

**ATTITUDES TOWARDS THE ADOPTION OF E-LEARNING IN THE  
KENYAN EDUCATIONAL SYSTEM: A CASE STUDY OF MARIST  
INTERNATIONAL UNIVERSITY COLLEGE, NAIROBI.**

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### **Declaration**

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## **Dedication**

I dedicate this project to my beloved brother Godwin Okebaram, to my lovely Mother Mrs. Blessing Okebaram and to my late Father Mr. George Okebaram, and to all Marist families.

## **Acknowledgement**

My profound gratitude to Almighty God, for the gifts of life, courage and strength He has given to me, for having successfully completed my studies peacefully.

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## **Abstract**

The use of electronics is central to many higher education teaching and learning strategies, but academic staff often negatively receives the adoption of new technology, although enthusiastically embraced by students. It has long been questioned whether universities and colleges will meet the needs of shifting knowledge-based societies and increasingly diverse student populations.

The purpose of this study was to investigate the attitudes towards the adoption of e-learning in the Kenyan educational system: A case study of Marist International University College, Nairobi. The objectives of the study were as follows:

- To determine the understanding of e-learning among the academic staff and students of MIUC.
- To determine the adoption levels of e-learning among the academic staff and students.
- To examine MIUC academic staff and students' attitudes toward e-learning.
- To determine the relationships between attitudes and the adoption of e-learning.

The study used descriptive survey design method. Simple random sampling was used to select 77 students. Five academic staff and the Deputy Principal Academic were involved in the study. Data was collected from the students using questionnaires that had both closed-ended and open-ended items, and an interview guide was used to collect information from the academic staff. The results were statistically analyzed with SPSS. The findings of the study revealed that the academic staff and students of Marist International University College had positive attitudes towards e-learning. In addition to traditional education (classroom learning), they have adopted new methods of learning through the use of educational technology (e-learning). However, many academic staff and students are still yet to fully make use of the features of e-learning offered by MIUC due to lack of interest, basic infrastructure and trained personnel.

## **Abbreviations**

CAI: Computer-Assisted Instruction  
CBT: Computer-Based Training  
CD-ROM: Compact Disc, Read-Only-Memory  
DE: Distance education  
DVD: Digital Video Disc  
EFA: Education For All  
E-learning: Electronic-learning  
E-portal: Electronic Portal  
GPRS: Global Packet Radio Service  
HTML: Hypertext Markup Language  
ICQ: Internet Chat Query  
ICT: Information Communication Technology  
ILT: Instructor-Led Training  
IP: Internet Protocol  
ISO: International Organization for Standardization  
IT: Information Technology  
KIE: Kenya Institution of Education  
MIUC: Marist International University College  
NGO: Non-Governmental Organizations  
PDA: Personal Desktop Assistants  
SPSS: Statistical Package for Social Sciences  
TCP: Telecommunication Protocol  
WLAN: Wireless Local Area Network

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## **CHAPTER ONE**

### **1.0 Introduction**

#### **1.1 Background to the Study**

Advances in Information Communication Technology have revolutionised higher education in many ways; for example, increasing access to post-secondary instruction, improving the availability of educational resources, and facilitating meaningful interaction among learners. Harnessing the power of ICT has become a critical strategy among institutions eager to offer an affordable, efficient, and flexible learning environment for rapid growing and diverse communities of learners. Achebe (1958) said that when faced with a malady that is resultant of new and especially present realities, falling back on old herbs for a cure is an ill-advised move. Looking into the crystal ball, it is apparent that being Electronic-learning (E-learning) compliant is the password to future success.

Hedge and Hayward (2004) defined it as an innovative approach for delivering electronically mediated, well-designed, learner-centred, and interactive learning environments to anyone, anyplace, and at anytime by utilizing the internet and digital technologies in connection with instructional design principles.

Electronic learning has become a very popular topic of discussion in the past few years. Unlike educational television, e-learning uses network and web-based technologies to enhance the quality of learning. Nowadays, many educational institutions-especially universities have widened the access to their courses through



new methods of delivery, i.e. via electronically mediated learning or e-learning. With the recent growth of internet and other distance technologies, e-learning has become an attractive option for expanding the educational opportunities available for students. By establishing e-learning courses, higher education institutions can reach a broader base of students without having to construct additional classrooms or expand support services to accommodate expanding enrollment (Swidan, 2006). Hong et al. (2001) argue that e-learning is becoming progressively an integral part of the university school's learning processes curriculum. Schools from elementary levels to universities are using the Web and Internet to supplement classroom instruction, to give learners the ability to connect to information (instructional and other resources) and to deliver learning experiences.

E-learning is not a new phenomenon in promoting education in some parts of the world, and Kenya is no exception. Presently, some institutions in Kenya are using it to promote distance education (DE) and lifelong-learning universities, such as Kenyatta University and University of Nairobi to name a few, have adopted this system.

Wambua, the Acting Permanent Secretary of The First Regional e-Learning Conference 2010 in Kenya asserts that "the vision of the Ministry of education in Kenya is 'Quality Education for Development'. This will only be achieved if we continuously adopt progressive reforms that can help us improve and enrich our current educational practices for example, through the use of e-learning. Embracing e-learning practices will steer Kenya towards joining the rest of the world in instituting positive technological innovations in the educational sector. E-learning

has become a new paradigm and a new philosophy in education with a mission to serve as a development platform for present-day society based on knowledge.”

Ndemo, the Director of Kenya Institute of Education, which was the host venue for the first Regional E-Learning Conference 2010, observed “the huge interest among students in the internet needs to be tapped in schools”. He continues that “the social website, such as facebook, tagged, Hi 5 are examples of how keen students are. “Kenya is the world’s number five user of facebook.”(Daily Nation March 30, 2010)

Students today more and more use their mobile phones to browse facebook on a daily basis, Knowledge needs to be discovered and incorporated into their learning. With the use of this fast growing gadget (mobile phones, computers, internets) in the country, Marist International University College academic staff and students will be prepared to participate in these challenging fields.

E-learning at Marist International University College has become increasingly important. Nevertheless, it is sometimes not clear whether learners appreciate this form of learning. Baker et al. (2003) and Sharpe et al. (2007) stated in their research that there is still too little research about the attitudes of faculties and students about e-learning systems. Students are often enthusiastic and motivated by the new technical features of e-learning systems, but sometimes problems arise. When these problems are not fully understood and e-learning systems are introduced despite students' negative attitudes, difficulties might come up. Research by Collis and Moonen (2005), for example, argue that students are not intrinsically motivated by the use of educational technology. When this technology is not

integrated into the course-work, students will soon lose interest. Consequently, the use of this technology will become less effective than traditional forms of teaching. More detailed information about academic staff and students' attitudes at Marist International University College, about e-learning seems to be necessary.

