**CHAPTER ONE**

**1.1 INTRODUCTION**

While the term “e-learning” has been thrown around quite a lot in recent years, many are still unaware of what it actually means and how it can help them achieve success in both their professional and personal lives.

This term-paper aims to provide an introductory level overview of the e-learning and its implication on education. This term-paper is divided into five chapters. The firstchaptersets the case for e-learning by dealing withsubjects such as its meaning and history. The second chapter talks about e-learning today and the future of e-learning. The thirdchapter talks about e-learning trends and the technology used in e-learning. The forth chapter discusses e-learning implication in education and also the benefits and negative effects of e-learning. Then the fifth chapter is the conclusion.

**1.2 WHAT IS E-LEARNING?**

E-learning is defined as learning via electronic means such as the internet, video, audio or multimedia. In essence, e-learning is a computer based educational tool or system that enables you to learn anywhere and at any time. Today e-learning is mostly delivered through the internet, although in the past it was delivered using a blend of computer based methods like CD-ROM [1].

Technology has advanced so much that the geographical gap is bridged with the use of tools that make you feel as if you are inside the classroom. E-learning offers the ability to share material in all kinds of formats such as videos, slideshows, word documents and PDFs. Conducting webinars (live online classes) and communicating with professors via chat and message forums is also an option available to users.

**1.3 THE HISTORY OF E-LEARNING**

The term "e-learning" has only been in existence since 1999, when the word was first utilized at a CBT systems seminar. Other words also began to spring up in search of an accurate description such as “online learning” and “virtual learning”. However, the principles behind e-learning have been well documented throughout history, and there is even evidence which suggests that early forms of e-learning existed as far back as the 19 century [2].

Long before the internet was launched, distance courses were being offered to provide students with education on particular subjects or skills. In the 1840′s Isaac Pitman taught his pupils shorthand via correspondence. This form of symbolic writing was designed to improve writing speed and was popular amongst secretaries, journalists, and other individuals who did a great deal of note taking or writing. Pitman, who was a qualified teacher, was sent completed assignments by mail and he would then send his students more work to be finished using the same system. In 1924, the first testing machine was invented. This device allowed students to tests themselves. Then, in 1954, BF Skinner, a Harvard Professor, invented the “teaching machine”, which enabled schools to administer programmed instruction to their students. It wasn’t until 1960 however that the first computer based training program was introduced to the world. This computer based training program (or CBT program) was known as PLATO Programmed Logic for Automated Teaching Operations. It was originally designed for students attending the University of Illinois, but ended up being used in schools throughout the area. The first online learning systems were really only set up to deliver information to students but as we entered the 70s online learning started to become more interactive. In Britain the Open University was keen to take advantage of e-learning. Their system of education has always been primarily focused on learning at a distance. In the past, course materials were delivered by post and correspondence with tutors was via mail. With the internet the Open University began to offer a wider range of interactive educational experiences as well as faster correspondence with students via email etc. [3]

**CHAPTER TWO**

**2.1 THE FUTURE OF E-LEARNING**

E-learning is here to stay. As computer ownership grows across the globe e-learning becomes increasingly viable and accessible. Internet connection speeds are increasing, and with that, opportunities for more multimedia training methods arise. With the immense improvement of mobile networks in the past few years and the increase in telecommuting, taking all the awesome features of e-learning on the road is a reality with smart phones and other portable devices. Technologies such as social media are also transforming education constantly. Generally speaking, learning is expensive, takes a long time and the results can vary [4]. E-learning has been trying for years now to complement the way we learn to make it more effective and measurable. The result now being that there are a number of tools that help create interactive courses, standardize the learning process and/or inject informal elements to otherwise formal learning processes. Several e-learning trends can give us a clear view on how the future of e-learning and learning tools will be shaped:

