CHAPTER I

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1.0.0.0 Introduction

‘The online education setting holds potential for vibrant interaction and rich dialog. Unfortunately, online educational experiences can become quite wooden and lifeless at times, like a boring traditional classroom. Online educators and their students can become disillusioned with the teaching and learning process when it lacks a dynamic, interactive character.’ (Muirhead, 2004).

The education structures that currently exist worldwide- those commonly referred to as “schooling” are almost impossible to justify for the present; they are certainly not appropriate for the decades ahead (Glines, 2000). ‘Access to the Internet is increasing, not only in terms of who can get online, but also in terms of what devices can assist in getting online. This trend driven by the increasing demand to keep in touch and stay informed is resulting in more possibilities for communication and information retrieval’ New Media Consortium, 2005 (cited in Annetta & Holmes, 2006)

There has been a virtual explosion in online education as stated by Perry & Edwards (2005). In the past 20 years, independent study options have increased and become more accessible to students.
Today, most countries, especially India have embraced the power of the Internet in almost every sector of work and life in general. One cannot ignore the empowerment benefits that Internet technologies give individuals who experience it. Developed countries like Australia are working towards establishing new technologies that would offer better and improved bandwidth and quicker access to information on the Internet. It is now seen that the true glory of the Internet is being recognised and applied to various fields with the expectation of drawing the most potential from it. One such area is the field of education that has been revolutionised by the Internet with the phenomenon of e-learning; with the ‘World Wide Web (www) acting as a catalyst for deepened interest and extended implementation of learning and knowledge transfer systems’ (Christiansson, 2004). According to Kopf (2007), San Jose, CA-based market researchers Global Industry Analysts, project the global e-learning market to surpass $52.6 billion by 2010. While Europe and Japan lag on e-learning adoption compared to the United States (U.S. enterprise e-learning adoption accounts for 60 percent of the market, while Europe's accounts for 15 percent), overall usage of e-learning in Asia is expected to reach a compound annual growth rate of 25 percent to 30 percent through 2010, according to the firm. Worldwide that rate should hit between 15 percent and 30 percent, the report states. Thus new
focus is brought onto teaching and learning strategies as rapid advances are made in online education. “By the year 2012, schools and colleges will routinely use computerised teaching programs and interactive television lectures and seminars, as well as traditional methods” Emerging technologies and ground-floor investment opportunities: Special Report, 2003 (cited in Naqvi, 2006).

E-learning is an effective way of coming together in order to form societies however the lack of interest shown by e-learners and their high attrition rate has always been an issue for online institutions. Let us take a look at how far learning societies have evolved, the concept of e-learning and why we need to adapt the present e-learning systems to meet students needs.

1.1.0.0 Need For A Learning Society

According to Anbazhagan & Prasad (2005), education should be used for the holistic development of human life to strengthen the respect for human rights, promote tolerance among nations and maintain peace. Pastuovic (2001) states that the four objectives of education are to learn how to know, learn how to act, learn how to live together and learn how to be. However this cannot be learnt in a single format of learning or a single degree but needs to be accomplished by both school and non-school types of education, i.e. learning, through all educational areas and throughout one’s life. This type of learning can be termed as lifelong learning, which will be the key for education in the future. Lifelong learning will also help individuals prepare themselves for the rapid changes economically, socially, educationally and culturally making them adaptable to cope better with these developments.

As Meighan (2000) identified, there is a need for ‘continuous adaptation’ of the current learning system to cater to different individual’s learning careers. The loss of the stable state means that our society and all of its
institutions are in continuous processes of transformation. We must become adept at learning and be able not only to transform our institutions, in response to changing situations and requirements; we must invent and develop institutions which are ‘learning systems’, that is to say, systems capable of bringing about their own continuing transformation. (Schon, 1973, cited in Smith, 2001). Spanier et al (1999) have identified some key elements of a learning society that include valuing and fostering habits of lifelong learning and ensuring that there are responsive and flexible learning programs and learning networks available to address all learners’ needs.

People should come together in order to form learning communities that keep evolving and growing and ensuring that all individuals are continuously engaging in constant learning. As stated by Dickinson (2000), the ancient Greeks had a word, ‘Paedeia’ for organisations where everyone was a learner and everyone was a teacher, and the whole community was responsible for the learning of its people. The formation of such models is essential today as we see increasing need for greater interpersonal and international understanding. In today’s situation of increased globalisation and narrowing of the divide between cultures and countries, one cannot learn alone anymore but only by engaging with each other on a global scale can one continue to learn and enhance their level of knowledge.

1.1.1.0 The Nature And Concept Of A Learning Society

“If learning involves all of one’s life, in the sense of both time-span and diversity, and all of society, including its social and economic as well as its educational resources, then we must go even further than the necessary overhaul of ‘educational systems’ until we reach the stage of a learning society” Faure et al, 1972 (cited in Smith, 2000).
According to Senge, 1990 (cited in Dunn, Scileppi, Averna, Zerillo & Skelding, 2007), a true learning system is one where people continually expand their capacity to create the results they truly desire...new and expansive patterns of thinking are nurtured...collective aspiration is set free and...people are continually learning to see the whole together. Coffield, 1994 (cited in Selwyn, Gorard & Furlong, 2006) describes a learning society as one 'in which all citizens acquire a high quality general education, appropriate vocational training and a job...while continuing to participate in education and training throughout their lives. Thus a learning society involves a comprehensive education and training system in which everyone has access to suitable opportunities for lifelong learning. To create a learning society, individual learning requirements must be addressed for a personalisation of learning experiences. There is a need to address the technological, organisational and cultural challenges in the adoption, adaptation and usage of Information and Communication Technology (ICT) as learning stimulates imagination and individual creativity.