## **1.2 Statement of the Problem**

E-learning has become a widely accepted mode of learning in today's higher level educational institutions, but it has yet to gain complete acceptance in MIUC as an instruction of higher learning.

Research by Baker et al, (2003) stated that much of the research about the growth of e-learning in higher educational instruction focuses on the impact of its growth on institutional resources. These resources support the use of new technologies in the traditional classroom environment setting that assist in the delivery of online distance-learning courses.

Educational institutions face big challenges in meeting e-learning technological needs of the academic staff and students. Mering & Robbie (2004) observed that it is also important to identify students' learning needs in order to determine whether e-learning will be successful in achieving its objective and whether it will be suitable in the students' environments. Bower (2001) attributes part of the problem regarding e-learning to the lack of direct interpersonal contact with students. He views contact as a crucial requirement for any learning program and the lack of it as a cause for concern.

According to Lee (2005) concerning direct interpersonal contact, students need to be convinced of the benefits or even the adequacy of online instruction. Therefore, there is need for a greater emphasis on providing more student-orientated materials which, according to research, seem to be largely understated. However, the key concern is whether MIUC students receive an effective, affordable and comprehensive learning method through the e-learning format.

This study will therefore investigate the attitudes and adoption level of MIUC academic staff and students towards the adoption of e-learning.

### **1.3 Research Objective**

The aim of the research is to study and analyze MIUC academic staff and students' attitudes towards the adoption of e-learning in the College. The main objectives of this study are:

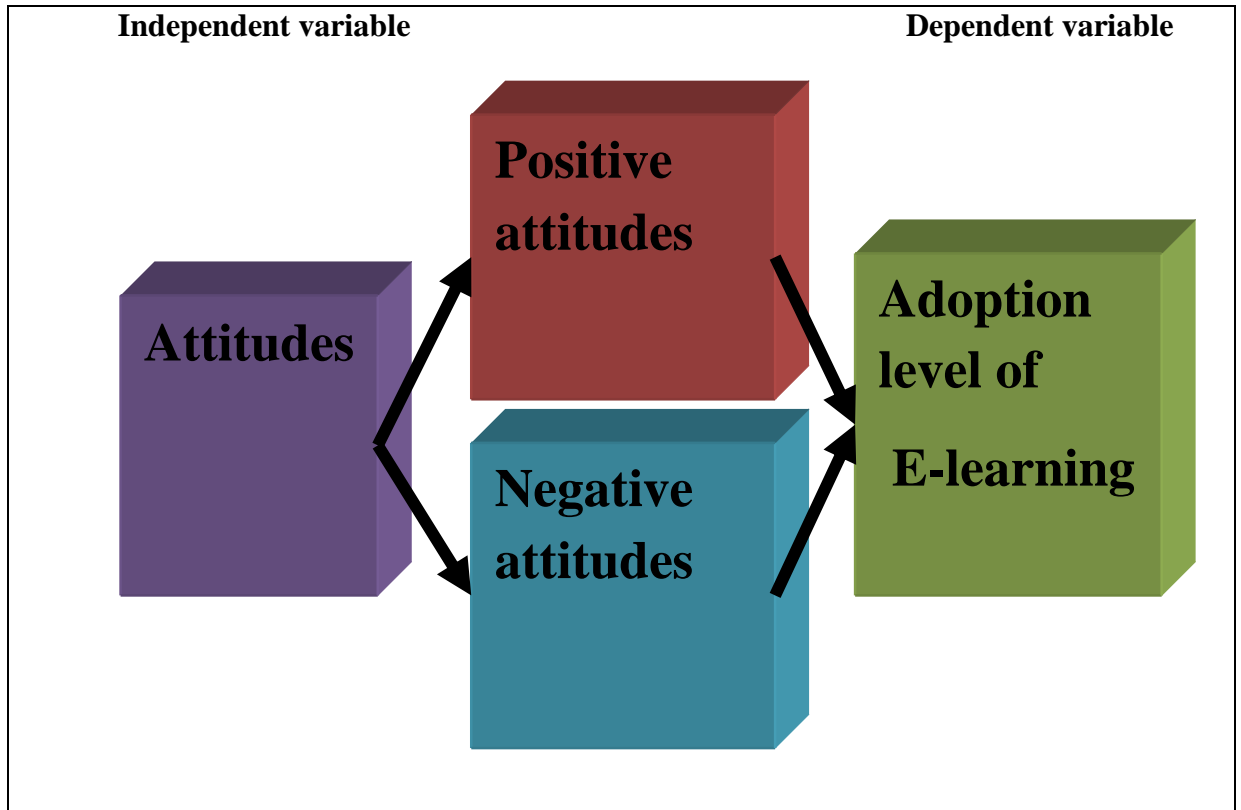
1. To determine the understanding of e-learning among the academic staff and students of MIUC.
2. To determine the adoption levels of e-learning among the academic staff and students.
3. To examine MIUC academic staff and students' attitudes toward e-learning.
4. To determine the relationships between attitudes and the adoption level of e-learning.

## **1.4 Research Questions**

To achieve the above objectives, this study intends to answer the following research questions:

1. What are the understandings of e-learning to MIUC academic staff and students?
2. What are the adoption levels of e-learning among the academic staff and students?
3. To what extent does MIUC academic staff and students' attitudes affect e-learning?
4. What are the relationships between attitudes and the adoption of e-learning

## 1.5 Theoretical Framework



**Figure 1:** The theoretical framework model that was used in analyzing MIUC students' and academic Staff attitudes towards the adoption of e-learning.

The model is divided into two important parts, i.e. an independent variable (e-learning in the College) and a dependent variable (Marist International University College academic staff and students' attitudes). The model identifies that attitudes can be divided into two parts, positive and negative attitudes. These attitudes are significant beliefs that may affect the e-learning system and from these, it may improve and provide an effective plan as well as a better quality e-learning system

for Marist International University College academic staff and students within the College premises.

### **1.6 Significance of the Study**

This study has a number of potential benefits, which are described below:

According to Baker et al, (2003) the challenges of e-learning adoption in Africa are network, usage problems and students' lack of technological knowledge which limits their learning capabilities in using e-learning systems. To prevent e-learning systems in MIUC from losing out, this study is significant in providing an exploratory knowledge of e-learning education in MIUC. Searching literatures and conducting surveys will produce an overview of adopting e-learning systems at MIUC.

This study also aims to examine whether adopting e-learning systems can generate positive attitudes among MIUC academic staff and students. By doing this, the school administration should be able to effectively plan and implement better quality e-learning systems for MIUC academic staff and students. With good recognition and better acceptance by adult learners, e-learning can fully realize its potential in helping students to learn. In the long run, e-learning methods may play a significant role in the MIUC institution by replacing some of the traditional classroom courses to reduce costs and improve quality of education.

By conducting a survey of MIUC academic staff and students, the study aims to gain a better understanding of their perspectives and attitudes, whether positive or negative, towards the adoption of e-learning as a viable learning method.

