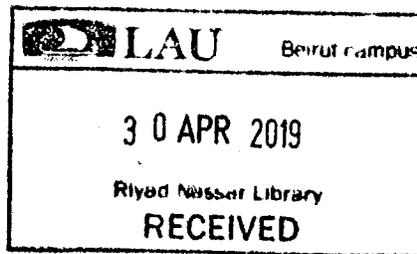# The E-Learning Evolution
Education & Business

by

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The E-Learning Evolution
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Research Topic in Business: **Dr. Nouri Beyrouti**

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Reem Ahmad Wahoud

Abstract

In the 21st century the world is rapidly changing into the Information Technology; global communication through new technology like computers has been increasing drastically. The Internet, in particular, has emerged as a prominent new technology that has pervaded all aspects of educational, business, economic and social sectors of the present world. The Internet and the World Wide Web provide vast and ever growing amounts of data with possibly great value. However, it is also a very messy place, and there is clearly demand for tools that can help clear away the rubble and transform the data into useful information for a particular user.

As life-long learning is becoming more and more essential in professional life, learning via Intra and Internet will more and more succeed, mainly with the increase of open and distant learning. The benefits of distance education include: time and location independence and the advantages of the Internet include: fast information, easy communication and cooperation possibilities.

Many businesses are taking their first tentative steps in ELearning. In many companies E-Learning is already happening in a very formal way. How many of your employees are already getting "training" by searching for support, documents and papers that they can download off the web? You may not be concerned about this adhoc training. After

all, there's nothing wrong with an eager employee getting the training he/she thinks he/she needs, when he/she needs it, for free. However, there are questions that should be asked here. How much time did he/she spend finding that education? How do you, or he/she, know that it was right for his/her job? Did it contain the right message, or give him/her the right skills? And we haven't even begun to talk about how to integrate this kind of training into your well though accreditation and certification program. It may well be a good thing for empowered employees to be responsible for their own education plan.

To my friend…

Who is always full of joy and who willingly shares it with others

To the one I love...

There are times in our lives we come to a closed door it does not always mean that we have

not heard from the Lord it may only mean that God is changing how we get there to show to

us a better way that we were unaware...

So don't see this as an end to the outworking of God's will the thing that God has birthed in

you he wants to see fulfilled...

Just continue to trust in Him and leave it in His hands he will work this whole thing out for it

is what He has planned...

And as we look back we will see how God had been our guide and directed us along the path

where doors stood open wide...

So thank Him for these hard times the set backs we go through for it is God who is leading us

to make our dreams come true...

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CHAPTER I

INTRODUCTION

1.1 Preface

Nowadays many organizations are turning into E-Learning as part of their overall training strategy, and for good reason. It can be carried out either by synchronous or asynchronous course delivery. E-Learning has proven to result in higher initial learning gains, longer retention, less student time in training, lower life-cycle costs, improved record-keeping and fewer administrative and scheduling problems. But along with this medium's opportunity, there exists many challenges. Clients must consider a whole host of new issues in order to make informed decisions. Helping you sort though the maze of challenges is our business. Thus, participants in the community have strong expectations about how they and others should behave: students study, lecturers teach and do research, support staff support, administrators administrate and managers manage (The Virtual University, 2000, 156).

Training Dimensions provide clients with insightful management advice pertaining to E-Learning design and implementation. Thus, training at your fingertips might be a nice message to give about using the web for training, but not when those fingertips spend hours looking for it. The Internet and the World Wide Web should be considered just

like any other training medium. Nobody doubts that they offer great opportunities for delivery of training, but they need to be controlled and managed and integrated into the rest of the corporate training plan just like anything else. Training is now being taken more seriously than ever before. What was once the first budget to be cut whenever there was the slightest sign of not meeting revenue targets is now expected to deliver business benefits. It is strategic, important, and linked more directly to business results than ever before.

1.2   Definition of E-Learning

The term E-Learning covers a wide set of applications and processes, including computer-based learning, Web-based learning, virtual classrooms, and digital collaboration. E-Learning includes all training where the content is delivered via electronic media including Internet, intranet, extranet, satellite broadcast, audio and video tape, interactive TV, and CD-ROM.

By definition the suffix "e" has been put in front of a lot of words recently and it could be assumed that, by doing this, the meaning or definition of the original word will be changed. Business has been carried out for centuries but not "e-business". Mail has been around for a long time but now there is "e-mail". People have been learning since people have existed but now we have "E-Learning" and, again, something must have changed, otherwise we would not need a new word for it. Many pundits have tried to say

what the "e" means. It is simple, if the "e" in e-mail means electronic then the "e" in E-Learning means the same. It's electronic, but that is not the end of the story. Electronic or computer-assisted learning has also been around since the 1970s. So what was being done then, on green screen monitors via a chronically slow mainframe computer, E-Learning? The answer is no, or is it? Without a clear definition of what makes "E-Learning", it is impossible to classify what should be called E-Learning and what should not. We decided that the time had come to start the debate on what E-Learning actually is. A statement has been developed on E-Learning. At the same time with a classification matrix to enable any form of technology based training to be easily identified and understood. The statement that has been developed so far is: E-Learning is the effective learning process created by combining digitally delivered content with (learning) support and services (Grolier Encyclopedia, 2003).

