous or simultaneous “real time” communication requires that all learners work at the same time, while asynchronous delivery of courses allows students to work on their own schedules. The advent of recent technologies has been the driving force behind both synchronous and asynchronous learning.

In asynchronous learning the shift is from teacher to student. It allows students enormous flexibility to learn at their own pace as time permits. Asynchronous learning does not require attendance of a scheduled class and class participation does not have to be live and in real time. Students learn at their own pace as time permits and do not meet with other students on a scheduled basis. Students can interact electronically by using e-mail, chat rooms, online bulletin boards, and other electronic messaging. Students from various regions of the country or the world can take the same course without worrying about scheduling conflict.

There are advantages and disadvantages for both synchronous and asynchronous process. Synchronous is not suitable when you have people at different time zones and there are always conflicts in personal schedules to accommodate fixed schedule for delivery of instruction. In asynchronous learning environment students feel isolated in the learning process without interaction with other students and a teacher. Students may not have enough motivation to complete a class or a degree without having the structure of a fixed learning schedule.

In addition to online, we now have what is called blended or hybrid learning. Blended learning approach combines facilitation, face-to-face meetings, online communications and access to e-library resources.

Regardless of the method of delivery of instructional materials online education content can now be delivered through a variety of formats such as:

- Internet lectures
- Online chatrooms
- Face to face discussion/presentation via audio or video
- Mobile learning/Podcasts on the iPod and the like
- Textbooks on iPad, Nook, or Kindle, or your laptop, or notebook
- More engaging and convenient for both students and faculty
Instructional materials are readily available and downloadable for repeated reviewing and learning re-enforcement

A Shift in Learning Paradigm

Online instruction has become a byproduct of the advancements in information and networked technology. As a result, online education moved rapidly in the past decade and a new shift in learning paradigm began to emerge. Students who were isolated by geography, physical disabilities or family and work responsibilities are now given a chance to educate themselves and improve their skills. (Texas). However, online education cannot be looked at in isolation from other factors. In developed countries like the United States, the online revolution brought a change in society’s attitudes and behavior. Increasingly, the U.S. has become a nation online where individuals continue to expand their use of computers and the Internet. In 2001, 174 million people, or 65% of the American population were computer users. Today, the number has grown to 259,561,000 or 76.2% of the American population are Internet users. One-third of all colleges and universities in the USA offer distance learning courses. More than eight percent of these colleges offer college-level degree or certificate programs completely online through distance learning. Nearly 55% of 2-year and 4-year institutions offer college-level credit-granting distance learning courses at either the undergraduate or graduate level. In the 2000-2001 academic school year, 3,077,000 students enrolled in distance education courses. By 2013, The National Center for Education Statistics expects this number to increase by around 19%, to 18.2 million. Biggest factor affecting enrollment will be the increasing likelihood of traditional college-age students, 18-24-year-olds, to participate in distance learning online programs.

The Net and Google Generations

The new generations of students expect educators to do things different from the way it was done with their parents. The present and future generation of students expect to be engaged by their environment, with participatory, sensory-rich, experiential activities (either physical or virtual) and opportunities for input. They are more oriented to visual media than previous generations – and prefer to learn by doing rather than by telling or reading. Their mantra is “Don’t just tell us – let us discover.” (Carie, 2007). The learning styles of the Net and Google generations are influenced by the immediacy and visual richness of the environment they have grown up in, particularly television, the cell phone iPhones, and the Internet which became an integral part of their lives. To them, IM, text and Google are verbs, not applications. They have integrated technology into everything they do, essentially putting their lives on the Internet. As educators, to be effective we have to adapt and as online instructors we do not simply teach but moderate, coach and assist in the learning process.

Students, in particular, place a high value on the convenience technology provides accessing course material from anywhere at any time or being able to see course grades as soon as they are posted “instant gratification.” Many students describe education as a business where efficient, convenient, technology-mediated transactions are expected.

Research on DE has shown that it is effective as traditional education with regard to learner’s outcome. In a survey conducted for the Sloan Foundation, the majority of academic officers surveyed believed that learning outcomes in online courses will equal or exceed that of face-to-face courses within three years. Tristam Wyatt, director of online learning at Oxford University believes, the "connection can be more profound than a real class."