* **Micro learning** focuses on the design of micro learning activities through micro steps in digital media environments, which already is a daily reality for today's knowledge workers. These activities can be incorporated into a learner's daily routines. Unlike "traditional" e-learning approaches, micro learningoften tends towards push technology through push media, which reduces the cognitive load onthe learners [5]. Therefore, the selection of micro learningobjects and also pace and timing of micro learningactivities are of importancefor didactical designs. Micro learningis an important paradigm shift that avoids the need to have separate learning sessions since thelearning process is embedded in the daily routine of the end-user.It is also perfectly suited for mobile devices where long courses canbe overkill.
* **Gamification** is the use of game thinking and game mechanics in a non-game context to engage users and solve problems. [6]
* **Personalized Learning** is the tailoring of pedagogy, curriculum and learning environments to meet the needs and aspirations of individual learners. Personalization is broader than just individualization or differentiation in that it affords the learner a degree of choice about what is learned, when it is learned and how it is learned. This may not indicate unlimited choice since learners will still have targets to be met. However, it may provide learners the opportunity to learn in ways that suit their individual learning styles and multiple intelligences.

**2.2 E-LEARNING TODAY**

With the introduction of the computer and internet in the late 20th century, e-learning tools and delivery methods expanded. The first MAC in the 1980′s enabled individuals to have computers in their homes, making it easier for them to learn about particular subjects and develop certain skill sets. Then, in the following decade, virtual learning environments began to truly thrive, with people gaining access to a wealth of online information and e-learning opportunities. [7]

By the early 90s several schools had been set up that delivered courses online only, making the most of the internet and bringing education to people who wouldn't previously have been able to attend a college due to geographical or time constraints. Technological advancements also helped educational establishments reduce the costs of distance learning, a saving that would also be passed on to the students helping bring education to a wider audience. In the 2000′s, businesses began using e-learning to train their employees. New and experienced workers alike now had the opportunity to improve upon their industry knowledge base and expand their skill sets. At home individuals were granted access to programs that offered them the ability to earn online degrees and enrich their lives through expanded knowledge.

**2.3 SYNCHRONOUS E-LEARNING VS. ASYNCHRONOUS E-LEARNING**

In today’s e-learning environment the type of learning that takes place is generally divided into one of two categories: *synchronous* and *asynchronous*. Both learning strategies have their own pros and cons, and the technique that is right for a student greatly depends upon their method of absorbing the information that is being provided. [8]

**What is synchronous learning?**

Examples of synchronous e-learning are online chat and videoconferencing. Any learning tool that is in real-time, such as instant messaging that allows students and teachers to ask and answer questions immediately, is synchronous. Rather than learning on their own, students who participate in synchronous learning courses are able to interact with other students and their teachers during the lesson [9]. The main benefit of synchronous learning is that it enables students to avoid feelings of isolation since they are in communication with\ others throughout the learning process. However synchronous learning is not as flexible in terms of time as students would have to set aside a specific time slot in order to attend a live teaching session or online course in real-time. So it may not be ideal for those who already have busy schedules.

**What is asynchronous learning?**

Asynchronous learning on the other hand can be carried out even when the student or teacher is offline. Coursework and communications delivered via web, email and messages posted on community forums are perfect examples of asynchronous e-learning. In these instances, students will typically complete the lessons on their own and merely use the internet as a support tool rather than venturing online solely for interactive classes. A student is able to follow the curriculum at their own pace without having to worry about scheduling conflicts. This may be a perfect option for users who enjoy taking their time with each lesson plan in the curriculum and would prefer to research topics on their own. However, those who lack the motivation to do the coursework on their own may find that they do not receive significant benefit from asynchronous learning. Asynchronous learning can also lead to feelings of isolation, as there is no real interactive educational environment.

Ideally, effective e-learning courses should include both asynchronous and synchronous learning activities. This allows students and teachers to benefit from the different delivery formats regardless of their schedules or preferred learning methods. This approach provides students with access to immediate help if needed, while still giving them the ability to learn at their own pace.