1.3 Purpose of the project

The purpose of this project is to elaborate the operation of E-Learning from an academic and business perspective. E-Learning is here to stay as the fast changing pace of technology, the shortening product development cycles, lack of skilled personnel, competitive global economy, the shift from industrial to the knowledge era, the migration towards a value chain integration and the extended enterprise, fuel its strategic importance and realization. With E-Business being an evolutionary process, and with E-

Learning, a rapid, effective and less expensive form of training and academic development, being a response to this new economy evolutionary processes, it is imperative to look at the operation of E-Learning. What will E-Learning look like in the next five to ten years?. Tony Blair, the UK Prime Minister: *"Technology has revolutionized the way we work and is now set to transform education. Children can not be effective in tomorrow's world if they are trained in yesterday's skills. Nor should teachers be denied the tools that other professionals take for granted"* (The Virtual University, 2000, 8).

CHAPTER II

ONLINE PROGRAM

2.1 Online Learning Program

Of all the blue-sky scenarios and vaporware solutions offered by those who promote information technology, online learning has become the most processing and pervasive. As thousands of academics, millions of students, as well as librarians, support staff and administrators struggle daily to come to terms with its actual advantages and disadvantages. Many innovative instructors at institutions worldwide are discovering the potential of the online environment to deliver instruction of the highest quality to people who would otherwise have limited access to higher education. This is an exciting and challenging time in education (Online Learning & Teaching with Technology, 2001, 1).

Online education is bringing collaborative learning to the forefront and is affecting the way traditional courses are taught as well. Simply defined, online education refers to courses offered via the Internet. The minimum requirement for students to participate in an online course is access to a computer, the Internet, and motivation to succeed in a non-traditional classroom. Online courses provide an excellent method of course delivery unbound by time or location allowing for accessibility to instruction at

anytime from anywhere. Adult learners in particular, find the online environment a convenient way to fit education into their busy lives. The ability to access a course from a home computer via the Internet, 24 hours a day, seven days a week is a tremendous incentive for this group to reach their academic and career goals (Online Learning & Teaching with Technology, 2001, 86).

Well-managed and focused synchronous chat sessions can provide powerful online learning experiences and add a dynamic dimension to a web-enhanced or online course. Yet many instructors hesitate to use synchronous chat and think it is difficult to manage and adds little or no educational value to their students' learning. In fact, chat often has a negative reputation because of its potential to become chaotic since students and faculty communicating simultaneously can obscure the message and make following a conversation difficult. However, synchronous chat can be beneficial and has the potential to help instructors assess their students' learning. When approached strategically, chat sessions can enhance the learning experience providing opportunities for high quality and in-depth discussions. For chat to be successful, it must be used for well-planned instructional activities and not simply for unstructured fortuitous discussion. Let's take a closer look at each of the key elements of an online learning program (Innovation in Open & Distance Learning, 2001, 100-110):

2.1.1 Students

technological experience is necessary. Finally, the student must commit the time necessary (four to six hours per week) to stay current, and he/she must have access to the necessary equipment. Participants are more willing to risk written participation than spoken, perhaps partly because they can rethink and edit e-mail before sending it and they will be sure that everyone will hear their point.

2.1.2 Curriculum

It is important for online courses to remain part of the academic curriculum of an institution, with faculty determining the appropriateness and the validity of the subject matter and the delivery methods. It is crucial for integrity of online courses to be insured. Courses should meet the same standards and go through a similar approval process as the normal academic courses.

The curriculum of an online program must be designed especially for the short-term, collaborative nature of online learning. On ground curriculum can be used if it is substantially converted to fit the online environment. Course content should be organized in modules with clear deadlines for the assigned work in each part. Instructors should give simple and clear assignments, and not assign over-complicated tasks. Online curriculum should focus on application of knowledge to the real world and encourage

critical thinking skills with opportunities for an interchange of ideas among students and with the facilitator.

Online curriculum has two important factors, process and outcomes. The process must integrate life, work, and educational experiences, generate continuous dialog, draw a connection between the learned concepts and work experience, include sufficient time for the completion of the assigned work, utilize a minimal amount of memorization, maintain a balance between the technology, facilitator, and the students, and incorporate group and team activities. The learning outcomes must be achievable and offer the opportunity for students to use them in practical, everyday situations.

Online curriculum should have clear achievable objectives using appropriate technologies, and the choice of technologies (facilitative tools) should be driven by the curriculum. The learning objectives need to be relevant to the learning needs of the students. The curriculum should be designed to promote maximum dialog among the participants. The synergy generated through online dialog is the most important learning tool in the online environment and has an impact on defining the learning outcomes. In order for this to happen, the climate in the Virtual Classroom must be open, honest, sincere, and conducive to learning. Ultimately, the facilitator is responsible for creating this welcome environment in the Virtual Classroom.

2.1.3 Facilitator

A trained facilitator is an important component of an online program. Often, the facilitator is also the designer and monitor of the online course, and thus has a powerful influence on the success or failure of the program. The facilitator's training, personality, and attitude all impact the online environment. A successful facilitator must know how to integrate life experience, communication, professionalism, and content into the learning environment. The personality of the facilitator is an important component as well, and sets the tone of the Virtual Classroom. If the facilitator is encouraging and positive, students will quickly develop a level of comfort in the online environment.

Facilitators have two responsibilities to their Virtual Students: appropriate curriculum design and facilitation. Interaction among students, between facilitator and students, and between the students and the learning materials, as managed by the instructor makes the class. When a facilitator makes the transition from on ground to online, he/she does not retain the role of "distributor of information" in a teacher-centered classroom. Rather an instructor's energy should be channeled to become the medium whereby the discovery of learning is facilitated in a student-centered environment. The online instructor's role is to help others to discover and understand the learning material. To this end, the facilitator must believe in the effectiveness of the

online program and the value of critical thinking. The traditional teaching methods cannot succeed with those changes in the learning environment. This brings new pressures on instructors, both to deal with a different way of teaching, interacting and managing a 24-hours-a-day classroom populated by adults who will require extra support due to their already busy lives.