For MIUC academic staff and students who are not aware of this learning method, this study can instill the awareness of e-learning and create a learning possibility for them. Their exposure to this study can stimulate interest in them so that they could do something for themselves of lifelong value. By adopting these methods, MIUC academic staff and students can add value to their qualifications and skills.

### **1.7 Scope of the Study**

E-learning studies may include various forms of learning, ranging from web-based training, and online learning in formal education such as e-learning in higher institutions, to informal knowledge gaining or learning by internet users. The scope and power of e-learning is vast. This study will, however, only focus on MIUC academic staff and students' attitudes towards the adoption of an e-learning education system.

This study was conducted using a small sample of MIUC students and academic Staff, by distributing survey questionnaires for the students and interview guide for the academic staff. Hence, the findings can be true to the context within this study.



## 1.8 Operational Definition of Terms

**Attitude:** This is a predisposition or readiness to respond in a certain way to a new technological advancement.

**Communication:** the exchange of information between people-for example by means of speaking, writing or using a common system of signs or behavior.

**Computer:** A computer is an electronic device for storing, processing, analyzing, and obtaining data base information at a very fast rate.

**Distance education:** This program enables learners and teachers to interact with each other by means of computers, artificial satellites, telephones, radio or television broadcasting, or other technologies.

**E-learning:** A process of learning using electronic means: the acquisition of knowledge and skill using electronic technologies such as computer and Internet-based courseware and local and wide area networks.

**Implementation:** A process of putting information communication and technology knowledge into practice.

**Information:** This is knowledge acquired or supplied about something or somebody.

**Information and communication technology:** Information and communications technology or technologies (abbreviated as ICT) is a term which embodies any communication device or application including radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as

videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care or libraries.

**Internet:** This term stands for international network. This is a series of interconnected networks that include local area, regional and national backbone networks. Networks in the internet use telecommunication protocol (TCP) and provide e-mail as well.

**Lifelong learning:** This is the continuing development of knowledge and skills that students experience after formal education and throughout their lives.

**Technology:** A method of applying technical knowledge or a study, development and application of devices, machines and techniques for manufacturing and productive processes.

**Web-based training:** (an alternate term for e-learning) is the integration of instructional practices and internet capabilities to direct a learner toward a specified level of proficiency in a specified competency.

## **CHAPTER TWO**

### **2.0 Literature Review**

#### **2.1 Definition of the E-learning**

E-learning has attracted so many definitions due to different understandings by educationist in the fields of education and technology. On that note, a few definitions are listed below;

E-learning is the acquisition and use of knowledge distributed and facilitated primarily by electronic means. This form of learning currently depends on networks and computers, but will likely evolve into systems consisting of a variety of channels (like wireless, satellite-and technologies (like, cellular phones, personal digital assistants) as they are developed and adopted. E-learning can take the form of courses as well as modules and smaller learning objects. E-learning may incorporate synchronous or asynchronous access and may be distributed geographically with varied limits of time (Wentling et al, 2000).

##### **2.1.1 Some Notable E-Learning Definitions**

Various authors on this topic have provided many definitions on e-learning. Below are a few notable ones:

E-Learning is instruction that is delivered electronically, in part or wholly – via a Web browser, through the Internet or an intranet, and multimedia platforms such as CD-ROM or DVD (Hall, 1997).

Web-based training (an alternate term for e-learning) is the integration of instructional practices and Internet capabilities to direct a learner toward a specified level of proficiency in a specified competency (Conrad, 2000).

E-Learning covers a wide set of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes delivering content via the internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV and CD-ROM (Kirk, 2001).

E-Learning is a structured, purposeful use of an electronic system or computer in support of the learning process (Allen, 2003).

E-learning is training delivered on a computer (including CD-ROM, internet, or intranet) that is designed to support individual learning or organizational performance goals (Clark and Mayer, 2003).

Mering and Robbie (2004) state that e-learning is the introduction of a computer-based instruction which presents a medium for users to interact on a one-to-one basis to facilitate students' rehearsal and practice.

According to Vrana et al. (2005) e-learning refers to a wide set of applications and processes applied to training and learning that include computer learning, online learning, virtual classrooms and digital collaborations which can be delivered by various types of electronic media such as internet, intranet, interactive television, as well as satellites.

Deka and McMurry (2006) states that e-learning plays essential roles for instructors, students and advisors due to the fact that many students have become

interested in taking distance classes, by understanding the unique demands of learning at a distance.

## **2.2 The Evolution to E-learning**

The E-learning models of today are analogous to the earlier distance learning approaches. The roots of E-learning can be, therefore, traced back to the correspondence course model of learning. One of the first correspondence programs in the U.S. was developed at Pennsylvania State University in 1892, where the main mission was to provide higher education access to remote and rural areas (Banas et al., 1998). In later years, the correspondence model was further developed into a more robust distance education program with the integration of technology. During its heyday in the 1920s and 1930s, schools such as Pennsylvania State experimented with the use of radio to broadcast their correspondence course lessons nationally. To keep pace with the demand generated by Bill, the 1950s prestigious universities such as Columbia, Chicago and Pennsylvania State launched several distance education programs.

In recent years, the knowledge-based economy has exhibited a pervasive and ever increasing demand for innovative ways of providing education, and this has led to dramatic changes in learning technology as well as organizations. As the new economy requires more and more people to acquire new knowledge and skills in an appropriate and effective manner, the advancement of computer and networking technologies are providing a diverse means to support learning in a more

personalized, flexible, portable, and on-demand manner. These radical and sweeping changes in learning needs and technology have catapulted a revolutionary transition in modern learning tools in the backdrop of the internet commonly referred to as e-learning. In the midst of this transition, corporations, government organizations and educational institutions have to keep pace with the e-learning phenomenon and make strategic decisions on how to adopt e-learning techniques in their unique environments (Zhang et al., 2004).

Practitioners (Berry, 2000; Cone and Robinson, 2001; Rossett, 2002) and researchers (Salas et al., 2002) agree that technological advances are dramatically altering the training and development landscape. In particular, the increased use of internet technologies to deliver training has been heralded as the e-learning revolution (Galagan, 2002). Although precise estimates for growth in e-learning vary, published estimates indicate that organizations have increased and will continue to increase the use of technology to deliver training (Rossett, 2002).

### **2.2.1 Historical Timeline of E-Learning**

E-learning evolved gradually through time. Computers and internet played major roles in bringing e-learning to what it is today. Education has various standards in many countries and regions. Software are designed to meet these various standards and academic curriculum. Below I shall present a brief timeline on the evolution of e- learning.

### **2.2.1.1 Instructor Led Training Pre (1983)**

Prior to the availability of computers everywhere and with everyone, Instructor Led Training (ILT) was the primary training method. ILT allowed students to focus on their studies and to come in direct contact and interaction with their instructors and classmates. Drawbacks of ILT were high costs and time. Students had to ensure to take time off from all other activities and be enrolled into academic institutions and spend most of their time there. These hiked educational expenses whereby it was not easy for everyone to afford these standards of learning.