All over the world, as Meighan (2000) states, mass coercive schooling has proved to be a system that is expensive, increasingly obsolete and counter-productive in producing anachronistic, intellectual, social, political, emotional and economic habits. A growing number of educators (like Parker Palmer, Ron Miller, Don Glines, to name a few) and futurists (like Duane Elgin and Riane Eisler) have written about the necessity for transformation in schools and beyond with new learning systems that are open-ended, individualised and adaptable. The education structures that are currently in place, especially in India cater to mass learning; the one-size-fits-all model; rather than focusing on individual's needs and tailoring the learning structures according to those needs. This results in students who cannot perform being left behind with poor test scores and a sense of failure. Gardner, 1994 (cited in Meighan, 2000) talks about the seven types of intelligences (analytical, pattern, musical, physical, practical, intra-personal, and inter-personal). Only analytical intelligence is given serious attention in most schools. Yet, we now know that so
called ‘ordinary’ people are capable of feats of intellectual or creative activity in rich, challenging, non-threatening, co-operative learning environments and the narrow competitive tests currently in use to achieve the ‘raising of standards’, just prevent this from happening. These rigid structures need to be broken in order to open the doors to true lifelong learning. Self-education provides a 'freedom of education' and unrestrained 'non-system' of education, which should be positioned at the heart of the learning society model (Douglas, 1992, cited in Selwyn, Gorard & Furlong, 2006).

Until recent years it was not understood that the human brain can change structurally and functionally as a result of learning and experience for better or for worse. Ideal conditions for optimal brain growth and development are enriched environments that are positive, nurturing, stimulating, and that encourage action and interaction (Dickinson, 2000). A good learning community can make learning extremely effective and realistic through the motivation learners receive from the instructor and each other. It is this sense of community that makes the learning experience more than just a handover of information from tutor to student; it makes the experience real and tangible. As McCracken (2002) illustrated through personal communication from an online learner, Bill Paolini (2001) who stated that for information to become knowledge it needs to be grounded in discussion, interaction, and experiences with others… Information, knowledge, understanding, and wisdom only have usefulness in the context of a society.

Opportunities to learn in different modalities and understand our own unique characteristics play an important role in successful learning (Dickinson, 2000). Hence as Smith (2000) stated, it is necessary to deepen our theorisation of the relationship between education and economic life; to appreciate developments in our theorisation of learning; and to draw upon understandings of human beings as active, and cooperative agents if the notion of the learning society is to move beyond the level of rhetoric.
1.1.2.0 Attempts Done To Create A Learning Society

Documented attempts seem to be few, as the global learning society concept still seems to be in the evolutionary stage or the stage where proposals are still being made and discussions carried out about forming a global learning society. However some instances have been found where societies have come together to create a learning community.

'The Asia Society Partnership for Global Learning is a membership network with its purpose being to provide leadership and structure to move international education from the margins to the mainstream by connecting stakeholders, issues and policies in order to prepare K-12 students in the United States to excel in an interconnected world. Through publications, conferences, workshops, newsletters, policy briefs and online resources, the Partnership for Global Learning provides effective K-12 strategies for integrating international education content across the curriculum, successful approaches to creating world language program, ways to "make the case" for global competence, policy innovations and funding resources to advance international education, approaches to international benchmarking to support innovation, preparation for teachers to teach about the world, ways to harness technology and create new opportunities for international collaboration and an understanding of how international education promotes academic excellence and equity for all students' (Asia Society, n.d).

In Australia, the impact of modern information and communication technologies on both the economy and society means that it is progressing towards an information society. A report submitted by Global Learning Services, 1997 states that one of the four strategies identified by the Organisation for Economic Co-operation and Development (OECD) Education Ministers in their 1996 meeting for promoting life-long learning involved extending pathways and bridges to facilitate more flexible movement between education and training and work. A necessary aspect of this strategy is to move beyond concepts of
linear progression through primary, secondary, and tertiary education, a framework that reflects past conditions and values rather than contemporary needs.

The ramifications and consequences of such an Information Society are being taken seriously around the world. Developments in Europe provide an example with the activities of the European Commission. The Commission has initiated a number of studies in this field and has developed an action plan on the Information Society. The European Commission's 1996 White Paper on Education and Training identified the emergence of an Information Society as one of the three major "factors of upheaval" in European society. These factors were seen as being the impact of internationalisation; the impact of the information society; and the impact of the scientific and technical world. This work in the European Commission points to a critical need to achieve congruence between technology, economic objectives, and human needs and aspirations. Higher education institutions can contribute much to progress towards an appropriate balance (Report submitted by Global Learning Services, 1997).

The London Conference forms part of the work of the GENE (Global Education Network Europe). GENE is the European network of national organisations for the funding and support of global education. The purpose of the GENE network process is two-fold: to share learning between existing and emerging national structures of funding and support for global education in Europe; and, through the development of a common European agenda, to share such learning with other countries in Europe. Learning for a Global Society is part of a growing virtual resource base on the theory and practice of evaluation in global education, and should prove useful to students, practitioners, theorists and policymakers. Universities in the U.K are beginning to reflect more and more on whether and how to internationalise the curriculum they develop and offer. The Institute of Education has recently embarked on a policy of internationalising our pedagogy and curricula across the
Institute’s entire programme of teaching (Wegimont, 2004).

The ‘Cyberschoolbus’ link on the United Nations website developed in 1996 is an interactive resource for teachers and students. The vision of the project is to provide exceptional educational resources (both online and in print) to students growing up in a world undergoing increasing globalisation. Major themes of the lessons and information are essential for multicultural education and include human rights, peace education, hunger, communication, and collaboration. Thus this resource allows students to learn and interact with individuals from a variety of backgrounds and experiences (Dunn et al, 2007).