Some of the responsibilities of an online facilitator include:

- Course planning and organization.

- Ability to create an atmosphere of collaborative teamwork. Students will depend on one another for a large portion of their learning. The facilitator needs to know how to work as part of this team as well as help the students work with each other.

- Construct questions that will have a variety of intellectual levels, varied in their instructional purpose and be open-ended.

- Set the agenda and provide leadership and direction without controlling the class. Find a balance between leading the group and creating an environment where students themselves meet the learning objectives. The leadership model becomes one of dynamic facilitation, which is a shift away from an authoritarian style toward a more democratic style.

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- Develop methods for learner feedback and reinforcement.

- Sequence the presentation of content and pace the material so as to avoid content overload.

- Personalize instruction to be relevant to the needs of individual participants.

2.1.4 Technology

Technology is the final component of a successful online program. Selection of appropriate technologies becomes especially challenging due to the fast changing pace and growth of new Internet-based tools that can be used in online courses. You can choose from chat rooms, e-mail, electronic forums that organized discussion responses in varied ways (by subject, time of day and person responding), and quick access to the Internet for research all in one program. The technology should be selected based on the needs and objectives of the online programs, and it must be user friendly, reliable, accessible, affordable and secure. Enthusiastic instructors may be tempted to utilize the most high technology due to its impressive features; however, many students might not know how to use such complicated technology and might not have the time to learn it this will eventually hinder the learning process rather than facilitate it. The technology selected should be the one that best delivers the course content.

Successful use of technology is determined by its ease of use, the degree to which it remains a tool rather than the focus of learning and mostly that the technology remains transparent. Technology is a means to deliver the education, and for successful learning to occur, the technology must be as simple as possible. Ways to ensure this is that the facilitators must first be comfortable using a particular technology before implementing it in their courses and that students are required to participate in an orientation program before the course begins in order to familiarize themselves with the tools that will be used in their course.

Another technological issue that must be addressed is that the technology used to deliver instruction must accommodate the lowest common denominator in the class. Minimum requirements are necessary to participate in online courses (i.e. access to a computer and modem), however, not everyone has the latest computer model or free Internet access. Equity of access to technology should be taken into consideration when designing distance-learning courses.

Finally, technical support is vital to the success of an online course. The facilitator can be well trained, the curriculum in place, and the student willing, but when the system malfunctions, both the student and instructor need to know where to turn for help. Technical issues should not interfere with the learning process.

2.2   Online Training Program

Challenges that E-Business has imposed such as aggressively reduced cycle times and the increased competitive market place has to step up to new challenges (E-Business: Implications for Education and Training, 2002, Internet).

- How do you develop and deliver training to a geographically dispersed, mobile workforce?

- The services industry demands that their professionals keep their skills at the latest and highest level possible, yet at the same time places ever increasing demands on utilization which leaves no time for training.

- And just what do you do when that highly paid graduate who has been with you for 2 years, leaves to join a start-up for an even greater salary and stock options? Where has that training investment gone? How are you going to capture all the good and fresh ideas he brought to the company?

There is no doubt that the World Wide Web offers opportunities for disabled learners to access aspects of the curriculum that are difficult or impossible to achieve otherwise. By addressing the needs of disabled people everyone benefits. So the Web has a great potential for interacting and collaborating with other people. Nevertheless, E-Learning is about meeting all of these challenges and more. It is about exploiting the web and all its associated rich technologies such as multimedia, streaming, Java and

database replication to produce training that not only trains, but also delivers real business benefits (The Knowledge Web, 2000, 45-121-189-212). Not surprisingly, that requires more than just a few white papers downloaded off the web. It would be nice to think that all these good things are the reasons why training is moving online. However, for many companies the real reason for moving training online today is that it's cheaper. The savings that can be made on travel and hotel costs alone make E-Learning a very attractive proposition. Now add to that the savings made on using fewer education centers and the reduced classroom administration. Then include the fact that your employees no longer take time away from the office to train, and it begins to look a very convincing business case indeed. Although whether your employees who are now getting their training in their own time, lunch breaks, evenings and weekends would agree with you is a different matter. There are additional benefits other than simple cost reduction. With E-Learning you can suddenly reach everyone instantly. One web-server hosted class gives you the possibility to make training available world-wide with a single point of control. Update the class, and everyone gets the updated training at once. Integrate this single, central update with the simplest of administration routines, and all of your employees can be made aware of new training or course updates at the click of a "send" button. Let's take a closer look at each of the key elements of an online training program (E-Business: Implications for Education and Training, 2002, Internet):

2.2.1 Learning for the Learner, not the Instructor

2.2.2 The training isn't over once the training is over

2.2.1 Learning for the Learner, not the Instructor

If designed correctly, the training delivered by E-Learning can also be very effective. That's a bigger "if" than may first be apparent. Typically, a company's first experiment with E-Learning tends to be limited to a simple transfer of classroom delivered training into web format. These almost inevitably fail to deliver the training benefits expected. There is a significant difference in delivery medium from classroom to E-Learning, where the computer not only replaces the classroom, but also the instructor. What is required is a shift from an instructor-centric learning model, where the instructor dictates what is taught and when, to a model where the learner is in control. That's a major change, which may come as a bit of a surprise to some instructors in corporate training departments. For real educators, those who do this as a vocation and those who studied how to teach, this is perfectly obvious. But many people in corporate training have moved or drifted into their training departments. Their education on how to teach has generally been on-the-job training. Ask them what they teach, and you will get answers like "software", "sales training", and "personal skills". Learner-centric training is what education should always be; putting the focus on the learner, not on the subject. Now with E-Learning, we have the perfect opportunity to do