For administrators, DE allows the institution to teach more and diverse students. Visiting faculty can be located in different cities, countries, or even continents thus affording the institution the ability to attract more and prestigious faculty. This universal accessibility will enable students to
take courses from other institutions around the globe. The eArmyed.com [www.goarmyed.com](http://www.google.com) is a good example of this “course in a cloud” mode. The eArmyU provides American soldiers access to over one hundred degree plans at regionally-accredited colleges and universities. Through eArmyU, eligible soldiers have the opportunity to earn a certificate or an associate, bachelors, or master’s degree from a home college while taking courses from multiple colleges. “Electronic Passports” is another program sponsored by the Southern Regional Education Board enabling students to take courses from other colleges without having to go through long application procedures (<http://www.electroniccampus.org>).

More recently, the wonderful world of online education has really taken the world into the realm of new distance education possibilities. Mostly gone are the days of the talking head, replaced by pithy dialogues between students and the occasional comment from the wise professor. Online computer courses are designed to require written participation from all the students, and graded weight depends on how well students interact with the assigned information and each other. Most classes require students to read from a broad spectrum of sources, and then respond to the information in meaningful ways. Helene Williams and Anne Zald (1997) argue, “Students in (online) classes are much more active participants in the education process, and they, too, have proven themselves to be instructional resources as they work with each other, their instructors, and librarians”

Paul Wyss explains, “As more universities begin offering degree programs via the World Wide Web, services for their students will have to keep pace if the quality and validity of these degree programs are to be maintained” (Wyss, 2008).

One cannot ignore issues of validity and honesty. Here again, we are relying on technology to police ethics, honesty and morality among our students and learners. While e-learning teaching them independence and creativity, there are computer software that could catch plagiarism such as “Turnitin” (<http://turnitin.com/static/price.html>); Ithenticate [http://www.ithenticate.com](http://www.ithenticate.com); and Writecheck (<http://www.writecheck.com/static/home.html>). There is also software that can lock a computer during a test so that a student cannot search on the Internet for answers. Some schools are even considering cameras on computers so that students can be recorded to avoid cheating.

Another issue facing e-learning is the perception that a degree obtained through e-learning is valuable than one obtained through traditional education. The recent set back resulting from the ruling of the Indian Supreme Court (<http://timesofindia.indiatimes.com/india/Open-university-degrees-not-equivalent-to-regular-ones-SC/articleshow/4191509.cms>) that a degree obtained through e-learning is not equal to a degree obtained through traditional university learning has less to do with the validity of the education received through e-learning, but more to do with the poor supervision of the Indian Education Grants Commission. The Indian Supreme Court wanted the Indian Commission to be more vigilant and to carefully scrutinize and approve all e-learning programs in India. In other countries, the degree obtained through e-learning is equal in value to that obtained from traditional universities. Both degrees have gone through the process of recognition and equivalency established by the countries’ ministries of higher education.

**Resource-Based Education**

In what could be described as “course in a box,” all of the materials for the course are included with the syllabus and course materials. This kind of “inclusive” learning requires that the student read the information, respond to the information, and recall the information enough to be able to write about it in an exam. Then the student sends all of the required responses to the professor for a graded assessment. There is really nothing basically wrong with this kind of course if the goal is for the student to read and learn (at least for the short term) a body of knowledge; however, the
American Library Association (ALA) made a statement in 1989 that clarified the notion that a different foundation of learning was needed:

To respond effectively to an ever-changing environment, people need more than just a knowledge base; they also need techniques for exploring it, connecting it to other knowledge bases, and making practical use of it. In other words, the landscape upon which we used to stand has been transformed, and we are being forced to establish a new foundation called information literacy…. (ALA, 1989).

James Wilkinson (2001) began to forge the idea that resource-based education, although more complicated and requiring access to more resources has more validity than rote learning. In Wilkinson’s view, “students…have to learn skills for retrieval, evaluation, and use of the growing information and knowledge they must acquire and use in a research centered learning environment” (2000). With this in mind, “Colleges and universities had to prepare students for a society in which information took center stage, and the ability to navigate, retrieve, and use information effectively became central to educational, professional, and civic success. The question was not of whether or not to prepare for an information age society, but rather of how best to do so” (Owusu-Ansah, 2004, p.14).