On the organisational front, SoL, the Society for Organisational Learning, is ‘an intentional learning community composed of organisations, individuals, and local SoL communities around the world. The purpose is to discover (research), integrate (capacity development) and implement (practice) theories and practices of organisational learning for the interdependent development of people and their institutions and communities’ (SOL, n.d).

All the above examples illustrate, to some extent the efforts that have been taken in creating and working towards global learning societies of the future. The need for lifelong learning has been recognised through the establishment of learning societies and institutions that have moved on from old educational structures to more open, adaptable learning centers where learning opportunities are expanding from just school and university to lifelong learning.
There is growing debate in recent years on the concept of the digital divide in society, which as explained by Howarth (2007), is a generational difference in attitude and disposition to use technology. Prensky, 2001 (cited in Howarth, 2007) stresses the fact that the current educational system is not designed keeping in mind the changes in the types of students who are now either growing up with technology (digital native) or those who approach the technology with certain maturity (digital immigrants). According to Taylor (1998), the key to the future of education is flexible delivery, based primarily on the application of distance education technologies and methodologies. Patry, 1995 (cited in Taylor, 1998) pointed out that the traditional education systems throughout the world have been stretched to the limit by the population explosion, scarcity of resources and expansion of knowledge. In order to accommodate this growth in service to so many potential students, new and innovative means of information dissemination through economical ways need to be developed.

Passi (2005) believes that our current methods of learning for our lives are linear and teacher-centred. These linear learning methods create fragments in our thinking and action as the isolated manner of learning subjects is insufficient to prepare students to live harmonious lives in the future. Thus fragmentised learning needs to be replaced with a more holistic learning and education that will follow the whole span of an individual’s life. Only then can we say that education is truly wholesome covering every aspect in an individual’s life.

The current educational system is one that is deeply in need of systemic change. The measure of how effective a system is depends on the degree to which its objectives are being fulfilled. Smith, 1995 (cited in Dunn et al, 2007) stated that education currently is not a “system” as a system requires that the entity be organised, integrated, orderly, predictable and
functional. He perceived the schools to be disorganised, disorderly, unplanned and perhaps dysfunctional.

Pastuovic (2001) believes that since the purpose of social development is the improvement of the quality of life, and since education has to contribute to that development, what might be concluded is that the purpose of education is contribution to the quality of life as well. Thus education can be used to help the marginalised societies to better their quality of life by presenting to them the opportunity of equality of education.

Considering the educational system is an open system a change in one component may affect the overall performance of the entire system. Pastuovic (2001) stresses the fact that while reforming, attention must be paid not only to interdependence of individual parts of the educational system, due to which it is to be analysed as a whole, but to its linkage with economic, political and cultural subsystems of the environment as well. As the difficulty in changing the entire system at once is known, it is important as echoed by AECT (1999) to ensure that the old and new components reinforce rather than undermine each other.
Learner-Centred education is an old concept thought through by some Indian philosophers like M.K Gandhi and Rabindranath Tagore who had very significant ideas based on the quality of education. Learning is the central focus of education and the system should thus focus on creating a scenario of optimum learning. Rajendran & Ramakrishnana (2005) defined Learner-Centred Education as that which places the students (learners) at the centre of education and creates an environment that supports the individual as a whole person. A learner-centred environment facilitates the exploration of meaning and content knowledge through personal and interpersonal discovery. According to Radhika & Kattiamal (2005), LCE expects a love for learning, consciousness of the way to learn and how to learn, critical thinking, self paced learning, emotional intelligence, self reliance and decision making capabilities, appreciation for ones’ self, appreciation for ones’ surroundings and fellow beings, self expression and creativity. Thus LCE is more concerned about the dynamism of learning rather than the potentials needed for learning and
this dynamism expects the content and the teacher adapt to the learner rather than the learner having to adapt to the content.

Reflection on the origins of education as stated by Dunn et al (2007) proves that it has drifted far from its roots. The word education comes from the word ‘educe’ which means to draw out. Before the dawn of formal education, people learned through experiential learning and ways that stretched them to make connections that drew out and amplified their existing knowledge. When considering the roots of education, evaluation and assessment, Dunn et al explain that teaching and learning is all about sitting beside and assisting students (assessment), helping them draw out their knowledge (education) and understand. Rawal (2005) believes that examination-oriented teaching/learning destroyed the creative potential of students and promoted mediocrity everywhere. It is this idea of schooling and education that should be changed in order to put the student at the centre of the education model. Kulkarni (2005) states that in order for LCE to be effective, there needs to be a shared vision and goals among all members of the society to achieve the common interests. Thus LCE needs the commitment, character and leadership of the academic community including teachers, technology, learners, the institution and the community on the whole in order to be truly effective and successful by enriching the knowledge of each person, in turn helping the society at large.

1.3.1.0 Role Of Teachers In Learner-Centred Education

The role of teachers plays an important role in helping education become truly focused and built keeping the needs of the learner in mind. According to Kaneriya (2005), in Learning Centred Education, the teacher is merely the facilitator and the student learns by himself through activities such as collaborative group learning both inside and outside the classroom, individual student research and discovery, problem based enquiry learning, on-site field experiences and self-paced materials. Thus
in order to be able to carry out these activities with the utmost benefit for the student, the teacher has to prepare an environment that is open, friendly and culturally inviting as believed by Kaneriya (2005) where the students are encouraged to ask questions and learn through their mistakes.