just that. To begin with, training courses can be studied at the Learners' own pace. Learners can visit and revisit topics, as many times are they needed. They can skip over topics with which they are already familiar. Modules can be studied in any order. With E-Learning, a learner is no longer obliged to follow a training courses from A to Z. He can start at Q, jump over to F, ignore M, and finish on T if he wants too. But only if the training courses have been designed to be studied in a learner centric way. An interesting and very positive side effect is that people lose their embarrassment to ask questions. Learners in an artificial classroom environment are often scared to ask questions when they don't understand for fear of feeling dumb in front of the rest of the class. In front of nameless black box, learners start to ask fundamental questions once again, and get the answers that they need right when they need it, before the class has moved on to other topics (The Virtual University, 2000, 146-149 & 158-169).

2.2.2 The training isn't over once the training is over

E-Learning gives us an excellent opportunity to deliver continuous training. Now people can get the training they want when they need it, rather than simply going on a course when it is scheduled because they think they might need that training later that year. Referring back to classroom notes 6 months after they were taken is never simple. Now, with training hosted on the web, going back to the training is only a browser's bookmark away. Even better, now learners can actually re-take that training instead of

just re-reading a few cryptic notes written a long time ago. For instructors, once a course is updated on the web, previous course participants can be notified with a simple e-mail, and suddenly refresher education is available simply and quickly. Where we see E-Learning being adopted in businesses today, we find it is being done on a project-by-project basis. That's fine for now, but as organizations continue, we are going to find new problems as their employees are faced with difference interfaces, multiple registrations, non-standard software, and many online curricula with information presented in different formats (The Virtual University, 2000, 158-169)..

The training department is facing the same problem the IT department met 10 years ago with the arrival of the PC. Then, every department installed their own LAN server, defined their own database, client platform, let users install their own software and applications. It was a mess. It was difficult and costly to manage, with many departments in a single company unable to communicate with each other electronically. Learning technologies are in danger of going the same way. If we are not careful, every department will introduce their own learning web site, their own training management system, with content developed by dozens of different vendors all to different standards. Companies who are already experiencing these problems are turning to training management systems (TMS). A good TMS will offer registration, tracking, testing and administration all coordinated by a single application, one that has been strategically and

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centrally installed, implemented and administered. The picture can be completed with the introduction of E-Learning portals single web sites through which learners can access any online course. As things progress, we will see E-Learning portals and TMS being integrated with Knowledge Management systems as companies move towards becoming full E-Learning organizations (Computer Based Training for Maintenance Employees, Internet).

CHAPTER III

TECHNOLOGICAL ISSUES

3.1 Chat Management Techniques

In order to insure the success of a chatting session the instructor should be well prepared for example some instructors use pre-typed questions or short comments that they cut and paste into the chat program from their word processor (The Knowledge Web, 2000, 262). Thus they will be fully prepared and more efficient in asking questions and save time. Also the instructor should limit the number of participants so that the session is more manageable and controllable by the instructor. Limit each session to 30 minutes and cut it off when the time is up the number of questions to be asked by each student should also be limited. If one or two students join the chat session after it has started, take a moment to orient them to the discussion by summarizing the current thread of conversation. This will give everyone a break and allow stragglers to catch up. Nevertheless they can always read the saved up part that they missed which you would of saved.

Publish a list of protocols or rules for your students to follow. This will help maintain order in the discussion and facilitate clear communication. Therefore, in terms of creating an effective learning environment, four attributes surface as being paramount; providing opportunities to promote personal construction of knowledge; by setting an appropriate context for the learning; and facilitating collaboration amongst learners; through the use of conversation (The Virtual University, 2000, 90-92).

The World Wide Web is a tool that can create and support such a learning environment. Its ability to promote computer mediated communication (CMC), that is, the use of computer networks to allow learners in different geographical locations to interact with one another either in real time or delayed mode using a text-based communication for the purpose of discussion, can aid the construction of knowledge as learners can formulate their ideas into words and build on these ideas through the response from others. The opportunity for reflective interaction can be encouraged and supported, which is a feature not readily demanded in traditional university lecture settings (The Virtual University, 2000, 100-103).

3.2   Training Issues

The traditional mode of physically attending class for three hours each week should be adopted and students should be encouraged to access the class Web site

between sessions. Students Web pages should be on the server prior to their seminar presentation, preparation for discussion and questioning could occur. The Discussion Forum tool could be used asynchronously during this lead up time and students would have time to reflect on the material and on comments made before making comments themselves. It may also assist second language students who are having difficulties understanding some of the terms and also students who lack confidence in their immediate response (The Virtual University, 2000, 3-4 & 10-12).

Students should be responsible for facilitating their discussions during seminars however they should be aware of the time constraints. The need for online facilitators exists to clearly understand their role. Be aware that the lack of adequate leadership is one of the factors sometimes responsible for online conference failure; unless a moderator sets an agenda and keeps the group working towards its goal, nothing much will occur.

Smaller tasks could be introduced at the start of the course to encourage students to overcome difficulties with the technology. Collaborative learning activities may be linked to assessment since in this course there was no real incentive to collaborate as all assessment was based on individual work.