### **2.2.1.2 Multimedia Era (1984 to 1993)**

The mid 1980's and early 1990's saw a much-changing computer era. Most of the people started to understand the importance of computers, and it started to become a need rather than a luxury product. Various operating systems like Windows, Macintosh Apple Computers with their easy- to-use Graphical User interface made it easy for users to appreciate computers. Much more applications also evolved, with higher standards focusing on the ease of use by the end-users. Microsoft's Office package that included standard day-to-day applications like MS-Word, MS-Excel, MS-PowerPoint, MS-Access, and such added software making using programs easier. Out of these applications such as PowerPoint became handier tools for e-learning. CD-ROM's made it easier for these programs to be carried and stored easily rather than carrying multiple numbers of Floppy Disks. All this led to the advancement of the multimedia era.

With the use of multimedia applications and in an attempt to make training more transportable and visually engaging, Computer-Based Training (CBT) courses were delivered via CD-ROM. This availability of anytime, anywhere via CD-ROM's provides time and cost savings compared to the ILT's and gradually reshaped the training industry.

These too had their disadvantages. Despite these benefits and the saving of time and cost, these courses lacked the personal student-instructor interaction and dynamic presentations making the experience somewhat less satisfying. Students started to find it slower and less engaging.

#### **2.2.1.3 Introduction of Web (1994 - 1999)**

Introduction of the internet and the World Wide Web (www), gave insights into training providers to explore its potentiality and find ways to improve training. The introduction of e-mail, Web browsers, HTML, media players, Internet Explorer, low-fidelity streamed audio/video, and simple Java began to change the face of multimedia training.

CBT's improved with text and graphics, but the graphics provided were of low quality. E-mails provided standards, whereby students could reach CBT's and similar contents with ease, but care had to be taken for these files to be of small file size due to the Internet bandwidth capacity.



#### **2.2.1.4 The Next Generation Web (2000 to now)**

Various technology advancements have enhanced the way e-learning has shaped today. An application like Java and other IP (Internet Protocol) applications help streamline rich media. Internet has evolved with high bandwidth lines enabling users to access large files easily and with speed. This has led to a combination of ILT along with electronic highway. Today, live instructor-led training (ILT) via the Web can be combined with real-time monitoring; improved learner services are still in use up-to-date. This growth in internet and web-based training enables instructors to deliver high quality content directly to the users.

With the evolution of PDA (Personal Desktop Assistants), Smartphone and wireless technologies such as WLAN (Wireless Local Area Network), and GPRS (Global Packet Radio Service), web-based contents and e-mails can be accessed from anywhere and at anytime. These enhanced training solutions provide greater cost savings, and higher quality of learning experience, and the educational standards are being revolutionized. It is changing to adopt e-learning as the basis for many educational levels.

Larry (2004) who interviewed Bill Gates on the future of internet, said that “The interactive network will touch many parts of our lives, like electricity does today. We’ll have network to stay in touch with people, to learn about the world and to manage many of our affairs. The internet will be integrated into our lives. The internet will be how we get television entertainment, how we make our phone calls, how we get our news, how we choose our music, how we share documents with colleagues, how our kids submit some of their homework.”

### **2.3 An Overview Perspective of E-learning**

Taynton (2000) documents that the on-line learning environment can provide increased access to resources via an intranet or the World Wide Web, and can offer more efficient and cost-effective communication; however, access to a computer is for many a major issue.

Cohen and Nycz (2006) noted that instruction in the distance learning system needs to be different than in traditional systems. E-learning systems replace the teacher as the center for learning. In e-learning systems, the principle source of knowledge is not a teacher but is knowledge-based, collected, assembled, and sequenced by the teacher, along with links to other sources of information typically accessible via the internet. E-learning students' support can be provided in two forms: synchronous and asynchronous. Asynchronous support does not take place in real time. It involves learners and tutors communicating in some typewritten form at any time. Synchronous support takes place on-line at the same time. This type of support is usually in the form of on-line, group discussion, question and answer session, tutoring, and on-line chat and e-mail (Cohen and Nycz, 2006).

Pang et al. (2005) mention that adding e-learning to the event-driven world of the classroom opens up a multitude of learning possibilities. E-learning is a powerful tool to support the out-of-classroom experience.

Macpherson et al. (2001) writes that e-learners may be unable to sustain their momentum unless they have the skills for self-directed learning and technology management. They are self-motivated, and they are prepared for isolation.

In a conference during the launching of E-learning in Kenya on “Transforming Education through e-learning,” Professor Ongeru, states that here in Kenya, the Ministry of Education is committed to working with development partners to increase capacities at all levels of education to hasten acquisition of the desired technologies which will place Kenya at par with other parts of the world. He goes on to call upon stakeholders in the private sector, the international community and his fellow education ministers to be at the forefront in spearheading the drive of advocacy and promotion of the use of technology through enhancement of ICT (e-learning) infrastructure and training in schools. There is a need to learn from one another so that there will be fully integrated technology education in order to ensure effective use of technology to supplement traditional teaching methods.

In that same conference, President Kibaki noted that the Kenyan government is committed to achieving Education For All (EFA) goals and the Vision 2030. Education through ICT (e-learning) will go a long way in making this a reality since, this will enhance quality, equity and access to education. He further noted that technology-based education should be government-driven to ensure that all Kenyans access education.

In addition, Nzomo, the Director of the Kenya Institute of Education, which was the host venue for the first Regional E-learning conference 2010, said that KIE is in the front line of promoting quality education in Kenya through production of quality curriculum and curriculum support material. The Institute was awarded the ISO 9001:2008 certificate in recognition of the quality standards used in the execution of duties. The vision of the Kenya Institute of Education is to be a

leading center of excellence in Kenya and the African region for the development and provision of quality vocational training curriculum and related products and services as the National Center for Development of Curriculum, and support materials recognize the importance it is tasked with in carrying out its mandate.

