

eLearning

WHAT IS E-LEARNING?

E-learning can be defined as instructional content or learning experiences delivered or enabled by electronic technology; it is a structured, interactive approach to educating and informing the students, employees, etc. More specifically, eLearning refers to the use of Internet, Intranets or Extranets to deliver a broad array of solutions that enhance knowledge and performance.

eLearning refers to technology driven learning enabled by Internet and world wide web. Modern day cutting edge information and communication technologies provide opportunities for anytime -anywhere learning, where learners as well as instructors can interact beyond any geographic boundaries and collaborate to get the maximum benefit of the global network called internet and other computer and information technologies.

The eLearning environment makes use of networking technologies to create, foster and deliver learning content and services, anytime and anywhere. Any eLearning environment can be CD-Based, Network Based, Intranet Based or Internet Based. It enables the inclusion of text along with audio, video, animation as well as virtual environment in learning. It provides a rich learning experience that far surpasses the level of learning and training being imparted in any crowded classroom. It provides for a self-paced and hands-on learning.

In any learning environment the content and the services being provided for the delivery of this content are of prime importance. eLearning unlike any other form of learning (e.g. class room learning environment) makes use of sophisticated software and ICT hardware to provide an immersing and enriching experience to learners by the creation of a very effective learning environment.

The scope of eLearning may vary from real-time synchronous learning to asynchronous or offline learning using electronic recording media.

The offline form of eLearning consists of the use of CD-ROMs or other offline recording medium to provide education. The course content, recorded lectures, presentation slides and other reference material can be provided to learners in the form of CD ROMs, which they can access offline for their learning purpose.

The asynchronous form of eLearning consists of making use of online bulletin boards, online discussion groups, email and MIS portal to enable interaction between the learner and the instructor. This form of eLearning may also be totally self-contained by providing links to online reference material in place of an instructor.

The real-time synchronous form of eLearning consists of online classroom environment where learners attend the online classroom. Learners log into the system at a set time and communicate directly with the instructor as well as among each other in real-time. They can even raise their queries by raising their cyber hands and ask questions from instructor. Other benefits in this form of eLearning consist of use of whiteboards, content pushing, URL pushing and remote desktop sharing. This type of online classroom usually takes place via Internet Web sites, audio - or video-conferencing, Internet telephony, or even two-way live broadcasts to students in a classroom.

WHY ARE PEOPLE INTERESTED IN ELEARNING?

E-learning has definite benefits over traditional classroom teaching. The most obvious benefits provided by eLearning are the flexibility and the cost savings from not having to travel or spend excess time away from work, there are also many other benefits that might require a special mention here. They include:

Less expensive - eLearning makes use of authoring software to produce asynchronous learning content. Once the complete learning content is ready, costs virtually reduce to zero after reaching break-even point. Synchronous programs have continued costs associated with instructor managing the class, but these costs are still lower than traditional courses.

Self-paced - eLearning provides the benefit of self-paced learning. The course material is available online anywhere in the world. So learners can leverage their time to access their course content and study. It also provides the opportunity for learners to flexibly choose individual course modules that suit their own time availability and learning pace.

Faster Learning - eLearning courses progress faster than traditional courses. This is partly because the individualized approach allows learners to skip material they already know and understand and move onto the issues they need training on.

Consistency in study material and Reliable - In regular class-room teaching environment, there is hardly any consistency in study material being distributed to learners. This is because of the fact that each instructor has its own individualized way of imparting knowledge to learners, which leads to certain inconsistencies between the lectures and content being delivered by different instructors at different times. E-learning eliminates this problem by providing course content prepared using standard and compliant software, hence it is more reliable to deliver content in eLearning environment.

Anywhere-Anytime Learning - E-learners can attend training sessions from anywhere, usually at anytime. This Just-In-Time (JIT) benefit can make learning possible for people who never would have been able to work it into their schedules because of their busy job timings or otherwise.