Teacher commitment is the most critical factor in the success and the future of education. Vijayalekshmi (2005) has thrown light on the different dimensions of commitment, which include the commitment to the students, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to basic human values. The teacher also has the responsibility of being well versed with the subject matter to be able to answer student’s queries in an efficient manner and also to be able to expand student’s knowledge outside the prescribed curriculum by engaging in thought provoking discussions and class debates making students enquire, explore, examine, question, reason and solve their own problems. With the increase and developments in new learning technologies, the teacher’s should be open to experimenting with new technology and including it in their lessons to make it more interesting for the learners. Hence by designing and instructing students keeping in mind their needs and best interests, the teacher’s are able to make the learner experience an educational system that it truly focused around the student.

1.3.2.0 Role Of Students In Learner-Centred Education

According to Bai & Knadasamy (2005) the law of Readiness makes one learn more quickly and effectively. Only when a student is willing to learn, will they actually achieve their learning goals more willingly and effectively than at any other time. Thus self-motivation and commitment to learn and achieve a wider scope of knowledge are the underlying traits that determine a successful learner. With the entire educational system now moving towards concentrating all efforts on the learner, it is
important that the learner himself realise his goals and needs in order to benefit fully from this learner-centred education.

Students should take advantage of the technology that is available to them and be able to apply it to their learning in order to increase their knowledge base and the associated academic and other extra-curricular skills. By taking advantage of learning societies and lifelong learning, the students should go beyond learning in the classroom and look for learning opportunities in everything that they experience. Globalisation has brought information closer and has made the world smaller. It is the responsibility of the learner to go forth and achieve qualifications and competencies that enable him/her to compete and be effective on a global level of work.

1.3.3.0 Role Of The Community In Learner-Centred Education

Every institution is part of a wider community and the more these two entities co-ordinate with each other; the better is the outcome for both the institutions and the community on a whole. Thus schools and communities, according to Dunn et al (2007) strive to have productive and symbiotic relationships where they utilise each other to share resources in both tangible and human varieties. Radhika & Kattiamal (2005) outline how learner-centred courses can be used to create an awareness of the community with the help of the instructor. These include defining and planning the objective of instruction according to the national goals related to economic, social, political and cultural growth; the instructors should respect the values of democracy and plan activities that will contribute to the ongoing process of community improvement. Thus including the community in activities of the school leads to better understanding, which, in turn creates a sense of unity and collaboration.
“The Internet has the capacity to be the largest educational enterprise ever undertaken... It can even be said that since such a large cross-section of life is represented online (or will soon be); the Net is an education in and unto itself. While much of what we have learned has come from formal educational situations in traditional schools, every individual person is capable of learning to learn, so to speak, on the Internet. You are no longer restricted to the limited experience of one individual and the learning environment of a few classmates. The world is your classroom” (Atieh, 1998, pp 20-21).

The number of Internet users worldwide is expected to touch 2.2 billion by 2013 and India is projected to have the third largest online population during the same time (Agencies, 2009). This growth in digital technology is bringing about a change in the way of improved education and training. Education has previously been confined to space, distance and time but the advances in technological solutions like developments in communication technologies have allowed the abolishing of these hurdles. This has lead to a change in the essence of online education from teaching to learning, stretching its wings from campus or classroom to home or the workplace or entire communities (Kushwah & Vijayakumar, n.d). Dupin-Bryant & DuCharme-Hansen (2005) have noted that over the past decade, web based distance education programs have developed at an extraordinary rate and have emerged in higher education as a means for providing a variety of educational opportunities to a diverse community of individuals. In November 2008 eLearners.com, a website that connects learners with online courses, witnessed in the United States, a 138 percent increase in unique visitors searching for online degree programs compared to the same period in 2007. In addition, a 2008 Sloan-C report found growing demand for online education with more
than 3.9 million students taking at least one online course in the fall of 2007; a 12 percent increase from the previous year (elearners.com, 2009). Thus e-learning is definitely getting its fair share of interest from the student market as a change in traditional means of education is sweeping through.

1.4.1.0 Different Forms Of E-Learning

Learning facilitated and supported through the use of ICT, e-learning can cover a spectrum of activities from supported learning to blended learning (the combination of traditional and e-learning practices), to learning that is entirely online. Hadengue (2004) describes online learning, as an educational concept, which utilises local area networks (LAN), wide area networks (WAN), or the Internet to communicate and spread digital material in support of learning and students and teachers interaction while Bebawi (n.d) defines it as the creation and proliferation of the personal computer, the globalisation of ideas and other human acts, and the use of technology in exchanging ideas and providing access to more people. In an article written by the Ageless Learner (2006), e-learning is the delivery of individualised, comprehensive, dynamic learning content in real time, aiding the development of communities of knowledge, linking learners and practitioners with experts.

The advances in technology and economic development around the world along with the move towards globalisation has led to a need for more open, flexible and adaptable learning systems that cater to the individual needs of learners rather than learning on a mass scale. More (2009) believes that with e-learning, open universities can convert the present ‘Teacher-Centric’ education system into highly responsive and dynamic, ‘Learner-Centric’ personalised education system. It can be seen that online learning has come in to fill the need for boundary-less learning by offering courses and education that is available anywhere and at anytime thus putting the learner at the centre of the educational model.
Obringer (2006) has identified four levels of e-learning. These are:

a) **Knowledge Databases** - The most basic form of e-learning. These are usually moderately interactive, meaning that you can either type in a key word or phrase to search the database, or make a selection from an alphabetical list.

b) **Online Support** - Slightly more interactive than knowledge databases and comes in the form of forums, chat rooms, online bulletin boards, e-mail, or live instant-messaging support. It offers the opportunity for more specific questions and answers, as well as more immediate answers.

c) **Asynchronous Training** – The most traditional form of e-learning that involves self-paced learning, which is CD-ROM-based, Network-based, Intranet-based or Internet-based. It could either include access to instructions through discussion boards or be totally self-contained with links to reference materials.

d) **Synchronous Training** - This is done in real-time with a live instructor facilitating the training that usually takes place via Internet Web sites, audio- or video-conferencing, Internet telephony, or even two-way live broadcasts to students in a classroom. Everyone logs in at a set time and can communicate directly with the instructor and with each other.