## **2.4 ICT (E-learning) National Policies in Kenya**

After several years of effort, Kenya promulgated a National ICT Policy in January 2006 that aims to “improve the livelihoods of Kenyans by ensuring the availability of accessible, efficient, reliable, and affordable ICT services.” The national policy has several sections, including information technology, broadcasting, telecommunications and postal services. However, it is the section on information technology that sets out the objectives and strategies pertaining to ICT and education. The relevant objective in this section states that government will encourage “...the use of ICT in schools, colleges, universities and other educational institutions in the country so as to improve the quality of teaching and learning.” The related strategies, under the heading “E-learning,” are to:

- Promote the development of e-learning resources.
- Facilitate public-private partnerships to mobilize resources in order to support e-learning initiatives
- Promote the development of an integrated e-learning curriculum to support ICT in education

- Promote distance education and virtual institutions, particularly in higher education and training colleges.
- Promote the establishment of a national ICT centre of excellence.
- Provide affordable infrastructure to facilitate dissemination of knowledge and skill through e-learning platforms.
- Promote the development of content to address the educational needs of primary, secondary, and tertiary institutions.
- Create awareness of the opportunities offered by ICT as an educational tool to the education sector.
- Facilitate sharing of e-learning resources between institutions.
- Exploit e-learning opportunities to offer Kenyan education programmes for export.
- Integrate e-learning resources with other existing resources

## **2.5 Uses of E-Learning**

E-Learning is used everywhere and across all types of areas; Businesses-private or public sectors, non-profit organizations, NGO's (Non-governmental organizations) and educational institutions. E-learning is deployed with the objective of enhancing the students' knowledge and cost-saving. E-learning also helps to reach geographically dispersed groups to provide "anywhere-anytime" learning, to provide consistency, to ensure compliance with regulations, and to improve productivity to name just a few advantages.

Businesses use e-learning for the introduction or orientation learning organizations and their products and services in addition to remedial training, to provide certifications, to promote products and services, to support organizational initiatives and to keep up-to-date with the latest software.

Educational institutions use it for broadening the academic scope. E-learning can provide many more references and learning scopes than the ones provided in the usual text books. Class assignments can become assigned to the students and also submitted back using e-learning portals.

## **2.6 Advantages and Disadvantages of E-learning**

Despite the effectiveness of e-learning to business organizations and educational sectors it has its own advantages and disadvantages.

Tangaza College has introduced a program called Tangaza College Moodle where lecturers communicate with students. The students are allowed to ask questions; it may be in one-to-one form or in conference form. And also, the students submit their assignments and any other work there while the lecturer gives notes and mark the students' assignments through the same means.

The University of Nairobi also makes use of e-portal to disseminate lectures as above. Likewise, Kenyatta University (KU), Egerton University (EU), Jomo Kenyatta University of Agriculture and Technology (JKUAT), Daystar University (DU), Africa Nazarene University (ANU), Strathmore University, just to name a few.

### **2.6.1 Advantages of E-learning**

The advantages of e-learning systems include the ability to provide information in a short period, encourage learners to communicate and discuss online where learners are able to ask questions as well as get feedback from experts (Alias & Zainuddin, 2005). Furthermore, one of the main advantages of delivering web-based educational materials is that the same content is delivered to a number of students and can be accessed with no restrictions of time and place (Santally and Senteni, 2005).

Another great advantage of e-learning is the flexibility of delivery, independent of time and place, to a geographically-dispersed workforce. On the other hand, it also enables learning to be offered easily to those beyond the formal boundaries of the organization at relatively low cost (Homan and Macpherson, 2005). Macpherson et al. (2005) also note that the aim of e-learning is to provide cost effectiveness and to promote learning and a knowledge-rich culture at all levels within the organization, whilst locating learning firmly within the organizational context and needs.

In addition, Vrana et al. (2005) believe that e-learning can enhance regular classroom teaching by direct delivery of the educational material, and at the same time can help to reduce the costs of education. Cost reduction can be felt in several ways, including reduced training time, a reduction in travel time and a reduction of time spent away from other activities.

In the views of Cohen and Nycz (2006) when used properly, e-learning systems enable students to be active in their own knowledge acquisition. Students often use the following forms of cooperative learning; common learning, within the team or

students without finding time to meet, as many meetings can be held asynchronously, interactive process of group building of knowledge where students leave notes for other students to read and critique active participation in generating and selection of information, since every student needs to be an expert in all topics, instead they can teach one another the topics that interest them the most, constructing knowledge in the context of other students' points of view because and students' interaction teaches them that more than one viewpoint can be valid.

Baker et al (2003) stated that e-learning can be a successful method of learning within organizations by greatly aiding in compliance training for employees. However, e-learning also can be ineffective if it is not properly supervised. Therefore, e-learning should be the right fit for the organization and used only after the organizational needs are determined.

### **2.6.2 Disadvantages of E-learning**

Ojo & Olakulehin (2006) found that by using the conventional system of learning, students remain in close and easy contact with the institution. However, while using distance education, students are frequently isolated, and contact with their university becomes minimal. Although the e-learning system is more flexible, it requires students to have good study skills, discipline, self-motivation and independence.



Furthermore, learners' socio-cultural backgrounds, previous knowledge, and learning experiences attained at conventional institutions will likely influence their perceptions of, and attitudes towards, open and distance learning.

Interviews conducted by Moisio et al. (2003) showed that students were not used to assignments requiring the self-discipline needed in e-learning. Furthermore, students often regarded hours in the schedule reserved for e-learning as free time and they were not able to evaluate the amount of work required to finish the project report resulting in heavy pressure near deadlines and in low quality reports.

In another study, Taynton (2000) found that the costs related to e-learning may be much higher than the costs of traditional learning methods. In some cases, purchasing the software needed to participate in e-learning courses could far outweigh the cost of buying traditional textbook and course materials. Referred from the work of Macpherson et al. (2005) the impact of e-learning will be dependent on how technology is adopted and used within organizational contexts, and how well the technology supports the objectives, strategies and values of learning within the corporate university framework. "... Technology based education should be known and implemented by every lecturer and students as well. What concerns me most is the continuous evaluation of the results of using this innovation and the feedbacks from students in order to always improve the technique, the method and the methods of evaluation..." (Allias & Zainuddin, 2005).