Course content can be easily updated - Online eLearning provide easy and up-to-date learning material because the updated materials are uploaded to a server, from where that can be accessed by learners. CD-ROM-based programs may be slightly more expensive to update and distribute, but still come out cheaper than reprinting manuals and retraining instructors.

Provides better retention and stronger grasp over the subject -eLearning facilitates the inclusion of various audio-visual effects within learning material. The course modules can be integrated with rich audio - visual multimedia content, which provides better immersive and involving experience to the learners. Also other tools like quizzes, discussion forums and user groups can be used in an eLearning environment. Furthermore, there is the possibility for learners to revisit or replay sections of the training that might not have been clear the first time around. eLearning offers better opportunities to the learners for more effective and fruitful learning experience due to the following reasons:

Varying the types of content - Images, sounds and text work together assist in building memory and result in better retention of the material.

Creating interaction that engages the attention - Games, quizzes and even just required manipulation of something on the screen creates more interest, which in turn helps in better retention.

Providing immediate feedback - E-learning courses can assist to provide immediate feedback to correct misunderstood material. The more immediate the feedback the better, because each step of learning builds upon the previous step. If no feedback is given, then the next step may be building upon an incorrect interpretation.

Encouraging interaction with other e-learners and an e-instructor - Chat rooms, discussion boards, instant messaging and e-mail all offer effective interaction for e-learners, and do a good job of taking the place of classroom discussion. Building an online community significantly influences the success of online programs.

Easily Managed - As the number of student enrolled increases, managing all of their activities using online mode of education is easier. The learners can be distributed course material online, also the process of conducting examination, managing the profile of the candidates including their fee details and result declaration becomes easier in eLearning environment.

Integrating Media and Interactivity

eLearning software provides the benefit of integrating media with interactivity. Various kinds of audio, video, graphics, multimedia and animation effects can be included within course material that enrich the content and make it more appealing to the learners. Benefit of Integrating media with interactivity provides a very useful edge to eLearning domain as far as the field of imparting education and training is concerned.

Incorporating text

Text isn't necessarily seen as multimedia, but it is an important element in e-learning. The problem with many e-learning programs is that the developers have simply taken their existing text-based teaching and put it on the computer screen. The interactivity of the program consists of reading text and then clicking on an arrow to proceed to the next page.

eLearning software provides better text effects for interactivity. It allows text to appear and disappear, or simply move to another location on the screen, within pre-set time increments or upon a click or rollover of the mouse. Using this type of animation may make more sense in many learning and training instances where there is a requirement to provide interactive response for the subject's actions that helps him make better use of the system.

Incorporating audio

The power of audio may often be overlooked, but the combination of written and spoken words does have a big impact on recall and retention. eLearning software provides the benefit of including audio within the course content along with user controls. The hard part is determining where to use audio, and knowing how much to use. Audio, just like other media files, requires good bandwidth if being used within a Web-based program.

Incorporating video

Inclusion of video within course material provides the benefit of using video stories to put the subject into its context of use, using video clips followed by questions to encourage active participation from learners and help them build on existing knowledge. The possibility of building video interactivity into learning experience also exists. Having optional endings for scenes that the student can select based on the course they are pursuing incorporates some of the gaming aspects in learning. Students could go through portions of learning material, then begin a video story that they control through selecting actions that create a scenario. Their choices would be graded based on the correct actions.

eLearning software can also provide for Streaming Media, which allows the student to see the video (or hear the audio) immediately. Rather than waiting for the complete file to download. The student hears it as it is "streamed" to his or her computer. There are, however, hybrid possibilities that could include links to the Internet for streaming media or other training media.

Incorporating animation

Animated graphic elements are great to use in any learning environment. They are fun to watch, and can get a message across that words or audio (or even video in some instances) cannot. Animation is another element, however, that has to be used appropriately. While animations don't typically require the bandwidth that video does, they still can slow down a Web-based program.