Robert Newton states, “Supporting off-campus learners is often problematic, and those involved in any aspect of distance learning or ‘virtual learning’ are clearly aware of the challenges posed by the delivery mode.” He then goes on to clarify that the problems with meaningful engagement of these students is caused by two main factors, “The first of these is that the profile of the learners is not always evident and, as these cohorts are often more diverse in composition than campus-based students, the context in which they require support or guidance needs to be more clearly established before such guidance can be effective.” (Newton, 2007). This diversity makes for interesting class dynamics, but the academic needs and special requirements for these students can pose great challenges for both their instructors and the academic librarians that serve them from a distance.

Newton continues, “The second is associated with the necessity to rely on electronic means of communication to interact with students and the extended time that this may involve as well as the increased chance of misunderstanding arising because of the lack of the sensory cues that are an essential feature of face-to-face communication.” (Newton, 2007)

Palloff and Pratt in their book *Building Learning Communities in Cyberspace*, (1999) state, “Without the purposeful formation of an online learning community in distance learning, we are doing nothing new or different…the creation of a learning community supports and encourages knowledge acquisition. It creates a sense of excitement about learning together and renews the passion involved in exploring new realms of education.”

**Reaching the Unreached**

Open or distance learning methods are serving millions of students around the world. While distance educators in most of the developing world have continued to teach via traditional print and audiovisual media, the developed world has embraced on large scale web-based practices of teaching and learning. It is time to make distance education more widely accessible and affordable in developing countries with large young population and limited number of colleges and universities, as this will be a good idea in the current economic climate. (Baggaley, 2009).

The focus today is on continuity of learning a school can offer; people young and old involved in serious scholarly, artistic, or athletic pursuits may find it difficult to adhere to the traditional school structure. In light of these developments, some universities and schools are resorting to blended learning options. They are using tools like Tegrity (www.tegrity.com); Elluminate
(www.elluminate.com); and Adobe Connect Pro (www.Adobe.com/products/acrobatconnectpro) to provide online lectures.

**Prevailing Technologies**

There are many DE platforms to choose from now and the in the foreseeable future. Just to mention a few: Blackboard and Desire to Learn (D2L). Student submit their papers via Oncourse or Webinars and Tidbits and/or through video sharing resources such as YouTube, TeacherTube, CNN News and Videos, BBC News and Videos, Fora TV, Academic Earth, or others. These resources might also include animations, simulations, technical reports, white papers, e-books, Web portals, or other technology tools.

Many faculty are developing procedures for posting course content and homework online. Some are trying phone conferencing with Skype (www.skype.com) or Google Talk (www.google.com/talk). Others are evaluating digital textbooks and study guides. Still others are sharing online videos from places like Link TV (www.linktv.org); FORATV, (http://fora.tv); or TeacherTube (www.teachertube.com), with teachers often asking students to post their reflections in blogs or online discussion forums. Many schools have begun to foster teamwork by using Google Docs (http://docs.google.com) and wikis. Although some schools use e-mail to communicate messages with their DE students, others are experimenting with text messaging or Twitter (http://twitter.com).

Mobile learning is the current mantra of educators. More than 60,000 people around the planet get mobile access to the Internet each hour (Iannucci, 2009), with 15 million people subscribing each month in India alone (Telecom Regulatory Authority of India, 2009). Also, if just one percent of the 85,000 applications for the iPhone (Marcus, 2009) are educational, thousands of possible learning adventures are at one's fingertips. It is possible to access grammar lessons, language applications, Shakespearean plays or quotes, physics experiments, musical performances, and math review problems with a mobile phone. Online classes and course modules as well as teacher professional development are now delivered on mobile devices. As mobile learning advocate John Traxler (2007) points out, mobile professional development options are especially important in developing countries in Africa. Mobile learning is not restricted to phones, of course. Laptops, iPods, MP3 players, flash memory sticks, digital cameras, and lecture recording pens all foster mobile learning pursuits as well as greater learning engagement.