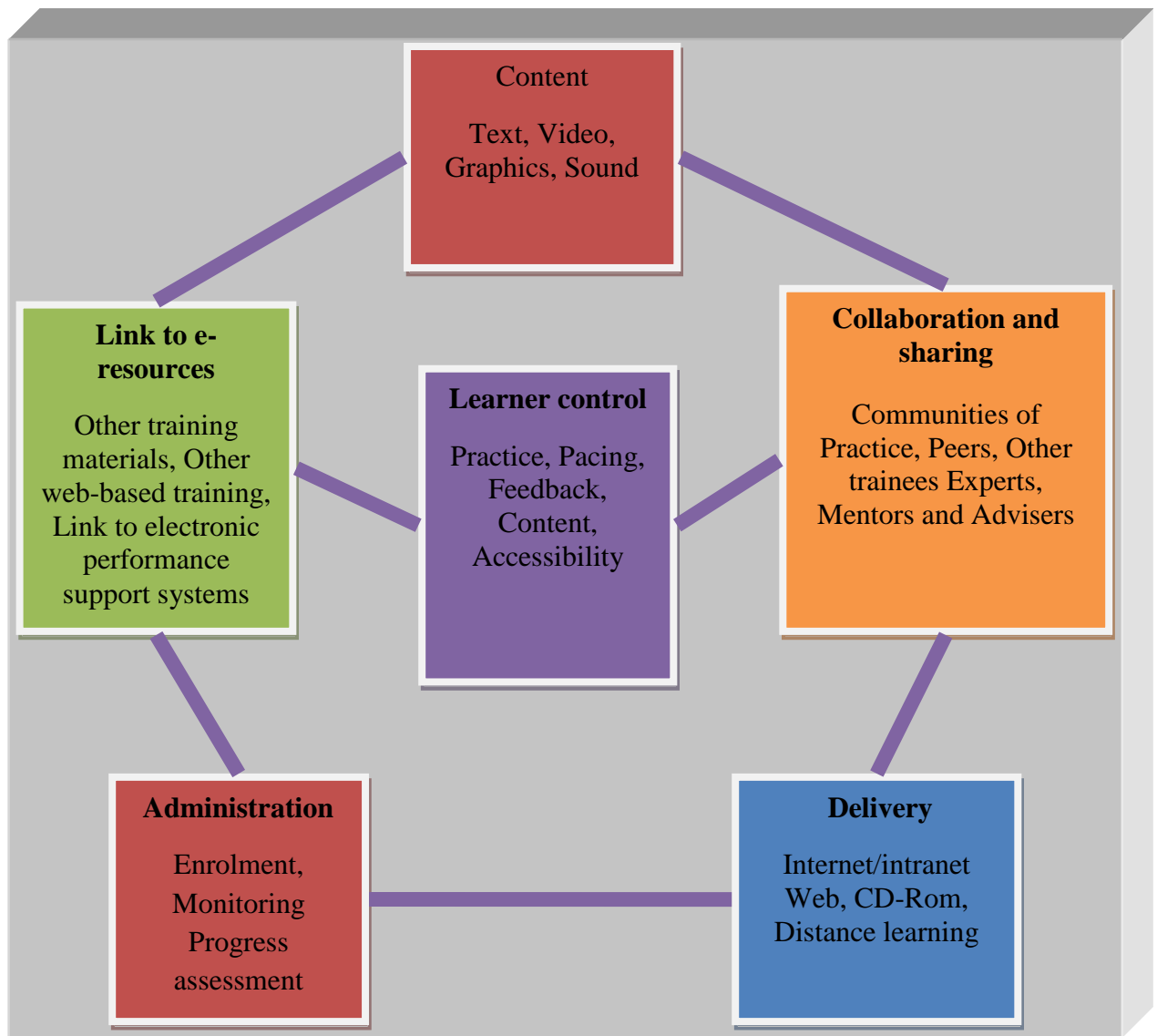
## **2.7 Challenges Facing E-learning in Kenya**

During the launching of the e-learning Conference (2010) Kenya Institution of Education (KIE) cited that despite these milestones (advantages of e-learning), the Institute faces various challenges with regard to the development of e-content. These include:

- High turnover of trained, skilled and competent staff; this affects the content development, content delivery and teacher training in utilization of the content.
- Poor internet connectivity due to insufficient bandwidth.
- Lack of adequate infrastructure within the Institute and in most of our learning institutions including Primary and Secondary Schools, and also teacher training colleges.
- Lack of basic computer literacy skills among the users thus slowing down the implementation process.
- Fear of technology by the users especially because they lack the necessary skills.
- Inadequate policies on e-learning to support ICT in the educational sector.
- Electricity is largely limited to urban areas.

## **2.8 The Features of E-learning**

The following diagram shows the features of e-learning that distinguish it from the classroom face-to-face learning method in the higher learning institutes.



***Figure 2: The features of E-learning, (Noe et al. 2003)***

As can be seen from Figure 2, the features of e-learning include collaboration and sharing of information, links to further resources, often via a web link. The learner is also in control in dictating the pace of learning and can receive instant feedback through a variety of assessment techniques; the learner also can become involved in the learning through self-pacing exercises. Learners

can expand on their learning by following links to other experts, as well as having group interaction through message boards and online discussions. In education, e-learning can be developed to contribute to the instructional objectives.

## **2.9 Attitudes of Students towards E-learning**

Attitude is defined as an individual's positive or negative feeling (evaluative effect) about performing a target behavior. This is related to behavioral intention because people form intentions to perform behaviors toward which they have positive feeling (Ndubisi, 2004).

According to Ojo & Olakulehin (2006) broadly held attitudes are fundamental to understanding social perceptions of people because they greatly influence their own and other peoples' actions. Different people perceive the advantages of online distance learning differently, and their perceptions have influenced attitudes towards acceptance and use of online distance learning in the education system elsewhere.

With regard to e-learning, attitudes toward the adoption of e-learning include identifying any obstacles. Negative and positive attitudes towards e-learning will be useful in order to establish systems and procedures that enable the most effective use of education technology (Vrana et al., 2005).

Mahmod et al. (2005) points out that people want to behave reasonably, and thus a consumer's attitude toward a certain technology is affected by attitudinal belief.

The author believes that attitudinal belief indicates the user's belief that technology possess a particular attribute or that a particular behavior will cause a particular result. Thus, attitude about the technology of e-learning is affected by attitudinal belief. In addition, the attitude towards the technology will be stronger either in positive direction or in the negative, according to the quality of the new technology. Breckler (1984) suggests that attitudes have three components: cognition, affect and behavior. The cognitive component is beliefs and perceived knowledge about the subject of the attitude. The affective component includes the feelings associated with the subject, often conveying likes and dislikes. The behavioral component stems from the perceptions and feelings as an intention to behave in a certain way.

### **2.9.1 Positive Attitude of Students towards E-learning**

According to a study by Cotton (1991) online learning or e-learning using computer-assisted instruction (CAI) refers to drill-and-practice, tutorial or simulation activities offered either by themselves or as supplements to traditional teacher-directed instruction. It has been reported that this CAI system applications on student learning has more positive effects on student attitudes than the use of the conventional learning method.

According to Mahmud et al. (2005) if the user can experience enjoyment through the adoption of a new technology, attitude towards adoption will present positively. A person will be motivated to do more activity that is enjoyable as compared to the same activity that is not enjoyable.

Moisio et al. (2003) stated that students in educational institutions had a periodical schedule for studying, whether they studied full or half-time, and for them, e-learning gave flexibility in scheduling, but also left them to take responsibility for their studies. According to older students who had gained prior working experience, they were satisfied with the responsibility given and independence for their studies in the e-learning environment

Vrana *et al.* (2005) noted that e-learning offers individual empowerment with greater control over learning, that is, learners who are comfortable with technology and have a positive attitude towards it are more likely to succeed within an e-learning environment and achieve their learning objectives.

Ndubisi (2004) documented that perceived behavioral control should be improved, specifically by enhancing computer-self efficacy, general computing experience, access to technological facilities and resources, training, and elimination or reduction of computer anxiety in order to generate positive attitudes towards the adoption of e-learning systems.