Any graphic image or text that is put on the page can be animated. This can include buttons that play specific sounds when clicked, or even that change to another image when the mouse moves over them. This is known as a rollover. Rollovers can actually do more than just alter an image -- they can bring in another path or choice for the student.

The possibilities for animations and interactivity provide tremendous benefits within any eLearning environment.

Incorporating quizzes and tests

Interspersing the course with quizzes that pop up after material has been presented offers good feedback and reinforcement for learning. In most learning situations, the more immediate the feedback, the better -- it's the building effect of learning.

Questions and quizzes can be inserted at appropriate places within the learning material using eLearning software tools. Inserting multiple choice, multiple-choice, true-or-false, matching or fill-in-the-blank questions is simple, and feedback can be given immediately after the question is answered. The feedback can be in the form of an audio response or text response.

The answers to these questions can be tracked and used to compute the student's final score and grade for

the course. As a course administrator, one can look back and see any areas that caused difficulty and reassign those areas for additional training.

In a recent survey about eLearning the following results were obtained. Respondents were primarily interested in eLearning because it increased access to learning (86 percent). Two-thirds of respondents noted that growth in employee skills, ability to track learner progress through a learning management system, and increased job performance were key reasons for their interest. Slightly more than half perceived distinct advantages of Web-based learning including the standardization of content and assessment procedures, enhanced interactivity, and learner satisfaction. Employee retention and keeping up with the competition were aspects chosen by approximately one-fourth of respondents. Other responses included cost savings, reduced travel time, greater flexibility in delivery, and the timeliness of such training.

HOW LARGE IS THE ELEARNING MARKET?

According to Gartner, the market for corporate elearning is expected to be worth almost US\$680 million by 2007, growing at a compound annual growth rate (CAGR) of 22 per cent.

WHAT IS DRIVING ELEARNING?

Technological changes increase complexity and velocity of work environment. Technology has changed the way we live, work, think and learn. Today's work force has to process more information in a shorter amount of time. New products and services are emerging with accelerating speed. As production cycles and life spans of products continue to shorten, information and training quickly become obsolete. Training managers feel the urgency to deliver knowledge and skills more rapidly and efficiently whenever and wherever needed. In the age of just-in-time production, just-in-time training becomes a critical element to organizational success.

Lack of skilled labor drives need for learning. With unemployment rates at historic lows and widening skills gap among the workforce, corporations compete fiercely for skilled workers. According to PriceWaterhouseCoopers, 70% of Fortune 1000 companies cite lack of trained employees as their number-one barrier to sustaining growth. Business managers realize that corporations that offer ongoing education and training enjoy a higher rate of employee retention and the benefits of a better-skilled workforce. As a result of the rising importance of training, an increasing number of corporations have hired Chief Knowledge Officers (CKOs) or Chief Learning Officers (CLOs) to plan and coordinate training programs.

Increasing size of Target Group for eLearning. Organizations and training providers need to evaluate whom they train and how. Today, traditional students in higher education - age 18 to 22 - make up less than 20% of all students. The fastest growing group attending higher education institutions are working, part-time students older than 25. This new group of learning adults is seeking education principally to advance their careers and increase their salaries. For universities and business-to-consumer (B2C) training providers, these individuals are excellent candidates for education delivered to their homes or offices. Declining birth rates, aging population, and lack of skilled labor also require an objective evaluation of the training needs of older age groups. In the new economy, even senior workers, including those nearing retirement, need to be trained. Broader acceptance of new training delivery options among older workers should facilitate the training process.

Fierce competition in most industries leads to increasing cost pressures. With traditional training methods, companies generally spend more money on transporting and housing trainees than on actual training programs. Approximately two-thirds of training costs are allotted to travel expenses, which represents a major drain on bottom-line profitability. In today's competitive environment, organizations can no longer afford to inflate training budgets with extensive travel and lodging. If opportunity cost is taken into account, the actual costs of training are even higher. Time spent away from the job traveling or sitting in a classroom reduces per-employee productivity and revenue tremendously.