**CHAPTER THREE**

**3.1 TECHNOLOGIES USED IN E-LEARNING**

E-learning makes use of many technologies - some of which have been developed specifically for it, while others conveniently complemented the learning process, for example computer games. Communication technologies are also widely used in e-learning. Starting with the use of email and instant messaging, messageforums and social networks, we see a plethora of tools that any internet user would use in any case. There are also some technologies that work in a complementary manner to other software and enable new features, for example software that adds a whiteboard on your video conferencing tool to allow you or your peers to make changes on other people’s work for review, or screen-sharing which allows someone to make a presentation while still making comments and giving input using the microphone. E-learning makes good use of database and CMS (Content Management System) technologies. These two work hand in hand to store your course content, test results and student records. The data is stored in the database and the CMS provides a user interface for you to add, update and delete data. A good LMS will often provide reporting tools to generate and store progress reports. Technologies to improve the quality of content are manifold. Software such as Flash and PowerPoint will help you make your presentations slick and interesting, with high quality, graphically rich content. There are word processing packages and HTML editors available these days that make formatting your text or web pages a breeze, removing a lot of the complexity. There are also lots of online services available that you can use to create interactive elements for your courses such as quizzes and games. [10]

**3.2 E-LEARNING TRENDS**

**Blended learning**

Blended learning is a combination of offline (face-to-face, traditional learning) and online learning in a way that the one compliments the other. It provides individuals with the opportunity to enjoy the best of both worlds. For example, a student might attend classes in a real-world classroom setting, and then supplement the lesson plan by completing online multimedia coursework. As such, the student would only have to physically attend class once a week and would be free to go at their own pace (and without worrying about scheduling issues).

Blended learning is often also referred to as “hybrid” learning, and can take on a variety of forms in online education environments. While some organizations may only use blended learning techniques on rare occasions, others might utilize it as a primary teaching method within their curriculum.

**Social and collaborative learning**

Collaborative learning is an e-learning approach where students are able to socially interact with other students, as well as instructors. In essence, learners work together in order to expand their knowledge of a particular subject or skill. In e-learning environments, this is typically done through live chats, message boards, or instant messaging. Collaborative learning is based upon the principle that students can enrich their learning experiences by interacting with others and benefiting from one another's strengths. In collaborative learning situations, students are responsible for one another's actions and tasks which encourage teamwork as well.

**Gamification**

Gamification is the use of game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning and solve problems. Basically it’s the use of gaming technology to solve problems outside of the games sector. Games are created to draw people in, to keep them playing, to keep them interested, entertained and involved. And it’s much more than just adding rewards, points, and badges to processes to motivate people – it’s the instructional method, and not just the delivery system that provides the elements for learning in a game situation i.e. we must ask what pieces in games makes them engaging such as interactivity, content, story.

**CHAPTER FOUR**

**4.1 IMPLICATION OF E-LEARNING IN EDUCATION**

When it comes to online learning in education, the model has been pretty straightforward up until the early 2000s education was in a classroom of students with a teacher who led the process. Physical presence was a no-brainer, and any other type of learning was questionable at best. Then the internet happened, and the rest is history. E-learning is a rapidly growing industry, the effects of which we can trace back to the 1980s and even well before that (in the form of distance learning and televised courses) [11]

Now that affordable e-learning solutions exist for both computers and internet, it only takes a good e-learning tool for education to be facilitated from virtually anywhere. Technology has advanced so much that the geographical gap is bridged with the use of tools that make you feel as if you are inside the classroom. E-learning offers the ability to share material in all kinds of formats such as videos, slideshows, word documents and PDFs. Conducting webinars (live online classes) and communicating with professors via chat and message forums is also an option available to users. There is a plethora of different e-learning systems (otherwise known as Learning Management Systems, or LMSs for short) and methods, which allow for courses to be delivered. With the right tool various processes can be automated such as a course with set materials and automatically marked tests. E-learning is an affordable (and often free) solution which provides the learners with the ability to fit learning around their lifestyles, effectively allowing even the busiest person to further a career and gain new qualifications. Some of the most important developments in education have happened since the launch of the internet. These days learners are well versed in the use of smart phones, text messaging and using the internet so participating in and running an online course has become a simple affair. Message boards, social media and various other means of online communication allow learners to keep in touch and discuss course related matters, whilst providing for a sense of community. In the fast paced world of e-learning the available technologies to make a course new and exciting are always changing, and course content can and should be updated quickly to give students the very latest information. This is especially important if the e-learning training is being given to employees in a sector where keeping up-to-date on industry developments is of the utmost importance. This is one of the reasons why many businesses are now offering training via e-learning other reasons includes low costs and the ability for employees to study in their own time and place. Overall, traditional learning is expensive, takes a long time and the results can vary. The importance of E-learning is now a given fact and it can offer an alternative that is much faster, cheaper and potentially better.