### 1.4.2.0 The E-Learning System

The Educational Times (a supplement in the Times Of India), Hindustan Times, and institutional websites or college brochures are listing more and more online courses as part of their flexible learning programs. The sponsored links on the Internet and online search engines increasingly advertise e-learning degrees at universities in different parts of the world, with the highest frequency in America. With the increasing competition
and busy lifestyles, it is necessary for colleges and universities to offer online learning as an option for new and continuing learners. The e-learning system can be broken down into three main components: The Virtual Classroom; Online Groups and Forums and The Virtual Faculty. Let us take a closer look at each of these components and the specific role they play in the e-learning system.

a) The Virtual Classroom

In his book, The Internet University, Corrigan 1996 (cited in Sciuto, 2002) captured the essence of distance education today...

“Distance is a state of mind… The education process is being altered forever, since people are now able to earn their degree at home according to their own timetables… In the virtual classroom, the effect of closeness and participation between participants can be as real and engaging as with the traditional class structures. (pp.4-7)

According to Rankin (2002), the WWW (World Wide Web) encourages global connections, discussions, and interactions. In the past students that studied courses through distance education would mail typed papers to their instructors and wait for corrections to be returned to them in red ink (Rankin, 2002). However with the change in communication and Internet technologies, the conventional methods have now become a distant memory. Students are able to interact with their instructors and peers in a virtual space that closely resembles a physical classroom. Students are most successful in online courses that provide ample opportunities for them to interact with the instructor, other students, and the course content (Mabrito, 2004/2005). This level of interaction is possible with the creation of
virtual classrooms where active discussions are encouraged and the topic is made more engaging.

Through this experience of a virtual classroom, learners have the opportunity to access university classes according to their convenience anywhere in the world thus abolishing boundaries. The subject matter taught is consistent as opposed to traditional forms of teaching where there is no consistency of subject matter taught. Thus there is an increase in the quality of courses offered by having the ability to standardise knowledge and also extract it from the experts in the respective fields. Some of the other benefits include cost savings in terms of real estate, program administration and certain delivery costs that can be avoided as a result of virtual classrooms. The use of technology in this manner also leads to increased leveraging wherein the number of students served is much greater than in a traditional classroom. Thus the return on investment can be said to be much higher in the virtual classroom scenario.

b) Online Groups and Forums

The quality of the electronic-based training, as in every form of training, is in its content and its delivery. E-learning can suffer from many of the same pitfalls as classroom training, such as boring slides, monotonous speech, and little opportunity for interaction (Obringer, 2006). This is where the importance of groups comes in where people can interact with each other.

An interactive online course must engage students as active learners rather than as passive participants (Mabrito, 2004/2005). Students learn best by doing, writing, discussing, or taking action, because active learning situations provide opportunities for students to test out what he or she has learned and how thoroughly he or she
understands (David, 1993, as cited in Garrison & Onken, 2002). Currently in most online courses, students interact through discussion boards. More (2009) describes discussion forums as interactive websites that allow text-based interaction to take place asynchronously where site visitors can search for articles, discuss topics by reading articles that have been posted, reply to articles, and post new ones. However Garrison & Onken (2002) note that message boards need constant monitoring and students should never be left unsupervised in discussion forums as this could get messy through the possible propagation of flawed knowledge and incorrect techniques sometimes shared by students if left alone.

c) The Virtual Faculty

Richards (2005) aptly focused on the importance of the virtual faculty through his view of the Internet as an embarrassment of riches that is next to worthless without an educator to facilitate learning and integration in classroom. E-Learning is a system that can empower both students and teachers to achieve quality education in an efficient manner. Rankin (2002) believes that the success of any online course will be determined by effective, consistent, and personal interaction between the educator and the students. In distance education, tutors may feel isolated (Tammelin, 1999 cited in Desmarais, 2002), however their presence plays an important role in the motivation of students through their constant attempt of trying to engage learners.

In an online course, the most common method of communication between students and instructors is through email. However, Badger (2000) as cited in Dereshiwsky (2002) noted that the asynchronous nature of message exchange could discourage student involvement due to its relative lack of immediacy. Teaching online shares similarities to teaching in the classroom; however, even the best
traditional instructors may still find that teaching in an online environment can lead to feelings of inadequacy and being ill-prepared (Shelton & Saltsman, 2004). They also lose what they like the most: interacting with students face-to-face; they are invisible to students, lost behind a computer interface and relying only on electronic communication. Many full-time faculty have continued to resist changing their teaching methods due to issues of rewards and increased workload (Sammons & Ruth, 2007). It is also necessary for faculty to realise the challenges that students face with studying online such as feelings of isolation and possible lack of motivation along with family, life and work commitments. Thus it is critical that educators understand the unique challenges of e-learning in order to design effective instruction (Finnegan, 2006). These feelings of inadequacy can be addressed through the provision of training and tools for ePedagogy as a way to build confidence and create successful outcomes in the online classroom (Shelton & Saltsman, 2004). From practical experience as an online instructor, Rankin (2000) asserts that the more personal a course and its instructor feel, the more motivated students are to work with the instructor and each other to complete course requirements (Rankin, 2004). Instructors must be willing to rethink how they will guide learners to understand material and concepts that are essential for the transfer of learning (Olgren, 2000 as cited in Kupczynski, Davis, Ice and Callejo, 2008).