3.3 Technological Issues

The internet is an interlinked network of networks that allows any computer in the world connected to it to exchange data with any other computer in the world. The internet's origins have been well documented elsewhere, but to understand the current focus on the Web and the Browser, such as Netscape Navigator or Microsoft Internet Explorer. Thus, computers and electronic communication, when used together, has the power to dramatically enhance the productivity of researcher/educators in a given area. Combining the interests of scientific community and using the privileges of a powerful communication system to support collaboration make it possible to create an integrated common resource in this area. This single resource is aimed to accommodate a variety of audiences having different needs. It has an agent-based tutoring tool that guides learners throughout the course material. The ideas and the technology behind this can be generalized to develop an effective resource (The Virtual University, 2000, 52-55).

Planning is an essential ingredient for any new delivery method. The use of technology needs to become seamless for both the students and the instructors involved if effective learning is to take place. At least six months is required beforehand to ensure that all aspects are considered. Extensive collaboration is required with technical people on campus. It is fairly disheartening to discover that within five minutes of starting a Live Chat session the system crashes and the whole campus network has gone down

because it simply can't cope with the traffic. All software and Web access should be thoroughly checked and trialed, though flexibility may be important where it becomes obvious that the software is not meeting the needs of the students. The situation in this course was fairly unique as the evaluation and implementation of the technology used in the course was integral to the course itself. It raised students' awareness that planning and preparation are essential when implementing technology-based learning environments (The Virtual University, 2000, 56-60).

The Web page design should be considerate of the variety of users and their machines. For students accessing from home on slower modems, an alternate text-based interface needs to be available to improve access.

Ideally a Web space should be set up by instructors in a way that suits the needs of themselves and their students. Students should be able to access their own materials, set up their own Web pages easily and transfer them to a Web server without having to go through a third person as did occur in the course. Students must e-mail their Web pages to the support person or physically go to see the instructor in order to put their work on the server. Student mailboxes need to be set up before the course or at the first class meeting so communication is not hindered. Access to the Live Chat and Discussion Forum tools should have allowance for multiple and private chat rooms if required so

small groups could discuss a number of topics. This would also permit private collaborations when organizing seminars (Grolier Encyclopedia, 2003). .

Training and Support:

"Students need advice of many kinds both before and during their academic careers. CD-Rom based data bases and automated advisory programs can be enhanced in numerous ways when Web enabled, particularly if emphasis is placed on the personal/affective side of the student experience" (Peter Scott and Marion Philips, The Knowledge Web, 2000, Chapter 5, 79).

Guidance and support are needed at every stage in a student's career: at entry; during study; between courses; and at the end of a study programme.

For the students:

1. Training to use the technology is essential. This can be supplied outside of normal lecture times or as part of the first meeting. It may be a video or a "hand book" which should be written in clear non-technical language which facilitates the students use of the tools and explains clearly what technical equipment is required from the students for the course;

2. A support person should be accessible by the students out of hours so all technical problems are dealt with quickly thus ensuring students do not become overly frustrated with the technology;

3. Troubleshooting guides should also be included as often minor problems can lead to major frustrations;

4. The initial weeks of the course should involve small collaboration or discussion projects, which involve students in using the tools from the outset, before they are required for assessable tasks (The Knowledge Web, 2000, Chapter 5, 79).

For the instructor:

1. It is actually more demanding to teach online than in a face-to-face situation. It is demanding not only in terms of cognitive load but also in time required online. In universities this may mean that early adopters need a lighter teaching load to provide them with the time both for training involved and to provide time for significant access to the discussion forum;

2. Using the technology must become as seamless for the instructor involved as it is for the students. For this reason a support person is required in the early implementation stages to ensure the instructor can focus on the teaching and learning instead of the technology.

Advances in Computer Based Training Computer based training (CBT) is becoming more exciting as today's technologies including ever more sophisticated multimedia, animation and web delivery allow us to go further to create engaging and effective training. Until recently most CBT was very much self-paced, self-study, and taken asynchronously. These days' new technologies allow learners to collaborate more freely in a virtual classroom style, either with the instructors, other learners, or both. That doesn't mean that traditional CBT is no longer valid. It is. In fact the advances in CBT mean we even have to extend the definition. We now see *5* basic types of self-paced CBT.

The simplest form of CBT. Web lectures deliver passive learning by incorporating simple graphics and text such as PowerPoint or Freelance presentations - along with streaming audio. They convey the information as it was originally presented. Web books are simply books on the web. They contain no or little video or audio, but they are heavily structured and indexed to allow the learner to navigate quickly and simply. Very useful for reference style education.

Electronic Performance Support Systems (EPSS) solutions are sophisticated helper applications. They are usually application specific and instead of delivering a basic help text, they will give the user a nugget of training that could include simulations or video.

Collaborative learning is learning based on interaction with others, either other learners or instructors. The learning is online and communication can be supported in one of two ways, either asynchronously, or synchronously. Asynchronous communication techniques include discussion threads, e-mail and shared team room databases. These techniques allow learners to share access to a common set of materials, such as files, software, and media objects, and to collaborate on assignments and projects irrespective of time and place. Typically, asynchronous collaboration is instructor facilitated. That is, the instructor is not available in real-time to support the learners, but interacts with the learners offline through the same e-mail and shared databases. Project evaluations, assignment allocation and quizzes can all be handled in this way. Real-time or synchronous collaboration provides real-time, simultaneous access to content, instructors and other students. People from throughout the company come together electronically at a given time, without leaving the workplace or home. Synchronous collaboration is typically instructor led. That is, the learners access the instructor in a virtual classroom environment. The instructor guides the learners through interactive online learning, such as shared whiteboards, shared application software, electronic hand-raising, chat functionality and audio/video over the network. These advances in technology allow us to reach higher levels of learning than was possible with basic CBT. However, the technologies are expensive and have to be applied when