It is the responsibility of educators to provide students with learning environments that promote the effective and efficient acquisition of knowledge. Taynton (2000) found that students need to be supported by faculty in developing computer literacy to reduce the incidence of mild computer phobia among students.

In order to create a successful online learning environment and positive attitudes towards e-learning for students who do not have the basic skills in either a traditional or online learning environment setting, monitoring programs may be

able to help these students especially when they are studying in non-traditional areas as suggested by Taynton (2000).

According to Chyung et al. (2005) the learning content itself is able to promote a positive attitude towards e-learning such as lots of good information, strategies, demonstrated practice, and a subject matter. In addition, a good online instructor in terms of subject matter expertise and a teaching style to guide students using e-learning is more likely to promote positive attitudes among students within an e-learning environment.

### **2.9.2 Negative Attitude of Students towards E-learning**

Taynton (2000) described that by modifying old learning techniques or traditional learning environments, students struggled to make sense of the processes involved in online learning. New experiences involved in online learning were factors that significantly reduced the ability of students to adapt to university life. He also mentioned that if students constantly struggle with mentally integrating multiple sources of information in an online learning environment that presents unfamiliar terms, concepts and practices, they feel justifiably overwhelmed when their working memory cannot cope with the amount of new information it has to deal with, which can cause negative attitudes towards e-learning.

Chyung et al. (2005) mentioned that confusion and frustration created by less experienced online instructors without participation in discussions could lead to negative attitudes among students towards e-learning.

It has been reported that lack of instruction and guidelines as well as poor motivation by the older generation that is common with e-learning systems may be able to cause less effectiveness of e-learning systems among new students (Lee, 2005).

Alain (2005) attributes part of the problem with attitudes regarding the adoption of e-learning systems among students in INTI College to the fact that 100% of the students applied the online or e-learning system to download lecture notes because it was compulsory. Notes are not given directly by lecturers. In addition, most of the students and lecturers preferred physical paper submission rather than using e-learning or electronic submissions due to a lack of knowledge on how to use drop bin methods to submit their assignments. Furthermore, many students misused the e-learning forum that was provided for learning purposes to chat with their friends which was unrelated to their studies.

In addition, Partridge & Edwards (2004) notes that several students commented that the site was too large, requiring too much navigation to get to the desired information it takes too many 'mouse' clicks to get to where you want to go - frustrating at times when in a hurry, -the requirements to always enter usernames and passwords to enter the system, -and the size of some of the site graphics being too large and causing a delay in viewing the site. Additionally, there were several comments in support of the presence of face-to-face classes within the curriculum such as "online teaming teaching should be no face-to-face contact in conjunction with real life teaching because nothing can replace actual talking to people".



Partridge & Edwards (2004) also identified two points which limited the full potential of online teaching tools being explored; one, inconsistent and poorly performing technologies (i.e. servers crashing); two, one student described it “lazy lecturers not updating” the information on the site or who “can't use it properly”.

Furthermore, in the view of Taynton (2000) students may find that they have no time to try out how the technology works, and under the pressure of discussion groups, e-mail and electronic presentations, make their lack of expertise very public followed by embarrassment, low self-worth and even hostile feelings. In addition, when students are uncomfortable accessing materials online, they are likely, whenever possible, to print a copy for use away from the computer. Therefore, faculty should provide support in the form of structured workshops that can minimize negative attitudes in students who have high anxiety about computers.

Ojo & Olakulehin (2006) stated that one of the other negative attitudes towards e-learning is that students may cheat by hiring someone who has a greater understanding of the topic to write assignments for them. Indeed, no one is there to watch over them and monitor their learning as is the case in conventional universities. In addition, the authors suggested that quality concerns in online distance learning should be addressed through the administration.

Bower (2001) attributes part of the problem regarding e-learning to the lack of direct interpersonal contact with students. For example, faculty internet courses have no contact or feedback to help students gauge the clarity of their communications. Bower views contact as a crucial requirement for any learning program and the lack of it as a cause for concern.

It seems that students are yet to be convinced of the benefits or even the adequacy of online instruction, and this relates back to the underlying problem of poor attitudes and motivation, as identified by Lee (2005). The need for a greater emphasis on providing more student-oriented material seems to be largely understated as far as the e-learning system is concerned.

Mering & Robbie (2004) mentioned that it is important to identify students' learning needs in order to determine whether e-learning will be successful in achieving its objective and whether it will be suitable within the students' environments or not.

The foregoing researchers have identified a number of factors concerning student's attitudes toward e-learning in schools. They came up with their findings and recommendations. The place, which most researchers identified, was in developed countries and in different locations.

Therefore, the researcher conducted this research in Kenya, which is among the developing countries in the world to bring out the possible gap that needs to be addressed, at Marist International University College, Nairobi.

## **CHAPTER THREE**

### **3.0 Research Design and Methodology**

#### **3.1 Introduction**

Kothari (2004) defines research methodology as the way used to systematically solve research problems. This chapter describes the research design and methodology that was used in this study. This includes the research design, the target population, the sampling procedure, the description of the research instrument, data collection, and data analysis procedure.

#### **3.2 Research Design**

Kombo and Trompo (2006) regard research design as an arrangement of conditions for collecting and analyzing data, aiming at achieving the relevance of the research purpose. He also cited Kothari (2004) that research design constitutes the basic design/plan for the collection, measurement and analysis of data.

Descriptive survey design was used to carry out the study. Descriptive survey according to Orodho (2003) as quoted by Kombo and Trompo (2006) is a method of collecting information by interviewing or by administration of a questionnaire to a sample population. The survey design used was an effective means of collecting both quantitative and qualitative data of the attitudes of both staff and students towards e-learning to Marist International University College, Nairobi. The College has a number of students adequate to provide the information needed.

### **3.3 Target Population**

According to Khan (2008) a population refers to the whole from which a sample is drawn. Kombo and Tromp (2006) defines it as a group of individuals, objects or items from which samples are taken for measurement. It is any group of people with common characteristics and of interest to the researcher (Singh, 2007). For this study, the target population was MIUC Academic staff and students.

### **3.4 The Sample**

Kombo and Tromp (2006) define a sample as a set of people selected from a larger population for the purpose of a survey. According to Koul (1990), a sample is a representative proportion of the population. It is a small proportion of a population that will be used for a study (Singh, 2007). A sample is important because it helps a researcher to make inferences about the entire population. It is not usually possible for a researcher to collect data from all members of a population especially if it is large. This necessitates using a sample. The target population of the sample stands at about 550 students, consisting of Degree, Diploma in Education, Advanced Diploma in Business Management, Development in Social Studies, Diploma in Business Management, and Pre-University students and 26 permanent Academic staff.

### 3.5 Sampling Procedures

The researcher used a stratified random sampling technique which William (2006) says may also be called proportional or quota random sampling. It involves dividing the population into homogeneous subgroups and then taking a simple random sample in each subgroup. This sample is suitable because it will help ensure inclusion of all small subgroups of MIUC.