1.4.3.0 The Benefits Of E-learning

According to More (2009), e-learning provides access to enormous information resources that can be explored at lightning speed. Students can learn more, better, faster, and collaboratively from the latest up-to-date knowledge resources. Individuals automatically turn to the Internet for the retrieval of any information, which they are able to get in abundance at the click of a button. The use of online systems can thus improve the effectiveness of learning and enables society at large to
access learning through increased options in educational offerings available to time-starved professionals who are unable to commit to a traditional classroom setting. This also holds true for people who would otherwise be excluded because of their disabilities; location, gender or age and these factors of discrimination are now overcome with the abolition of distance in e-learning. Rankin (2002) supports this view by stating that the key factor distinguishing online education from traditional classroom teaching is its inherent flexibility—no commuting, no searching for a parking spot, no timed tests, and no rushing home after class and this is perhaps its greatest selling point. There is a new transformation in the manner in which people are learning according to the increase in the educational options being made available to them. “Web-based Learning offers a ‘global classroom’ wherein knowledge can be shared across geographical, cultural and psychological boundaries (More, 2009).

According to Bender, Brewer & Whale (2006) about 80 percent of students today prefer online learning and the biggest advantage is that assignments can be accessed anytime and anywhere that is convenient for the learner. Learners also have the added advantage of having the time to think and reflect before formulating responses. Many a time students are unable to register in a course of their choice at traditional universities due to lack of a certain pre-set minimum number of students required in the course. Online learning does not depend on student numbers and the learners have a wide choice of courses available to them irrespective of student numbers. The future of education in general, and college education in particular, will be of more access, more educational choices, and new fields in educational research (Bebawi, n.d).

Deshmukh & Deglurker (n.d) believe that education is a great equaliser when imparted with equal access. The populous nature of Indian society leads to a race for admission and college seats at the start of every academic year. Very often, it is seen that the demand for seats in educational institutions clearly outweighs the supply. This means that the focus of students in schools and colleges is on attainment of high scores in exams rather than focusing on actually acquiring knowledge on the
subject and being able to apply that knowledge in real-life situations. This limited offer of educational opportunities also gives way to corruption and bribery in the educational sector where the affluent are able to pay their way through acquiring a college or university admission while the rest of society are left to fend for themselves. The disappointment in not being able to gain admission in colleges leads to students not being able to take up a course according to their chosen future careers. This pressure to perform explains the depression and high suicide rate among teenagers and those students who could not get admission in the college of their choice.

However it would be premature to state that this new form of e-learning could possibly replace the traditional methods of learning. As stated by Rossman & Rossman (1995) cited in Sciuto (2002), according to Dr. Helmut Schweger, Distance Education and open learning fill a void in the postsecondary education infrastructure by serving the unmet needs of new student populations. Distance education complements rather than diminishes the importance of colleges and universities. Hence a systems approach should be adopted when looking at and trying to understand the e-learning aspect of the educational system.

1.4.4.0 Challenges Faced In E-learning

There is the growing question with everyone involved in e-learning that although the courses are online, why aren’t the students able to learn successfully? In order for online learning to be successful, it needs the input and collaboration of administration, faculty and the students. Muirhead (2004) believes that today’s students want online classes that are enjoyable places where learning expectations are built upon relevant intellectual activities and discussions. Faculty should also be able to make lectures interactive without being too controlling, thus making the course more student focused. Even though the overall benefits of e-learning outweigh the reasons for not turning to e-learning, it is still
important to identify the challenges that occur in the adoption and implementation of online learning.

1.4.4.1 Challenges Faced By Administration

The challenges in administering an online course are seen not only in the implementation phase of an online course but also in the maintenance and upkeep of it. Firstly it is important to consider the development of necessary infrastructure to support the online learning initiative. According to Mansour (2006), this involves such things as developing or purchasing the necessary computer bandwidth, instruction development hardware and software, faculty support (IT personnel and instructional designers), as well as providing multiple opportunities for training. Other housekeeping duties would include managing and maintaining the learning management systems used, managing enrollments and courses. The upkeep of the mail server is also important along with the ability to tackle issues such as mails bouncing and other technical issues.

Mansour (2006) has identified an interesting outcome of the transition from face-to-face to online learning; the actual need for space declines as more and more students choose not to attend on campus courses and this has, in some cases, had the net effect of programs losing physical space even with significant growth in enrollments. All these factors need to be considered by administration when changing over to e-learning.

1.4.4.2 Challenges Faced By Faculty

According to Mansour (2006), faculty as a whole see Internet delivery of classes as a good thing but many, if not most, lack the skills necessary to incorporate it. As stated by most universities offering online courses, the top challenge is always based on trying to find the best way to teach the material online in a manner that is most beneficial to the student and rewarding for the instructor. Faculty development courses and seminars
need to be made available in order for the staff to be able to upgrade their skills.

Smith, Ferguson & Caris (2002) (cited in Roberts & McInnerney, 2006) stated that online courses are a labour-intensive, highly text-based, intellectually challenging forum, which elicits deeper thinking on the part of the student, and which presents, for better or worse, more equality between instructor and student. Academics should thus embrace this change in their role from traditional teaching to that where they are equal to their learners.

