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A Study on Different Modes of E- Learning

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Abstract:

E – learning is a learning system based on formalized teaching but with the help of electronic resources is known as E-learning. While teaching can be based in or out of the classrooms, the use of computers and the Internet forms the major component of E-learning. E-learning can also be termed as a network enabled transfer of skills and knowledge, and the delivery of education is made to a large number of recipients at the same or different times. Earlier, it was not accepted wholeheartedly as it was assumed that this system lacked the human element required in learning. However, with the rapid progress in technology and the advancement in learning systems, it is now embraced by the masses. This paper makes an attempt to elaborate upon the different modes of E-learning.

Keywords: Educational technology, e-learning, knowledge skills

Introduction:

Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources. Educational technology is the use of both physical hardware and educational theoretic. It encompasses several domains including learning theory, computer-based training, online learning, and where mobile technologies are used, m-learning. Accordingly, there are several discrete aspects to describing the intellectual and technical development of educational technology. Educational technology as the theory and practice of educational approaches to learning. Educational technology as technological tools and media, for instance massive online courses, that assist in the communication of knowledge, and its development and exchange. This is usually what people are referring to when they use the term "EdTech". Educational technology for learning management systems (LMS), such as tools for student and curriculum management, and education management information systems (EMIS). Educational technology as back-office management, such as training management systems for logistics and budget management, and Learning Record Store (LRS) for learning data storage and analysis. Definition The Association for Educational Communications and Technology (AECT) defined educational technology as "the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources". It denoted instructional technology as "the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning". Assuch, educational technology refers to all valid and reliable applied education sciences, such as equipment, as well as processes and procedures that are derived from scientific research, and in a given context may refer to theoretical, algorithmic or heuristic processes: it does not necessarily imply physical technology. Educational technology is the process of integrating technology into education

in a positive manner that promotes a more diverse learning environment and a way for students to learn how to use technology as well as their common assignments

Objectives:

The study gives an elaborate view of the operations and quality management in the educational industry.

• To analyse e-learning sites strategies and ways of doing the business.

• To know the reasons behind the success of e-learning sites .

• To know the areas e-learning sites can improve in

• To create organizational plan to cater to the students needs .

Research Methodology:

Secondary Data has been used as research methodology for this paper which is collected using research papers, websites, case studies, magazines.

Origin of online education:

Online education originated from the University of Illinois in 1960. Although internet would not be created for another nine years, students were able to access class information with linked computer terminals. The first online course was offered in 1986 by the Electronic University Network for DOS and Commodore 64 computers. Computer Assisted Learning eventually offered the first online courses with real interaction. In 2002, MIT began providing online classes free of charge. As of 2009, approximately 5.5 millions students were taking at least one class online. Currently, one out of three college students takes at least one online course while in college. At DeVry University, out of all students that are earning a bachelor's degree, 80% earn two-thirds of their requirements online. Also in 2014, 2.85 millions students out of 5.8 million students that took courses online, took all of their courses online. From this information, it can be concluded that the number of students taking classes online is on the steady increase. Multimedia space Moldova Alliance Française. In 1971, Ivan Illich published a hugely influential book called, Deschooling Society, in which he envisioned "learning webs" as a model for people to network the learning they needed. The 1970s and 1980s saw notable contributions in computer-based learning by Murray Turoff and Starr Roxanne Hiltz at the New Jersey Institute of Technology as well as developments at the University of Guelph in Canada. In the UK, the Council for Educational Technology supported the use of educational technology, in particular administering the government's National Development Programme in Computer Aided Learning (1973–77) and the Microelectronics Education Programme (1980–86). By the mid-1980s, accessing course content became possible at many college libraries. In computer-based training (CBT) or computer-based learning (CBL), the learning interaction was between the student and computer drills or micro-world simulations. Digitized