it make sense to do so. Successfully employing these advances in CBT to achieve realizable business results requires a model for E-Learning. To really acquire and master a skill, it is not sufficient to simply listen to someone explaining it to you. You need practice and experience. Gaining those skills can be managed individually, but as any educational study will show, people learn better in teams. The same is true in an E-Learning environment. Instructor centric models, for example web lectures, are fine for information transfer. To really acquire a skill, however, the model has to allow the learner to take control and practice. True learning of how to apply that skill requires interaction. Simple interaction with a computer will allow the learner to acquire basic skills, but in order to progress greater levels of interaction and collaboration are required. This could be between many learners, or between the learner and the instructor, or both. Ultimately, to really master a skill, the learner needs to apply that skill in a real-life situation. As we progress up the learning chain, so the level of collaboration has to increase. Similarly, in an E-Learning model the level of interaction and collaboration has to increase if E-Learning is really to help a learner achieve mastery in a specific skill. This increase in collaboration is one of the key principles behind IBM's E-Learning model. This is the model with which IBM is now building its own internal education. The model is a four-tier model that moves up the educational and collaborative scale. It starts with low-level information exchange, and extends to

mastery. It is also a model which is not 100% E-Learning. One thing we never pretend is that E-Learning will fully replace traditional classroom training. There will always be the need at some stage in the skills development, to get learners together with an expert. It is also a model, which allows courses to be developed both horizontally and vertically. That is, courses, which stay in one tier, or E-Learning type, and courses which can span multiple tiers, or E-Learning types. These solutions are known as blended solutions. Briefly, the four tiers are:

Tier 1: Knowledge Awareness read it, sees it, hear it. Basic knowledge transfer, ideal for new product launches, corporate strategy or organizational announcements. Simple web lectures, and information web sites where learners can quickly and simply get the information they need.

Tier 2: Application Try it, practice it. Basic skills in new applications, or simple procedural tasks can be covered here. Entry-level CBT or WBT with application simulations for example.

Tier 3: Applied Skill discusses it, practice it with others. Collaboration techniques, such as chat, team rooms, and interaction with instructors online, allow learners to be able to learn in groups and from their shared experiences. Team exercises can be set. More sophisticated technologies such as application sharing can begin to be used.

Tier 4: Mastery Finally, classroom and mentoring take their place. But in the E-

Learning model this is used for really advanced skills and not for basic skill and knowledge transfer. This reduces the amount of tune learners need to spend out of the office and optimizes the use of expensive instructor and classroom facilities. Theoretical E-Learning models are fine, but putting them in place requires more than just an understanding of the different E-Learning techniques. To be able to move to an E-Learning model requires an end-to-end approach that covers both the instructional and infrastructure sides. A complete solution needs to include planning the learning strategy, designing and creating the instructional content, deploying the courses, and delivering the technology. IBM Mind span Solutions offer products, services and offerings in 5 areas that cover the planning, creation and deployment of a full E-Learning implementation (Computer Based Training for Maintenance Employees, Internet).

3.4   Organizational Issues

Strategic planning and institutional support are very necessary. Decisions need to be made about Internet access for students, whether from home and use the campus network, should they have their own service provider? If so, who are the recommended ones in the local area?. Four factors contribute for this success: "One: very high quality multi-media learning materials produced by multi-skilled academic teams. Study materials must be excellent and varied to make the campus in the home or workplace a congenial experience. Two: dedicated personal academic support...their own tutor for

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each course...to comment and mark the student's assignments, hold group meetings and give support by phone, e-mail and computer conferencing. Three: slick logistics. Each individual student must receive the right material and information at the right time...Four: a strong research base" (Innovation in Open & Distance Learning, 2001, 7).

The issues regarding technology-based learning (TBL) environments are complex areas of study. The introduction of technologies in each training context is quite unique. Therefore, in order to prepare the students to manage such projects, the fundamental issues can be identified and addressed by critiquing appropriate literature, but it is best learned when the students have to apply this knowledge in an appropriate context. The responsible use of Computer Mediated Communications (CMC) means using it in addition to other media, not as a replacement, a mixed combination approach should be used for this type of learning. Thus, CMC defines the ways in which telecommunications technologies have converged with computers and digital networks to create a new set of tools to support human communication. All students must have access to e-mail accounts. E-mail is quite popular and the medium most frequently used when exchanging files from the two sites or amongst students (The Virtual University, 2000, 100-102).

The deliberate approach of not specifying any discourse etiquette rules and providing minimum scaffolding about using the various technologies allowed students to

experiment with the tools and to think about the issues involved when implementing technology-based learning projects.

I think using video conferencing helps in gathering data very quickly. Then however, the human interaction is not present. I am quite amazed with the use of technology on how to reach people. It saves time and the worry of people that has to travel. Notice how one group is able to review and participate in the dialogue of the other group. Also, a member of one group can join the discussion of another group or send a message to a member in another group without disturbing the flow of discourse. The facilitators meanwhile can monitor the entire process. Such "flexible interactivity" cannot be implemented in a traditional classroom environment with ease. CMC offers the interactivity of campus-based courses with the flexibility of distance learning students (The Virtual University, 2000, 121). It supports many threads of conversation, able to play multiple roles, needed to communicate with each other they assumed the aliases of CMC allows this to occur easily with minimum disruption to the flow of discourse. The informality of the tone of conversation allows incorrect grammar and spelling to be tolerated and enables humour to surface. When phrases or incorrect spelling were not understood, they asked for clarification and received prompt replies from others in the live chat session. The issues raised fall into three categories:

pedagogical, technological and organizational students (The Virtual University, 2000, 100-102).