There is also a sentiment of increased workload as stated by Mansour (2006); faculty time requirements to deliver an online course took significantly more time when compared to a traditional course regardless of employment status, academic rank, course discipline and faculty gender. Another aspect that Mansour (2006) touches on is to do with course preparation. Unlike traditional face-to-face classes, online classes (especially asynchronous ones) must be prepared fully in advance. Finally online faculty also have a dual role in terms of advising students and this takes up a significant portion of the faculty’s time.

A big challenge that presents itself in online education is academic honesty from the students and the means of finding out if a student has indulged in plagiarism or has not answered the examination truthfully. This is extremely difficult without the physical presence of the teacher and student in the same room at the same time. There is also a significant concern according to Mansour (2006) by faculty and administration regarding the issue of ownership and use of the instruction developed for online courses where the faculty could resent use of their material at the end of their tenure. Hence the rights to ownership of material should be established at the start to avoid future disagreements.
1.4.4.3 Challenges Faced By E-learners

In spite of efforts made in the adoption of interactive technology in online courses, students who do not learn in traditional classrooms have a higher attrition rate than their on-campus counterparts and it is difficult to determine a single causal explanation for student dropout in distance education (Hricko, 2002). For example, as Murray, B (n.d) reports, it is widely believed that most online courses average just 50 to 60 percent retention, while traditional courses average well above 60 percent. Garland, 1993 (cited in Hricko, 2002), suggested the reasons that students give for withdrawing from distance education are situational (arising from students’ particular life circumstances), dispositional (personal problems that impact on learning styles and motivation), institutional (lack of support from the institution) and epistemological (impediments caused by disciplinary content); whereas Bischoff, 2000 (cited in Dereshiwsky, 2002), attributed on-line attrition to student isolation, the accelerated pace of online courses, competing responsibilities faced by typical online students, and technical problems experienced by students. Although student dropout rates due to personal situations cannot be changed, institutions need to consider their level of interaction and support provided to students in order to keep them motivated enough to see them through the entire course.

One drawback of e-learning as cited by Hadengue (2004), may be that student motivation is a prerequisite - there is no potential benefit from the immediate help of group dynamics or face-to-face interaction with a teacher. Keeping students actively motivated should be one of the main factors around which instructors design and deliver their online courses.

1.5.0.0 Designing Effective E-learning Environments

Distance learning includes a multitude of possibilities, limited only by the curriculum designers and their resources (Dunn et al, 2007).
Educational research indicates that effective teaching highlights the “infectious nature of a teacher’s passion for their subject” (Manathunga, 2002 cited in Dunn et al). Distance learning is a tricky medium to convey this passion and thus it is up to the instructor to communicate ways to the design staff to hold this passion intact that ensures, as Dunn et al state, the transfer of human qualities over modem lines. The need for structure and planning remains the fundamental strategy for effective communication and learning. To achieve this it is necessary to realise the importance of collaboration and understanding between faculty and course design staff. Another aspect is also being able to understand the needs of the students and be able to fulfill them.

Pedagogy is defined as the art or profession of teaching children. Morland & Bivens (2005) believe that the aspects of teaching adults, however, are fundamentally different than those employed in teaching children and the word ‘andragogy’ was termed in the late 20th century. Malcolm Knowles popularised the term stating that adult learners differ from child learners in their desire to be self-directed and to take responsibility for decisions (Carlson, 1989). Thus the online courses designers at universities and adult learning institutions need to consider this difference when designing courses.

Stolovitch & Keeps (2002) (cited in Morland & Bivens, 2005) list the four key principles of adult instruction, which are:

- **Readiness**: Training must clearly address learners’ needs so that they will be ready to learn.

- **Experience**: Training must respect and build on the life experience learners bring to the learning session.

- **Autonomy**: Training must invite learners to participate in shaping the direction, content and activities of the learning experience.

- **Action**: The connection between the training and the application of what is learned must be clear.
Assessing students is a challenging aspect of instruction that is only magnified in the online space without the visual and verbal cues on student progress that occur in face-to-face scenarios. The online environment has fostered increasingly creative application of multiple assessment procedures. However adequate preparatory support must be provided to online students and faculty in order for them to maximise success in the Web-based environment. This is helpful for designers in planning assessment types in online learning as traditional methods of assessment are no longer feasible in their present form in the Web-based classroom.

Finally Roberts & McInerney (2006) have stressed the need for all online participants (instructors, technical staff and students) to show respect towards the ideas and comments of each other when communicating. This attitude of respect allows others to contribute meaningfully to discussions and by this increased communication; everyone involved learns how to learn more effectively and efficiently.

1.6.0.0 Motivating And Communicating With E-learners

As Einstein said: “We can’t solve problems by using the same type of thinking we used when we created them” (Senge et al, 2008). Thus it is important to address the issues affecting the retention rate in online learning in order to be able to take appropriate remedial steps to fix the problem. One of the main issues is the lack of social interaction online.

Consider the culture that develops in a traditional physical classroom: the relationships, networks, and mentoring that develop as a result of participation in this educational environment (McCracken, 2002). Although online education is the future, we cannot ignore some elements of traditional teaching, which have proved to be viable such as social interaction in a classroom, teacher-learner communication and the interaction and discussions between peers. Technology is an important
tool for learning and communication but it cannot replace the quality of human interaction in successful learning (Dickinson, 2000). The correct choice of technology in order to best create and promote social presence online in crucial when designing online courses. Only when students are motivated, are they more likely to learn and complete their online courses.