Knowledge workers require greater flexibility in the workplace. Globalization, competition, and labor shortages cause employees to work longer, harder, and travel more than previous generations did. At the same time, these workers require more independence and responsibility in their jobs and dislike close supervision. Today's knowledge workers have a nontraditional orientation to time and space, believing that as long as the job gets done on time, it is not important where or when it gets done. By the same token, they want the opportunity to allocate time for learning as needed. Modern training methods need to reflect these changes in lifestyle.

Learning has become a continual process rather than a distinct event. In the new economy, corporations face major challenges in keeping their workforce current and competent. Many past training practices are unable to meet these challenges. Traditional training is often unrelated to new business initiatives or key technology drivers. While learning is not a one-time activity, training has traditionally been treated as such. To retain their competitive edge, organizations have started to investigate which training techniques and delivery methods enhance motivation, performance, collaboration, innovation, and a commitment to lifelong learning.

Explosive growth of the Internet provides delivery vehicle for education. The emergence of online education is not only a matter of economic and social change, but also of access. Through its increasing reach and simplicity of use, the Internet has opened the door to a global market where language and geographic barriers for many training products have been erased.

Advancement in the technology along with the standards. Technology infrastructure, especially for bandwidth, varies widely. Lack of compatibility between existing learning technologies and current IS infrastructure is one of the main barriers to adopting Web-based training. However, the race for education technology standards is on. Advances in a wide range of technologies supporting diverse education and training tasks are currently being made. Issues such as content interoperability, metadata tagging, and bandwidth are being addressed. The industry is moving towards creation of the flexible, adaptive, and integrated learning systems needed to push eLearning into the mainstream.

Globalization of business is resulting in manifold challenges. Advances in information technology and falling trade barriers facilitate business around the globe. As borders become less meaningful, global competition intensifies. International expansion and accelerating Mergers and Acquisitions activity have led to larger and more complex corporations. Today's businesses have more locations in different time zones and employ larger numbers of workers with diverse cultural backgrounds and educational levels than ever. Thus, more information has to be delivered in increasingly larger organizations, challenging internal planning, logistics, and distribution. Corporations worldwide are now seeking more innovative and efficient ways to deliver training to their geographically-dispersed workforce.

WHAT ARE THE ADVANTAGES OF ELEARNING?

Technology has revolutionized business; now it must revolutionize learning. In the 21st century, people will have to learn more than ever before. Especially for global organizations, live classroom-based training is becoming too costly and cumbersome. Even if employees had the time to attend all the courses and seminars and to read all the books and reports they should to remain up-to-date in their area of work, the cost of such learning would be prohibitive. The need to transform how organizations learn points to a more modern, efficient, and flexible alternative: eLearning. The mission of corporate eLearning is to supply the workforce with an up-to-date and cost-effective program that yields motivated, skilled, and loyal knowledge workers.

Anywhere, anytime, anyone. The Internet offers the logical solution for a corporates training objectives. As per the estimates approximately 80% of the professional workforce already uses computers on the job. Technical obstacles, such as access, standards, infrastructure, and band width, will not be an issue in the coming time. The growth of the World Wide Web, high -capacity corporate networks, and high -speed desktop computers will make learning available to people 24 hours a day, seven days a week around the globe. This will enable businesses to distribute training and critical information to multiple locations easily and conveniently. Employees can then access training when it is convenient for them, at home or in the office.

Substantial cost savings due to elimination of travel expenses. When delivered through technology-based solutions, training is less expensive per end user due to scalable distribution and the elimination of high salaries for trainers and consultants. The biggest benefit of eLearning, however, is that it eliminates the expense and inconvenience of getting the instructor and students in the same place. According to Training Magazine, corporations save between 50-70% when replacing instructor-led training with electronic content delivery. Opting for eLearning also means that courses can be pared into shorter sessions and spread out over several days or weeks so that the business would not lose an employee for entire days at a time. Workers can also improve productivity and use their own time more efficiently, as they no longer need to travel or fight rush-hour traffic to get to a class.