CHAPTER IV

ADVANTAGES AND DISADVANTAGES OF ONLINE TRAINING & LEARNING PROGRAM

4.1 Background

There are many valid reasons why online programs are rapidly becoming a popular form of distance learning in higher education today. The online environment offers unique opportunities for people who don't have time or were not able to access education. Here is a list of some of the major benefits of online programs:

Anywhere: Students can participate in classes from anywhere in the world provided they have a computer and Internet connection. Also, the online format allows handicapped students more flexibility to fully participate in class.

Anytime, Any Pace: The Virtual Classroom is open 24 hours a day, seven days a week. Time efficiency is another strength brought by the online learning format.

Synergy: The online format allows for a high level of dynamic interaction between the instructor and students and among the students themselves.

High Quality Dialog: Structure allows students time to have responses, which are more professional since they have the enough time to analyze the discussion more carefully.

Student Centered: Within an online discussion, the individual student responds to the course material (lectures and course books, for example) and to comments from other students.

Level Playing Field: In the online environment learners retain a considerable level of secrecy. Discriminating factors such as age, background, physical appearance, religion, race and gender are absent.

Access to Resources: It is easy to include guest speakers in an online class as well as allow students to access resources and information anywhere in the world.

Creative Teaching: The literature of adult education supports the use of interactive learning environments as contributing to self-direction and critical thinking.

Successful Online In general, the online student should possess the following qualities: Be open minded about sharing life, work, and educational experiences as part of the learning process; Be able to communicate through writing; Be Self-motivated and self-disciplined; Be willing to speak up if problems arise; Be willing and able to commit 4 to 15 hours per week per course; Be able to meet the minimum requirements for the program; Accept critical thinking and decision making as part of the learning process;

Have access to a computer and a modem; Be able to think ideas through before responding; Feel that high quality learning can take place without going to a traditional classroom; Participate in the Virtual Classroom 5-7 days a week; Be able to work with others in completing projects.

4.1.1 Advantages of Online Training & Learning Program

Here are eight reasons why E-Learning successfully works for business:

i. *It's inexpensive:* Travel and expense costs are reduced or eliminated. The largest hidden expense cost of staff time away from the office, which can easily exceed the tuition of an all day seminar is substantially reduced.

ii. *It's convenient:* E-Learning let's learners sign on at their convenience, even from home. The information is available when the learner needs it.

iii. *It's consistent:* E-Learning programs are delivered in a consistent way, not subject to possible poor presentation or environment problems.

iv. *It's current:* Courses can be easily kept updated, an advantage in our fast paced, changing marketplaces.

v. *It's specific:* E-Learning provides potential enormous selection for learners and managers to choose from. A new market has emerged online vendors and educational institutions who offer a range of courses.

vi.   ***It's self-directed:*** Learner can control the learning process, studying when and as quickly as they want to.

vii.   ***It's private:*** Employees can spend a few hours learning about a topic without advertising their interest or deficiency to the rest of the company.

viii.   ***It's computer literate:*** Learners sharpen their computer skills by default, which can result in improved productivity gains.

For example, The Regence Group's training department has migrated from exclusively classroom training to predominately Web-based, instructor-led offerings. It describes the steps it took to get there and guidance for managers leading a new staff through this journey. Thus, advances in technology were a driving force in the group's evolution. In 2001, they made the switch from CD-ROMs to Web-based solutions. In 2002, they acquired Web conferencing capabilities. In 2003, they deployed a learning management system. As you can imagine, this progression created several issues for the customers, management, and staff (The Regence Group's Evolution into E-Learning, Internet, 2004).

It's important for managers to remember that people need time to cope with change. Equally important, people need the opportunity to experience and envision what the change will be like. Here are some lessons learned and advices to others trying to build a successful program:

- Moving to e-learning isn't about technology; it's about process and culture. While new technology is appealing and a constant driver, be certain that there's a real need in your organization to make the move to online;

- Test your solutions thoroughly, and make sure that everyone is comfortable with the technology before you roll it out to your audience. First impressions are hard to change;

- Develop a learning culture in the organization. If people don't want to take the time to learn, they won't do it online.

4.1.2 Disadvantages of Online Training & Learning Program

While online programs have significant strengths and offer quality education, there are disadvantages inherent in the use of this medium that can be potential threats to the success of any online program. These problems fall into five main categories:

4.1.2.1   Technology

4.1.2.2   Students

4.1.2.3   Facilitator

4.1.2.4   Online Environment

4.1.2.5   Curriculum

4.1.2.1 Technology

Equity and Accessibility to Technology: Before any online program can hope to succeed, it must have students who are able to access the online learning environment. Lack of access whether it be for economical or technical reasons will exclude students from the training. If the participants' time online is limited by the amount of Internet access they can afford, then instruction and participation in the online program will not be the same for all students in the course. *Computer Literacy:* Both students and facilitators must possess a minimum level of computer knowledge in order to function successfully in an online environment. For example, they must be able to use a variety of search engines and be comfortable navigating on the World Wide Web and e-mail. If they do not possess these technology tools, they will not succeed in an online program; *Limitations of Technology:* User friendly and reliable technology is critical to a successful online program. However, even the most sophisticated technology is not 100% reliable. When everything is running smoothly, technology is intended to be low profile and is used as a tool in the learning process. Technology is designed to provide students with a simple interface from which they can access learning materials, check bulletin boards, join conference or discussion groups, and receive feedback (The Virtual University, 2000, 27). However, breakdowns can occur at any point along the system, for example, the server which hosts the program could crash and cut all participants off

from the class; a participant may access the class through a networked computer which could go down; individual PCs can have numerous problems which could limit students' access; finally, the Internet connection could fail, or the institution hosting the connection could become bogged down with users and either slow down, or fail all together. In situations like these, the technology is not reliable and it can be an obstacle from the learning experience.