Educators need to thoughtfully consider where, when, and how to use such devices. For instance, rather than ban mobile technologies, school officials might encourage students to record lectures with their pens or digital devices and listen to them while studying for quizzes and final exams. Or teachers might make available snippets of content that students can download to their mobile devices -- such as French grammar lessons or quick guides to concepts in the study of chemistry, the human nervous system, or cell biology (Bonk, 2009).

The wealth of information available online is also changing teaching practices. Teachers can access free online reference material, podcasts, wikis, and blogs, as well as thousands of free learning portals, such as the Periodic Table of Videos <www.periodicvideos.com> for chemistry courses and the Encyclopedia of Life www.eol.org for biology. Science teachers can use portals devoted to Einstein <www.alberteinstein.info>; Darwin www.darwin-online.org.uk ; or Goodall <www.janegoodall.org>. English teachers can find similar content repositories on Poe <www.eapoe.org>; Shakespeare http://shakespeare.mit.edu ; and Austen www.janeausten.org, to name just a few.
The availability of e-books and digital books on mobile devices such as the iPad, Kindle and others along with the availability of e-journals, e-reports and myriads of databases online have contributed to the success of the web learning revolution. A decade ago, books were limited to being physical objects. Today, all that has changed. Government, nonprofit, and corporate initiatives are placing greater emphasis on digital book content.

We are also now entering the era of free books as hundreds of thousands of free e-books are now available online. You can search for them at places like Google; Many-Books.net (http://manybooks.net); LibriVox (www.librivox.org); the World Public Library (http://worldlibrary.net); the Internet Archive (www.archive.org); Bookyards.com (www.bookyards.com); and other e-book sites. The majority of the top 25 best sellers on the Kindle are actually free (Kafka, 2009). This is part of the virtual learning environment (VLE) in which libraries and library consortia will play a very important role. E-books and classrooms will increasingly embed shared online video, animations, and simulations to enhance learning.

Innovative companies and foundations are also finding ways to offer free textbooks. Flat World Knowledge www.flatworldknowledge.com offers free online textbooks and also sells print-on-demand soft cover textbooks, audio textbooks, and low-cost ancillary or supplemental materials, such as MP3 study guides, online interactive quizzes, and digital flashcards connected to each book. Using an open-content, Web-based collaborative model, the CK-12 Foundation http://ckl2.org is pioneering the idea of free FlexBooks that are customizable to state standards.

**A Mix of Economics and Workforce Development**

In addition to all the nice things we said about the pedagogical advantages of e-learning and preparing students to enter a digital world in college and beyond, there are also economic underpinnings that are forcing many decision-makers and legislators to make the push for distance learning, not just for college education, but also for schools at all levels from kindergarten to secondary (high) schools. For example, in the State of California, which suffers from a terrible budget deficit, Governor Arnold Schwarzenegger is seeking ways out, and one proposed direction is a greater emphasis on digital education (Office of the Governor, 2009). By using digital books, California not only addresses its budgetary problems, but also assumes a leadership role in online learning. Officials in the state plan to download digital textbooks and other educational content into mobile devices that they will place in the hands of all students. Some digital book initiatives are taking place at the district level. A case in point is Vail School District in Arizona which has adopted an approach called Beyond Textbooks (http://beyondtextbooks.org), which encourages the use of Web resources and shared teacher lesson plans geared to meet state standards (Lewin, 2009). Rich online videos, games, and portals of Web materials as well as podcasts of teacher lectures extend learning at Vail in directions not previously possible. In the United States, according to the 2008 "Keeping Pace" report, 44 states offer significant full-time or supplemental online-learning options for students, and six states don’t offer either.

Second to California is the State of Florida which by law allows qualified students to attend online classes. Two of the biggest providers are the Florida Virtual School (FLVS) and K12 Inc. FLVS delivered 137,000 half-credit courses to approximately 63,600 students during the 2007-2008 academic years; K12 served more than 40,000 full-time K-12 students in 17 states and the District of Columbia.