1.6.1.0 Understanding Learning Styles And Personality

The Coalition for Self-Learning (2000) has defined learning societies as diverse, open places where individuals develop meaningful ways to enhance, enrich, honor and celebrate each other, families, communities and society, acting as a significant element in an emerging cooperative commonwealth. It is still important to maintain the core element and nature of the learning society, which is to make education learner-centric rather than teacher-centric. However, is the e-learner truly at the core of the learning society or do the norms and environmental factors like political, social and cultural factors affect the importance given to planning being learner-driven. As stated by Howarth (2007), philosophers define the individual as a being that is in possession of a range of psychological capabilities such as being capable of reasoning, being self-conscious and having an identity that persists through time.

It is thus important to work towards understanding the individual nature and personalities of learners and be able to adapt the system to match those personalities. The Kolb (1999) Learning Style Inventory (cited in Terrell, 2005) identifies a learner’s preference according to four learning strategies, which include Concrete Experience, Abstract Conceptualisation, Reflective Observation and Active Experimentation. In Concrete Experience, learners use their personal experiences and feelings in a learning situation. These persons are adaptable to change and are open-minded when approaching problems. In Abstract Conceptualisation the learner relies on their ability to logically analyse ideas and systematically plan their approach to the task. Thus these
learners tend to refrain from decision making till they have acquired an intellectual understanding of a given situation. A learner when using the Reflective Observation strategy relies heavily on personal thoughts and feelings placing special emphasis on patience, objectivity, careful judgment and the ability to understand ideas and problems from various points of view. Finally, Active Experimentation involves learning taking an active form where people using this strategy are interested in what works and spend a great deal of time experimenting with changing or influencing situations (Terrell, 2005).

From these strategies are derived learner's four preferred learning styles—Diverger, Converger, Assimilator or Accommodator. Hills (2008) describes the four learning styles explaining that the divergent learning style relies on action and reflection. Thus they rely heavily on Concrete Experience and Reflective Observation. Accommodators rely on pragmatism and action and rely on Concrete Experience and Active Experimentation. They carry out plans, put things into action and relish the new experiences that result. Persons falling into the Converger and Assimilator types share a preference for high levels of Abstract Conceptualisation (Terrell, 2005). The Convergers are thus somewhat unemotional and prefer working alone. They combine Abstract Conceptualisation with Active Experimentation and prefer to learn via problem solving, deductive decision-making and the direct application of ideas and theories. The Assimilators use logic and reason to convert observations and reflections into ordered structure of knowledge, concepts and theories (Hills, 2008). They prefer to combine Abstract Conceptualisation with Reflective Observation. Thus they are more interested in abstract concepts rather than interacting with people (Terrell, 2005).

Using Kolb’s Learning Style Inventory, this research has built on the idea of using personality types in order to study the effective of learners in an e-course.
1.7.0.0 Metacognition

The study of how to help the learner gain understanding about how knowledge is constructed and about the conscious control of tools for doing so is the study of metacognition. (Joyce & Weil, 1996). Biggs (1985) states that because most learning involves cognition, an individual who is high in meta-cognitive abilities is likely to be aware of their own learning processes and is able to apply them appropriately (and thereby be a meta-learner). Thus it refers to the learner’s active control over one’s cognitive process when they are learning. Kirsh (2004) in Pilgerstorfer (2005) states that metacognition is a type of situated cognition. It works by controlling the interaction of the person and the world, it is a component in the dynamic coupling of student and environment, controlled by biasing what one looks at, controlled by what one does in a motor sense, sophisticated, concerned with managing schedules, checklists, notes and annotations.

Bloom’s taxonomy can be used as a means by which teachers and students can be introduced to metacognition.

![Bloom's Taxonomy](Image)

**Fig 1.3 Bloom’s Taxonomy**

Bloom identified six educational objectives for the cognitive domain. E-learning content falls in the cognitive domain.

- **Knowledge**- is remembering or recalling previously learnt material
- **Comprehension**- is the lowest level of understanding and interpreting the material so it can be compared and contrasted with similar material.
- **Application**- is the practical application of knowledge gained by the learner
- **Analysis**- allows the learners to identify the constituent components of the topic they are currently engaged in learning.
- **Synthesis**- involves the learner taking the components or elements of a topic to build something new i.e. using old ideas to create new ones.
- **Evaluation**- engages the learner’s own judgment on the material.

One of the major issues for education is a learner truly understanding and managing their learning, rather than simply accumulating information. Learners will need a system by which to evaluate their knowledge and this can be realised with the help of Bloom’s taxonomy.
1.8.0.0 Conclusion

In summary, a change is sweeping over the educational and training sector. The changes in the economic and technological climate mean that countries and educational institutions need to adapt by breaking down their old, rigid structures to give way to new and improved learning societies. This constant improvement and development has given rise to the idea of lifelong learning. Students now demand learning is made available to them according to their needs and requirements, thus creating the need for a more flexible, individualised learning experience that would put the learner at the centre of the educational structure. E-learning in its different forms, whether blended or completely online can be seen as the answer to the need for boundary-less learning through its concept of education and courses that are available anywhere and at anytime thus making the educational model learner-centric.

All the components of the e-learning system; i.e. the virtual faculty, the online groups and the online community play a specific role in maintaining the harmonious working and interrelation of the system. However the lack of interaction in an online environment and the pre-requisite of student self-motivation work against the full benefits of online learning being realised. In order to harness the great potential from this flexible delivery of learning, the future of online learning will depend heavily on the collaboration between different institutions locally and on a global scale. This formation of learning societies where people have the facility to lifelong learning and the opportunity to choose and tailor their education according to their specific needs and interests will enhance the exchange of ideas and make learners more globally astute leading to learning that is not confined by distance or boundaries but learning that is truly wholesome. This is the way forward for education in order for individuals to be well equipped to deal with the situational changes that are inevitable in one’s lifetime and career.