communication and networking in education started in the mid-1980s. Educational institutions began to take advantage of the new medium by offering distance learning courses using computer networking for information. Early e-learning systems, based on computerbased learning/training often replicated autocratic teaching styles whereby the role of the elearning 13 system was assumed to be for transferring knowledge, as opposed to systems developed later based on computer supported collaborative learning (CSCL), which encouraged the shared development of knowledge. Videoconferencing was an important forerunner to the educational technologies known today. This work was especially popular with museum education. Even in recent years, videoconferencing has risen in popularity to reach over 20,000 students across the United States and Canada in 2008–2009. Disadvantages of this form of educational technology are readily apparent: image and sound quality is often grainy or pixelated; videoconferencing requires setting up a type of mini-television studio within the museum for broadcast, space becomes an issue; and specialised equipment is required for both the provider and theparticipant. The Open University in Britain and the University of British Columbia (where Web CT, now incorporated into Blackboard Inc., was first developed) began a revolution of using the Internet to deliver learning, making heavy use of web-based training, online distance learning and online discussion between students. Practitioners such as Harasim (1995) put heavy emphasis on the use of learning networks. With the advent of World Wide Web in the 1990s, teachers embarked on the method using emerging technologies to employ multi-object oriented sites, which are text-based online virtual reality systems, to create course websites along with simple sets of instructions for its students. By 1994, the first online high school had been founded. In 1997, Graziadei described criteria for evaluating products and developing technology-based courses that include being portable, replicable, scalable, affordable, and having a high probability of long-term cost effectiveness. Improved Internet functionality enabled new schemes of communication with multimedia or webcams. The National Center for Education Statistics estimate the number of K-12 students enrolled in online distance learning programs increased by 65 percent from 2002 to 2005, with greater flexibility, ease of communication between teacher and student, and quick lecture and assignment feedback. According to a 2008 study conducted by the U.S Department of Education, during the 2006– 2007 academic year about 66% of postsecondary public and private schools participating in student financial aid programs offered some distance learning courses; records show 77% of 14 enrollment in for-credit courses with an online component.[citation needed] In 2008, the Council of Europe passed a statement endorsing e-learning's potential to drive equality and education improvements across the EU. Computer-mediated communication (CMC) is between learners and instructors, mediated by the computer. In contrast, CBT/CBL usually means individualized (self-study) learning, while CMC involves educator/tutor facilitation and requires scenarization of flexible learning activities. In addition, modern ICT provides education with tools for sustaining learning communities and associated knowledge management tasks. Students growing up in this digital age have extensive exposure to a variety of media. Major high-tech companies have funded schools to provide them the ability to teach their students through technology. 2015 was the first year that private non profit organizations enrolled more online students than for-profits, although public universities still enrolled the highest number of online students. In the fall of 2015, more than 6 million students enrolled in at least one online course.

Different modes of learning:

Educational psychology, E-learning (theory), Learning theory (education), and Educational philosophies Various pedagogical perspectives or learning theories may be considered in designing and interacting with educational technology. E-learning theory examines these approaches. These theoretical perspectives are grouped into three main theoretical schools or philosophical frameworks: behaviourism, cognitivism and constructivism.

Behaviourism

This theoretical framework was developed in the early 20th century based on animal learning experiments by Ivan Pavlov, Edward Thorndike, Edward C. Tolman, Clark L. Hull, and B.F. Skinner. Many psychologists used these results to develop theories of human learning, but modern educators generally see behaviourism as one aspect of a holistic synthesis. Teaching in behaviourism has been linked to training, emphasizing the animal learning experiments. Since behaviourism consists of the view of teaching people how to do something with rewards and punishments, it is related to training people. B.F. Skinner wrote extensively on improvements of teaching based on his functional analysis of verbal behaviour and wrote "The Technology of Teaching", an attempt to dispel the myths underlying contemporary education as well as promote his system he called programmed instruction. Ogden Lindsley developed a learning system, named Celebration, that was based on behaviour analysis but that substantially differed from Keller's and Skinner's models.

Cognitivism

Cognitive science underwent significant change in the 1960s and 1970s to the point that some described the period as a "cognitive revolution" particularly in reaction to behaviorism. While retaining the empirical framework of behaviorism, cognitive psychology theories look beyond behavior to explain brain-based learning by considering how human memory works to promote learning. It refers to learning as "all processes by which the sensory input is transformed, reduced, elaborated, stored, recovered, and used" by the human mind. The Atkinson-Shiffrin memory model and Baddeley's working memory model were established as theoretical frameworks. Computer Science and Information Technology have had a major influence on Cognitive Science theory. The Cognitive concepts of working memory (formerly known as short-term memory) and long-term memory have been facilitated by research and technology from the field of Computer Science. Another major influence on the field of Cognitive Science is Noam Chomsky. Today researchers are concentrating on topics like cognitive load, 16 information processing, and media psychology. These theoretical perspectives influence instructional design. There are two separate schools of cognitivism and these are the cognitivist and social cognitivist. The former focuses on the understanding of the thinking or cognitive processes of an individual while the latter includes social processes as influences in learning besides cognition. These two schools, however, share the view that learning is more than a behavioral change but as a mental process used by the learner.