Florida is the third state to issue a mandate regarding online learning. In 2006, the Michigan legislature passed a requirement that students spend at least 20 hours learning online before
graduation, either by taking an online course or by doing online course assignments in their regular classes. Beginning with the class of 2009-2010, students in Alabama will have to take and pass one "online-enhanced" core or elective course to graduate, which means a course using Internet technology on a regular basis. (Kristina Cowan, 2009)

Most state-sponsored programs in the United States offer supplemental courses, and course enrollments ranged from a few thousand to about 10,000 in 2007-2008, depending on the state.

So, in addition to economic advantages, supporters of these new mandates say the impetus is to help students develop the technological skills they will need in college and to offer courses that might otherwise be unavailable locally.

The Naval Postgraduate School has recently launched a new distance learning certificate program in Human Systems Integration open to all federal government personnel - officers and enlisted military, U.S. civilians and Department of Defense contractors - as well as international officer students. The four courses in the one-year, all-online interdisciplinary program are designed to educate and train Human Systems Integration practitioners in the state-of-the-art policies and processes needed to conduct HSI in the U.S. Department of Defense and other federal agencies. The course begins each summer quarter and is designed to be applicable towards a resident HSI master's degree or a resident master's degree in Systems Engineering, as the elective track. Classes are asynchronous, and instructors are regularly available by e-mail. Imagine offering the same or similar course for Libyan civil servants and others who might be interested in the subject of HSI.

In Britain, the Open University, the largest higher education language provider in the UK, recruits some 8000 language students a year.

In South Korea, the digital textbook project (www.dtbook.kr/eng) is being piloted in 112 schools with hopes of making textbooks free for all Korean schools by 2013. Digital textbooks include such features as dictionaries, e-mail applications, forum discussions, simulations, hyperlinks, multimedia, data searching, study aids, and learning evaluation tools.

**Open Educational Resources (OER) and Shared and Cooperative Learning**

Another important international development is the emergence of the Open Educational Resources (OER) and Shared Cooperative Learning, and technologies like shared online videos podcasts, simulations, and virtual worlds which will be available to enhance or clarify any lesson at any time (Bonk & Zhang, 2008). As schools are faced with continued budgetary constraints and with the plethora of free courses, learning portals, and delivery technologies available, blended learning will become increasingly prevalent. Web based technology has opened up education around the globe to the point where anyone can learn anything from anyone else at any time. You see it every time you Google something, find information in Wikipedia, read the results of an online survey, or watch a YouTube video. Learners will spend more of their time learning from online tools and resources and from one another in a knowledge sharing environment.

Along with OER there is an increase in generation of academic content and the free access to expertise of highly educated individuals who would like to share information and become virtual teachers helping others in their learning process. Tools like Ning www.ning.com and Google Does and resources like ePals <www.epals.com> and iEARN (International Education and Research Network <www.iearn.org> make global interactions ubiquitous and could lead to the emergence of global learning partners, or “teachers everywhere.” We now see examples of that in external examiners for masters and doctoral dissertations. The writer has supervised a number of
doctoral dissertations at Curtin University in Western Australia as an external committee member and reader for that university from my position at UWM.

**Information Fluency**

Students need to know how to find and use information, and technology is a critical enabler. However, only 31 per cent of information searches are Successful. Just because students know how to open a Web browser. Educators should not assume that everyone knows how to search for information. And just because students can find information doesn’t mean it is reputable or truthful. As a do-it-yourself culture where we find information for ourselves online, we need the skills to vet what we find, understand the context in which the information is situated, and adjust our interpretation accordingly. Also, in a cut-and-paste and mash up-friendly environment, students must develop an appreciation for intellectual property and the work of others.

**Digital Divide and Barriers to DE**

In a wired world it is easy to assume that all students have access to a computer and the network, whether at home or at school. However, a digital divide still exists in many communities and countries– One defined as more than just having access to a computer and good ICT infrastructure. A ‘second-level digital divide’ may exist based on machine vintage, connectivity, online skills, autonomy and freedom of access, and computer-use support. (Hawkins, Brian and Diana Oblinger, 2006).