Just-in-time access to timely information. Web-based products allow instructors to update lessons and materials across the entire network instantly. This keeps content fresh and consistent and gives students immediate access to the most current data. Information can be retrieved just before it is required, rather than

being learned once in a classroom and subsequently forgotten. Training Magazine reported that technology - based training has proven to have a 50-60% better consistency of learning than traditional classroom learning (c-learning).

Higher retention of content through personalized learning. Technology-based solutions allow more room for individual differences in learning Styles. They also provide a high level of simulation that can be tailored to the learners level of proficiency. With 24x7 access, people can learn at their own pace and review course material as often as needed. Since they can customize the learning material to their own needs, students have more control over their learning process and can better understand the material, leading to a 60% faster learning curve, compared to instructor-led training. The delivery of content in smaller units, called chunks, contributes further to a more lasting learning effect. Whereas the average content retention rate for an instructor-led class is only 58%, the more intensive eLearning experience enhances the retention rate by 25 - 60%. Higher retention of the material puts a higher value on every dollar spent on training.

Improved collaboration and interactivity among students. In times when small instructor-led classes tend to be the exception, electronic learning solutions can offer more collaboration and interaction with experts and peers as well as a higher success rate than the live alternative. Distance education can be more stimulating and encourage more critical reasoning than a traditional large instructor-led class because it allows the kind of interaction that takes place most fully in small group settings. Studies have shown that students who take online courses are typically drawn into the subject matter of the class more deeply than in a traditional course because of the discussions they get involved in. This engagement is further facilitated by the fact that instructors do not monopolize attention in an online environment. Another study found that online students had more peer contact with others in the class, enjoyed it more, spent more time on class work, understood the material better, and performed, on average, 20% better than students who were taught in the traditional classroom.

Online training is less intimidating than instructor-led courses. Students taking an online course enter a risk-free environment in which they can try new things and make mistakes without exposing themselves. This characteristic is particularly valuable when trying to learn soft skills, such as leadership and decision-making. A good learning program shows the consequences of students' actions and where/why they went wrong. After a failure, students can go back and try again. This type of learning experience eliminates the embarrassment of failure in front of a group.

THE NEED FOR ADOPTING E-LEARNING SYSTEM

According to CCA consulting, nearly 50% of higher education institutions currently engage in some type of online learning. Academic and professional organizations agree that using web-based learning environments can offer sound pedagogical benefits. According to researchers from Cornell University, "the web provides significant new functionality in transmitting information to the student and providing forums for exchange. The web is revolutionizing some areas of study through increased opportunities for learning and alternative formats for information."

Enhancing student-to-student and faculty-to-student communication

Web-based education tools provide many ways to increase communication between class members and faculty, including discussion boards, chats, and e-mails. Researchers have found that adding these elements to a course increases student motivation and participation in class discussions and projects. Students are "more willing to participate [and] a measure of anonymity, which serves as a motivator... people feel more empowered. They are daring and confrontational regarding the expression of ideas".

Students experience a sense of equality

Another benefit of using web-based communication tools is to give all students a reinforced sense of equality. Each individual has the same opportunity to "speak up" by posting messages without typical distractions such as seating arrangements, volume of student voices, and gender biases. Shy and anxious students feel more comfortable expressing ideas and backing up facts when posting online instead of speaking in a lecture room. Studies prove that online discussions provoke more confrontational and direct communication between students.

Accommodate different learning styles

An instructor can also present these materials in many formats to accommodate different types of learning

styles. For example, if an instructor puts both lecture notes and slides online, both visual and auditory learners benefit. Students who prefer to focus on "listening" and "watching" during lecture do not have to worry that they are missing important concepts while scrambling to take copious notes. They can focus on understanding the material and concepts as they are presented. Students with attention difficulties or those who get overwhelmed by organisational tasks also benefit, because materials provided show how the instructor has grouped and prepared materials in the handouts, and indicate what items are most important.