4.1.2.2 Students

While an online method of education can be a highly effective alternative medium of education for the mature, self-disciplined student, it is an inappropriate learning environment for more dependent learners. Online education gives students control over their learning experience, and allows for flexibility of study schedules for non-traditional students; however, this places a greater responsibility on the student. In order to successfully participate in an online program, student must be well organized, self-motivated, and possess a high degree of time management skills in order to keep up with the pace of the course. For these reasons, online education is not appropriate for younger students (i.e. elementary or secondary school age), and other students who are dependent learners.

The visual quality of the final product is invariably poorer as one makes design compromises to suit students with lower connection. It is very difficult to deliver project that require good quality video due to limitation in bandwidth and compression (The Knowledge Web, 2000, 90)

4.1.2.3 Facilitator

Lack of Essential Online Qualities: Successful real class instruction does not always translate to successful online instruction. If facilitators are not properly trained in online delivery and methodologies, the success of the online program will be compromised. An instructor must be able to communicate well in writing and in the language in which the course is offered. An online program will be weakened if its facilitators are not adequately prepared to function in the Virtual Classroom. An online instructor must be able to compensate for lack of physical presence by creating a supportive environment in the Virtual Classroom where all students feel comfortable participating and especially where students know that their instructor is accessible. Failure to do this can alienate the class both from each other and from the instructor. However, even if a virtual professor is competent enough to create a comfortable virtual environment in which the class can operate, still the lack of physical presence at an institution can be a limitation for an online program. For the faculty as well as the

participants, such things as being left out of meetings and other events that require on-site interaction could present a limiting factor in an online program. Moreover, they can view class list, check whether students have submitted assignment, see whether an individual student has viewed a particular piece of course material and check on grades (The Virtual University, 2000, 7).

4.1.2.4 Online Environment

Levels of Synergy: Online learning has its most promising potential in the high synergy represented by active dialog among the participants, one of the most important sources of learning in a Virtual Classroom. However, in larger classes (20 or more students), the synergy level starts to shift on the learning continuum until it eventually becomes independent study to accommodate the large class. At this point, chatting should be limited as well as interaction among participants and the facilitator. *What Should Not Be Taught Online:* In the excitement and enthusiasm for online programs that has been generated recently, it is important to recognize that some subjects should not be taught online because the electronic medium in its current state of development does not permit the best method on instruction. Examples are hands on subjects where physical movement and practice contribute to the achievement of the learning

objectives. These subjects are probably best taught in a face-to-face traditional learning environment were actual practice and observation can take place.

4.1.2.5 Curriculum

The curriculum of any online program must be carefully considered and developed in order to be successful. Many times, in an institution's haste to develop distance education programs, the importance of the curriculum and the need for qualified professionals to develop it is overlooked. Curriculum and teaching methodology that are successful in on-ground instruction will not always translate to a successful online program where learning is quite different. Online curriculum must reflect the use of dialog among students, and group interaction and participation. Traditional classroom lectures have no place in a successful online program. Education of the highest quality can and will occur in an online program provided that the curriculum has been developed or converted to meet the needs of the online medium. Today is a very exciting time for technology and education. Online programs offer technology-based instructional environments that expand learning opportunities and can provide top quality education through a variety of formats and modalities. With the special needs of adult learners who need or want to continue their education, online programs offer a convenient solution to conflicts with work, family and study schedules.

Institutions of higher education have found that online programs are essential in providing access to education for the populations they wish to serve. In order for an online program to be successful, the curriculum, the facilitator, the technology and the students must be carefully considered and balanced in order to take full advantage of the strengths of this format and at the same time, avoid pitfalls that could result from its weaknesses.

CHAPTER V

RECOMMENDATIONS

5.1 Conclusion

To conclude, E-learning is here to stay as the fast changing pace of technology, the shortening product development cycles, lack of skilled personnel, competitive global economy, the shift from the industrial to the knowledge era, the migration towards a value chain integration and the extended enterprise, fuel it's strategic importance and realization. This project revealed that indeed E-Learning could become the major form of training and development in organizations as technologies will improve to create a fully interactive and humanized learning environment whereas distance learning is an increasingly important aspect of higher education because it meets the needs of an expanding pool of nontraditional students who find education necessary for jobs in today's information age. Unlike the industrial era when skills needed were relatively fixed, today education is needed to meet employers' growing demand for continually evolving skills. Distance learning provides a convenient, flexible, manageable alternative for this developing segment of society.

On the other hand, students in asynchronous distance classes work at computers miles apart at varying times of the day and night. This feeling of being alone is overcome when students join together in a community of learners who support one another. The process of forming a community of learners is an important issue in distance learning because it can affect student satisfaction, retention, and learning. Distance learning increased in an incredible way over the world. An estimated of 54,470 different distance education courses were offered. Everyone seems to want to "do it" but many are not sure what "it" is or how to do it. The new technologies hold promises to help lead higher education into a period of rapid change. We have a great opportunity concerning introducing online education. We have seen that the potential target market is already aware and had already accepted the idea of online education; however this raises the issue of how well the other key elements are ready and applicable. However, we can tell confidently that there is a big opportunity concerning online education waiting to be exploited.

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