Constructivism

Educational psychologists distinguish between several types of constructivism: individual (or psychological) constructivism, such as Piaget's theory of cognitive development, and social constructivism. This form of constructivism has a primary focus on how learners construct their own meaning from new information, as they interact with reality and with other learners who bring different perspectives. Constructivist learning environments require students to use their prior knowledge and experiences to formulate new, related, and/or adaptive concepts in learning (Termos, 2012). Under this framework the role of the teacher becomes that of a facilitator, providing guidance so that learners can construct their own knowledge. Constructivist educators must make sure that the prior learning experiences are appropriate and related to the concepts being taught. Jonassen (1997) suggests "well-structured" learning environments are useful for novice learners and that "ill-structured" environments are only useful for more advanced learners. Educators utilizing a constructivist perspective may emphasize an active learning environment that may incorporate learner centered problem based learning, project-based learning, and inquiry-based learning, ideally involving realworld scenarios, in which students are actively engaged in critical thinking activities. An illustrative discussion and example can be found in the 1980s deployment of constructivist cognitive learning in computer literacy, which involved programming as an instrument of learning:224

LOGO, a programming language, embodied an attempt to integrate Piagetan ideas with computers and technology. Initially there were broad, hopeful claims, including "perhaps the most controversial claim" that it would "improve general problem-solving skills" across disciplines. However, LOGO programming skills did not consistently yield cognitive benefits: 17 It was "not as concrete" as advocates claimed, it privileged "one form of reasoning over all others," and it was difficult to apply the thinking activity to non-LOGO-based activities. By the late 1980s, LOGO and other similar programming languages had lost their novelty and dominance and were gradually de-emphasized amid criticisms. From a constructivist approach, the research works on the human learning process as a complex adaptive system developed by Peter Belohlavek showed that it is the concept that the individual has that drives the accommodation process to assimilate new knowledge in the long-term memory, defining learning as an intrinsically freedom-oriented and active process. As a student-centered learning approach, the unicist reflection driven learning installs adaptive knowledge objects in the mind of the learner based on a cyclic process of: “action reflection-action” to foster an adaptive behavior. Practice The extent to which e-learning assists or replaces other learning and teaching approaches is variable, ranging on a continuum from none to fully online distance learning. A variety of descriptive terms have been employed (somewhat inconsistently) to categorize the extent to which technology is used. For example, "hybrid learning" or "blended learning" may refer to classroom aids and laptops, or may refer to approaches in which traditional classroom time is reduced but not eliminated, and is replaced with some online learning. "Distributed learning" may describe either the e-learning component of a hybrid approach, or fully online distance learning environments. Synchronous and asynchronous E-learning may either be synchronous or asynchronous. Synchronous learning occurs in realtime, with all participants interacting at the same time, while asynchronous learning is selfpaced and allows participants to engage in the exchange of ideas or information without the dependency of other participants′ involvement at the same time. 18 Synchronous learning refers to the exchange of ideas and information with one or more participants during the same

period. Examples are face-to-face discussion, online real-time live teacher instruction and feedback, Skype conversations, and chat rooms or virtual classrooms where everyone is online and working collaboratively at the same time. Since students are working collaboratively, synchronized learning helps students become more open minded because they have to actively listen and learn from their peers. Synchronized learning fosters online awareness and improves many students' writing skills. Asynchronous learning may use technologies such as learning management systems, email, blogs, wikis, and discussion boards, as well as web-supported textbooks, hypertext documents, audio video courses, and social networking using web 2.0. At the professional educational level, training may include virtual operating rooms. Asynchronous learning is beneficial for students who have health problems or who have child care responsibilities. They have the opportunity to complete their work in a low stress environment and within a more flexible time frame. In asynchronous online courses, students proceed at their own pace. If they need to listen to a lecture a second time, or think about a question for a while, they may do so without fearing that they will hold back the rest of the class. Through online courses, students can earn their diplomas more quickly, or repeat failed courses without the embarrassment of being in a class with younger students. Students have access to an incredible variety of enrichment courses in online learning, and can participate in college courses, internships, sports, or work and still graduate with their class.