**4.2 BENEFITS OF E-LEARNING**

Whether you are a high school teacher looking to engage your students in a more interactive way, or a corporate trainer hired by a large company to design training curricula, e-learning packs a punch when it comes to benefits that make the creation and delivery processes easier and hassle free.

Important benefits are outlined below:

* **No Boundaries, No Restrictions**

Along with location restrictions, time is one of the issues that learners and teachers both have to face in learning. In the case of face-to-face learning, the location limits attendance to a group of learners who have the ability to participate in the area, and in the case of time, it limits the crowd to those who can attend at a specific time. E-learning, on the other hand, facilitates learning without having to organize when and where everyone who is interested in a course can be present.

* **More Fun**

Designing a course in a way that makes it interactive and fun through the use of multimedia or the more recently developed methods of *gamification* enhances not only your engagement factor, but also the relative lifetime of the course material in question.

* **Cost Effective**

This is directed to both learners and teachers, but there is a good chance that whatever your role you had to pay exorbitant amounts of money at some point to acquire updated versions of textbooks for school or college. While textbooks often become obsolete after a certain period of time, the need to constantly acquire new editions is not present in e-learning.

**4.3 NEGATIVE EFFECTS OF E-LEARNING**

However, the essence of technology is doubled by impartment and requirement. Computer technology, especially the development of network technology exerts both great convenience to human's production, life and education and negative influence. So far, if E-learning is considered as main studying ways, it will exert following negative influence:

* **Harm to Learners' Health**

More and more evidences prove that long-time usage of computer can do harm to people's health. It mainly includes electromagnetic radiation, harm to eyesight and damage of organs and so on.

* **Electromagnetic radiation**

On operating, computer will emit electromagnetic wave, which pollutes surrounding environment harmful to health. Although people stipulate strictly the radiation of electronic products (such as 3c certification forcefully fulfilled in domestic), it is impossible to eradicate radiation in computer design. According to survey in British, radiation and magnetic field of low frequency emitted by computer will conduced to7 to 19 kinds of diseases covering running nose, itch on eyes, pain on neck and back, temporary laptop memories, short- temper, and gloom and so on. Related convey discovered electromagnetic radiation also will conduce to cancer. The number of accumulation of electromagnetic radiation has direct ratio to product between intensity of radiation and time of radiation. If people takes long time to study in front of computer, their health will face huge threat. Especially in studying environment of centered- computer, it is difficult to keep secure distance from radiation resource, which will be hurtful to learners.

* **Harm to eyesight**

E-learning is a kind of studying way based on screen, which presents series of changing and rolling up and down signals and figures will be harmful to eyes, which is vulnerable to conduce to teenagers' shortsightedness and ciliary spasm. The so- called computer vision syndrome is a kind of forced disease, resulted from long- time staring at one place; the time of blink is just one third of that normally so that decrease secretion of lubricant. It lasts for a long time will result in fatigue of eye, ghost image, and blurred vision in addition to other syndrome.

* **Damage to organs**

It is difficult to change figure, on operating computer. Speedy, singular, repeated manipulation and enduring forced position are easy to conduce to disease of musculoskeletal system. Main hurt positions are waist, neck, shoulder, elbow, and wrist and so on.

**CHAPTER FIVE**

**5.1 CONCLUSIONS**

Above all, although E-learning has huge influence on promoting study, it is still not a perfect educational means there are still a lot of intractable problems. It does not matter E- learning import advanced technology, it cannot substitute face-to-face communication between teacher and students and students and practical activity, mention less education of thousand- year of human' history. [12] We should take it into consideration of the effect of E- learning on education, in addition, pay attention to the negative effect of it in order to avoid strange circle of educational technology