Encourage additional rehearsal time

Additional benefits for those who "learn by doing" occur when students participate in online discussions, as students are exposed to an extra period of information rehearsal. Typically, students rehearse information when they study for exams or complete assignments. However, they also rehearse information when formulating thoughts into sentences and typing those thoughts into the computer. When instructors post discussion questions or short essay assignments in the online portion of a course, students must attend to and reflect on the subject matter before responding. This results in reflection and articulation of content, as the very process of reporting and writing about what they have learned engages students in an activity learning experience.

Remove reliance on physical attendance

In traditional education, students working on group projects must coordinate schedules. In distance learning environments, this may not even be possible, forcing participants to work independently. When web-based collaborative tools are available, coordination is no longer an issue. Providing a project team with asynchronous discussions and file uploads, students can work in groups without the constraints of meeting together at a certain date, time, and location.

Providing just-in-time methods to assess and evaluate student progress

Learner assessments are essential in education. Tests and surveys inform the instructor whether teaching methods and course structures are successful. These assessments also determine if student progress is satisfactory. Online assessment tools provide instructors with many ways to build, distribute, and compile information quickly and easily.

Adds pedagogical benefits

Web-based testing features also have pedagogical benefits. From the student viewpoint, frequent assessment provides concept reinforcement and increases motivation. Instructors can post practice exams and end-of-chapter reviews without worrying about finding the time and resources to analyze results. Students can access these assessments at any time, privately and in the comfort of their home. Since grading is computerized, students receive immediate feedback. This may also help students who suffer from test anxiety relax and minimize embarrassment for those that do poorly.

Reducing amount of faculty time spent on "administrivia".

In addition to the pedagogical benefits of online learning, there are also several time and money saving advantages. Students can save and print items as needed when provided handouts and readings online. The direct result is a reduced institutional expense for both the cost and time associated with copying, collating, and distributing these materials. Instructors can also use E-mail to send messages directly to students or the Announcements feature to communicate with the entire class. Not only does this insure that students receive the materials, but it is also environmentally appealing, as it drastically reduces paper waste.

Utilize time efficiently

The time saving elements introduced by web-based education tools apply to both the instructor and the student. Students benefit because they have immediate access to course materials at any location. They do not have to spend time walking across campus to the instructor's office or searching for a reading in the library. Instructors can minimize time spent in office hours, and address student concerns online instead.

Reduce faculty workload

Instructors and TAs can also save time using products like online examination management system. When the Assessment Designer is used to design quizzes or tests; feedback, grading and analysis can be

automated. Time previously spent correcting, formulating statistical deviations, and analyzing specific questions can be used for other things. Even student records can be exported directly into spreadsheets for turnover to the registrar.

Saving on cost

Classroom training involves a lot of expenses, those from teaching, traveling, learning material and others. Tele-education would, in comparison, cut cost on an average of 30-50%.

Choose only subjects of interest

General learning courses can't normally subdivide into minor courses giving more choice to learners. Because of rather high cost of organizing each learning program, it is not worthwhile to often organize learning. In addition Tele-education could reduce problem of different basic knowledge among learners because they could specifically choose subject of their own interest.

Receive correct and interesting instruction

Tele-education gives each learner substance of lessons identical in all respect, with the original undistorted through transfer. Every time each learner calls up substance of the same lesson, the system will demonstrate the same information to all learners. Thus learners could feel confident on the maximum reliability of the substance of lessons received. Furthermore, presentation involving a variety of forms - because computers that could support learning and teaching with lettering Imaging, video and sound - could be more interesting.

Acquire technology learning together with lessons learning

As Tele-education is learning through web browser, which relies on computers with hardware and software, learners will become familiar with technology, thus making them receptive to new technology without fear of change because computer technology, both hardware and software, is ever changing.