Linear learning Computer-based training (CBT) refers to self-paced learning activities delivered on a computer or handheld device such as a tablet or smartphone. CBT initially delivered content via CDROM, and typically presented content linearly, much like reading an online book or manual. For this reason, CBT is often used to teach static processes, such as using software or completing mathematical equations. Computer-based training is conceptually similar to webbased training (WBT) which are delivered via Internet using a web browser. 19 Assessing learning in a CBT is often by assessments that can be easily scored by a computer such as multiple choice questions, drag-and-drop, radio button, simulation or other interactive means. Assessments are easily scored and recorded via online software, providing immediate end-user feedback and completion status. Users are often able to print completion records in the form of certificates. CBTs provide learning stimulus beyond traditional learning methodology from textbook, manual, or classroom-based instruction. CBTs can be a good alternative to printed learning materials since rich media, including videos or animations, can be embedded to enhance the learning. Help, CBTs pose some learning challenges. Typically, the creation of effective CBTs requires enormous resources. The software for developing CBTs is often more complex than a subject matter expert or teacher is able to use. The lack of human interaction can limit both the type of content that can be presented and the type of assessment that can be performed, and may need supplementation with online discussion or other interactive elements.

Collaborative learning Computer-supported collaborative learning (CSCL) uses instructional methods designed to encourage or require students to work together on learning tasks, allowing social learning. CSCL is similar in concept to the terminology, "e-learning 2.0" and "networked collaborative learning" (NCL). With Web 2.0 advances, sharing information between multiple people in a network has become much easier and use has increased. One of the main reasons for its usage states that it is "a breeding ground for creative and engaging educational endeavors. Learning takes place through conversations about content and grounded interaction about problems and actions. This collaborative learning differs from instruction in which the instructor is the principal source of knowledge and skills. The neologism "e-

learning 1.0" refers to direct instruction used in early computer-based learning and training systems (CBL). In contrast to that linear delivery of content, often directly from the instructor's material, CSCL uses social software such as blogs, social media, wikis, podcasts, cloud-based document portals, and discussion groups and virtual worlds. This phenomenon has been referred to as Long Tail 20 Learning. Advocates of social learning claim that one of the best ways to learn something is to teach it to others. Social networks have been used to foster online learning communities around subjects as diverse as test preparation and language education. mobile-assisted language learning (MALL) is the use of handheld computers or cell phones to assist in language learning. Collaborative apps allow students and teachers to interact while studying. Apps are designed after games, which provide a fun way to revise. When the experience is enjoyable the students become more engaged. Games also usually come with a sense of progression, which can help keep students motivated and consistent while trying to improve.

Classroom 2.0 refers to online multi-user virtual environments (MUVEs) that connect schools across geographical frontiers. Known as "eTwinning", computer-supported collaborative learning (CSCL) allows learners in one school to communicate with learners in another that they would not get to know otherwise, enhancing educational outcomes and cultural integration. Further, many researchers distinguish between collaborative and cooperative approaches to group learning. For example, Roschelle and Teasley (1995) argue that "cooperation is accomplished by the division of labour among participants, as an activity where each person is responsible for a portion of the problem solving", in contrast with collaboration that involves the "mutual engagement of participants in a coordinated effort to solve the problem together. Flipped classroom This is an instructional strategy in which computer-assisted teaching is integrated with classroom instruction. Students are given basic essential instruction, such as lectures, before class instead of during class. Instructional content is delivered outside of the classroom, often online. The out-of-class delivery includes streaming video, reading materials, online chats, and other resources. This frees up classroom time for teachers to more actively engage with learners. 21 Technologies A 2.5m teaching slide rule compared to a normal sized model Educational media and tools can be used for: task structuring support: help with how to do a task (procedures and processes), access to knowledge bases (help user find information needed) alternate forms of knowledge representation (multiple representations of knowledge, e.g. video, audio, text, image, data) Numerous types of physical technology are currently used digital cameras, video cameras, interactive whiteboard tools, document cameras, electronic media, and LCD projectors. Combinations of these techniques include blogs, collaborative software, e portfolios, and virtual classrooms. The current design of this type of applications includes the evaluation through tools of cognitive analysis that allow to identify which elements optimize the use of these platforms. Audio and video technology has included VHS tapes and DVDs, as well as on-demand and synchronous methods with digital video via server or web-based options such as streamed video and webcams. Telecommuting can connect with speakers and other experts. Interactive digital video games are being used at K-12 and higher education institutions. Radio offers a synchronous educational vehicle, while streaming audio over the internet with webcasts and podcasts can be asynchronous. Classroom microphones, often wireless, can enable learners and educators to interact more clearly.