Another divide is the student’s ability to develop the requisite technology skills, whether or not they have access to a computer at home, critical thinking skills are necessary. Another divide is lack of information literacy skills, the ability to utilize the myriad of information sources in a meaningful and intelligent way to survive and thrive in an age when anything (true or false) can be found on the Internet? Information fluency should become a habit of mind rather than of an isolated library requirement. Parents, teachers, and staff should integrate it into their daily interactions with students.

Another common assumption is that all students are attracted to technology. No group is entirely homogeneous. Not all students have computers, not all are skilled users, and not all want to use technology.

Another barrier is the acceptance of online education in the workplace. Is a degree earned online as good as a degree learned in a traditional setting? Critics of online education argue that students will be missing out on direct contact with their professors and classmates, a matter that detracts from the quality of an online learning program. However, research studies have shown that cognitive factors such as learning, performance and achievement in distance education classes are comparable to those observed in traditional classes. Thomas Russe (2000), author of *The No Significant Difference Phenomena* found that students were pleased with the performance of their instructors, availability of materials, and performance of technological tools used for conducting the class.

Accreditation organizations have stepped forward to evaluate and accredit online education programs. In 2000, the National Education Association (NEA) administered a telephone survey in which 75% of the instructors surveyed indicated that they were positive about distance education (NEA 2000).

**Requirement for Developing Quality DE/Training Program:**

1. Commitment from within and well-trained faculty who should also be involved in the design and delivery of the program;
2. Availability of onsite-facilities, technologies and infrastructure
3. Expert instructional designers
4. Availability of print and electronic resources to support program delivery
5. A comprehensive plan of evaluation and frequent and adequate feedback to support learners and adequately determine program outcomes;
6. Student support including virtual advising and counseling;
7. Content organization and effective teaching strategies;
8. Ongoing evaluation and feedback from learners’
9. Cooperation and collaboration among local colleges and universities.

**Conclusion and Recommendations**

The new generation of students and learners are comfortable with technology. They are more technology proficient than their older faculty. They expect instant gratification and immediate access to information sources and if possible 24/7 access to their teachers online. They expect to see and read almost everything on the web using their iPad, Kindle, Sony and other yet undiscovered devices. Education is changing to meet the needs of this and the next generation of learners. More and more American and foreign universities are offering courses online and we expect the click and brick universities will stand side by side and inside brick and mortar campuses. Examples of e-universities are found in Hong Kong: Open University of Hong Kong (OUHK) <http://www.ouhk.edu.hk>; Open University of China <http://www/ouc.edu>; Open Universities in India <http://www.indiaedu.com>; al-Quds Open University <http://www.qou.edu>; Open University of Sudan <http://www.ous.edu>; Damascus Open University <http://www.dou.edu>, and more. This trend is similar to the emergence of news blogs like Politico.com; Salon.com and others to compete with the established traditional media like CNN, CBS, and NBC. They are both are here to stay side by side with traditional methods of learning and electronic news media.

The web centric education will also contribute to the widespread use of digital books, journals, newspapers and other information and learning sources. Columbia’s Teachers’ College president Arthur Levine describes the future of higher education as one in which providers will become more numerous; and education will become more personalized and more focused on learning. The challenge facing higher education now is to balance pedagogical traditions with new technologies as well as the mandate for increased access, more accountability and students’ adherence to ethical and moral values. Students who took DE courses generally view virtual learning environments positively and perceive them to offer possibilities of effective and harmonious communication and productive learning. Tristam Wyatt, director of online learning at Oxford University believes that in an online environment “the connection can be more profound than a real “onsite” class.” Open learning is here to stay just like open source and other innovative technology initiatives. Launched at Carnegie Mellon University in the fall of 2002, the Open Learning Initiative (OLI) is dedicated to the development of freely available, stand-alone college-level online courses informed by the best current research from the cognitive and learning sciences. MIT and Harvard are taking the lead in making free online courses available to other colleges and the general public (non credit). They cover areas of humanities, social sciences and sciences <http://www.extension.harvard.edu/openlearning>.

To be successful and of high quality, online instruction and training along with OLI course-design process require teaming of faculty content experts with cognitive scientists, learning scientists, human-computer interaction specialists, formative assessment specialists, and programmers.
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