Screen casting allows users to share their screens directly from their browser and make the video available online so that other viewers can stream the video directly. The presenter thus has the ability to

show their ideas and flow of thoughts rather than simply explain them as simple text content. In combination with audio and video, the educator can mimic the one on- 22 one experience of the classroom. Learners have an ability to pause and rewind, to review at their own pace, something a classroom cannot always offer. Webcams and webcasting have enabled creation of virtual classrooms and virtual learning environment. Webcams are also being used to counter plagiarism and other forms of academic dishonesty that might occur in an e-learning environment. Computers, tablets and mobile devices Teaching and learning online Collaborative learning is a group-based learning approach in which learners are mutually engaged in a coordinated fashion to achieve a learning goal or complete a learning task. With recent developments in smart phone technology, the processing powers and storage capabilities of modern mobiles allow for advanced development and use of apps. Many app developers and education experts have been exploring smartphone and tablet apps as a medium for collaborative learning. Computers and tablets enable learners and educators to access websites as well as applications. Many mobile devices support m-learning.

Mobile devices such as clickers and smartphones can be used for interactive audience response feedback.Mobile learning can provide performance support for checking the time, setting reminders, retrieving worksheets, and instruction manuals. Such devices as iPads are used for helping disabled (visually impaired or with multiple disabilities) children in communication development as well as in improving physiological activity, according to the Stimulation Practice Report. Collaborative and social learning Group webpages, blogs, wikis, and Twitter allow learners and educators to post thoughts, ideas, and comments on a website in an interactive learning environment. Social networking sites are 23 virtual communities for people interested in a particular subject to communicate by voice, chat, instant message, video conference, or blogs. The National School Boards Association found that 96% of students with online access have used social networking technologies, and more than 50% talk online about schoolwork. Social networking encourages collaboration and engagement and can be a motivational tool for self-efficacy amongst students. Combination whiteboard and bulletin board Whiteboards Interactive whiteboard in 2007 There are three types of whiteboards. The initial whiteboards, analogous to blackboards, date from the late 1950s. The term whiteboard is also used metaphorically to refer to virtual whiteboards in which computer software applications simulate whiteboards by allowing writing or drawing. This is a common feature of groupware for virtual meeting, collaboration, and instant messaging. Interactive whiteboards allow learners and instructors to write on the touch screen. The screen markup can be on either a blank whiteboard or any computer screen content. Depending on permission settings, this visual learning can be interactive and participatory, including writing and manipulating images on the interactive whiteboard. Virtual classroom This section needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Un sourced material may be challenged and removed. Find sources: "Educational technology" – news · newspapers · books ·scholar ·

JSTOR (March 2019) (Learn how and when to remove this template message) 24 A virtual learning environment (VLE), also known as a learning platform, simulates a virtual classroom or meetings by simultaneously mixing several communication technologies. Web conferencing software enables students and instructors to communicate with each other via webcam, microphone, and real-time chatting in a group setting. Participants can raise hands, answer polls or take tests. Students are able to whiteboard and

screen cast when given rights by the instructor, who sets permission levels for text notes, microphone rights and mouse control. A virtual classroom provides the opportunity for students to receive direct instruction from a qualified teacher in an interactive environment. Learners can have direct and immediate access to their instructor for instant feedback and direction. The virtual classroom provides a structured schedule of classes, which can be helpful for students who may find the freedom of asynchronous learning to be overwhelming. In addition, the virtual classroom provides a social learning environment that replicates the traditional "brick and mortar" classroom. Most virtual classroom applications provide a recording feature. Each class is recorded and stored on a server, which allows for instant playback of any class over the course of the school year. This can be extremely useful for students to retrieve missed material or review concepts for an upcoming exam. Parents and auditors have the conceptual ability to monitor any classroom to ensure that they are satisfied with the education the learner is receiving. In higher education especially, a virtual learning environment (VLE) is sometimes combined with a management information system (MIS) to create a managed learning environment, in which all aspects of a course are handled through a consistent user interface throughout the institution. Physical universities and newer online-only colleges offer select academic degrees and certificate programs via the Internet. Some programs require students to attend some campus classes or orientations, but many are delivered completely online. Several universities offer online student support services, such as online advising and registration, e-counseling, online textbook purchases, student governments and student newspapers.

Conclusion:

E-learning is not just a change of technology. It is part of a redefinition of how we as a species transmit knowledge, skills, and values to younger generations of workers and students. Learners will have access to millions or billions of knowledge modules. Some will be Web pages with simple text and graphics. Others may include multimedia simulations. In many fields, e-learning has become the default way to conduct training or to provide education. There are four secrets of e-learning. The first secret is to teach what learners need to learn in the way they most naturally learn. The second secret is to define clear learning objectives. The third secret builds on the first two. It is to focus on the right objectives. The final secret is in the power of testing.

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