Stoker, as cited by White (2005) offers the following table as an indication of what the size of a sample ought to be (Table 3:1).

*Table 3.1: Determining the size of a sample*

<b>Population</b>	<b>Percentage suggested</b>	<b>Number of respondents</b>
<b>20</b>	100%	20
<b>30</b>	80%	24
<b>50</b>	64%	32
<b>100</b>	45%	45
<b>200</b>	32%	64
<b>500</b>	20%	100
<b>1 000</b>	14%	140
<b>10 000</b>	4.5%	450
<b>100 000</b>	2%	2 000
<b>200 000</b>	1%	2 000

White (2005) if the population is relatively small, the sample should comprise a reasonably large percentage of the population. Larger samples enable researchers to draw more accurate conclusions and make more accurate predictions.

Going by Stocker's suggested sample sizes, the researcher will use a sampling fraction of 14% of the population. The population at MIUC stands at 550. Hence, 14% of 550 = 77 respondents.

Why 77 respondents?

If a population of 1000 students = 140 respondents, how many respondents will be required for a population of 550?

Hence,

$$1000 \text{ Students} = 140 \text{ Respondents}$$

$$550 \text{ Students} = X \text{ (Respondents)}$$

Where X means respondents

$$X = \frac{550 \times 140}{1000} = 77$$

According to Hunt and Tyrell (2001), the size of the sample in each stratum will be taken in proportion to the size of the stratum; this is called proportional allocation. The population was divided into 6 strata: Degree students - 101, Diploma in Education students - 174, Advanced Diploma in Business Management students - 29, Development in Social Studies students -36, Diploma in Business Management students -138, and Pre-University students -72. In this case, the researcher will take 14% from each stratum;

*Table 3.2 Sampling Strategy*

	<b>Population</b>	<b>Sample</b>	<b>Percentage</b>
<b>Degree students</b>	101	14	18.36
<b>Diploma students</b>	174	25	31.64
<b>Advanced diploma in business management students</b>	29	4	5.27
<b>Development in social studies students</b>	36	5	6.55
<b>Diploma in business management students</b>	138	19	25.09
<b>Pre-University students</b>	72	10	13.09
<b>Total</b>	550	77	100

The researcher used simple random sampling to select 77 students from the six departments, third year students were drawn from Degree in education. Second year students were drawn from Diploma in education. First year students were drawn from Advanced Diploma in Business Management. Second year students were drawn from Development in social studies. Second year students were drawn from Diploma in Business Management, and Pre-University students in this study. Khan (2008) defined simple random sampling as one in which every single individual of the population has an equal chance of being included in the sample, independent of another individual. In each department, students were met in their classes and then the researcher made use of folded papers written 'yes' and 'no', to select those that participated in the study, and 100% were collected back. For the academic staff, the researcher used simple random techniques to select five

academic staff. That is, out of every five academic staff, one was selected for an interview.

### **3.6 Description of Research Instruments**

Research instruments are the tools that are used to collect data in the course of a study. They include questionnaires, interview schedules, observation, and focus group discussions (Kombo and Tromp, 2006). The research instrument that was employed by the researcher for this study was the questionnaire, for the students and interview guide for the staff and the Deputy Academic Principal.

#### **3.6.1 Questionnaire**

A questionnaire according to Khan (2008) is a method of collecting data from respondents by asking questions. It consists of a series of questions administered to an individual or a group of individuals about some issues for the purpose of obtaining data with regard to some problems under investigation (Koul, 1990). The use of a questionnaire is effective in collecting data from a large sample; it reduces chances of interviewer bias, and it saves time and assures the respondents of confidentiality (Kombo and Tromp, 2006).

One questionnaire was prepared for the students. The questionnaire was divided into three sections; section A, B and C.



- Section A, was used to gather respondents' demographic information which includes gender, age, department, year of study and time spent on internet per day.
- Section B, contained thirteen close-ended questions related to adoption of educational technologies in an e-learning environment and one open-ended statement.
- Section C, contained nine close-ended questions which served to identify students' attitudes towards e-learning and three open-ended statements.

The choice of close-ended questions for the students was to minimize irrelevant information from the respondents. According to White (2005) close-ended questions allow for easy and effective quantification and analysis of results. The open-ended questions were used to gather students' opinions on the uses of e-learning. The questionnaire was accompanied with a letter of introduction.

### **3.6.2 Interview Guide**

The interview guide was used to gather information from the deputy principal and academic staff of MIUC. It contained items on factual information of the problem of study, opinion questions and suggestions incurred from them about e-learning at MIUC.

### **3.7 Data Collection Procedures**

Data collection, according to Kombo and Tromp (2006) is the gathering of specific information to be used to prove or refute some facts. For the purposes of this study, data was collected from primary sources through the use of a questionnaire and an interview guide. The researcher obtained a permit from the college administrator of Marist International College authorizing the collection of data from the research field as well as requesting the sampled institution to allow the researcher to conduct the exercise. The researcher administered the questionnaires personally to the respondents and interviewed the staff that was included in the study, and in the absence of the Principal, the researcher interviewed the Deputy Principal.

### **3.8 Data analysis**

According to Kombo and Tromp (2006) data analysis refers to examining the collected data in a survey in order to make deductions and inferences. After collecting the questionnaire, the researcher organized and grouped the responses according to research questions. The data was analyzed descriptively, using the frequency distribution tables, percentages. Statistical package, namely SPSS, - meaning Statistical Package for Social Sciences. SPSS is a very effective and efficient way to analyze data.

To interpret the data, the researcher used tables. When analyzing the data, the researcher used mean and standard deviation to analyze the adoption level and the attitudes of the MIUC students towards e-learning, also correlation co-efficiency

analysis the relationship between adoption and attitudes of the students towards e-learning. Some opinions of the deputy Principal staff and students were used to generalize the study.

## **CHAPTER FOUR**

### **4.0 Analysis of Data, Result and Discussion**

#### **4.1 Introduction**

This chapter presents the analysis of the data collected and how they were used to answer the research questions. The findings were descriptively analyzed in tables of frequency and percentage. The discussions were based on the items contained in the questionnaires for the students and the interview for the academic staff. They were also based on the interview conducted with the Deputy Academic Principal of the College who participated in the study. The essence of the study was to investigate staff and students' attitudes towards the adoption of e-learning in the Kenyan educational system: A case study of Marist International University College, Nairobi.

The first part of the data analysis deals with students' background information. The second part of the chapter deals with analysis of the factual data of both the students and academic staff presentation.

The study addresses the following research questions:

- What are the understandings of e-learning to MIUC academic staff and students?
- What are the adoption levels of e-learning among the academic staff and students?
- To what extent does MIUC academic staff and student's attitudes affect e-learning?

- What are the relationships between attitudes and adoption of e-learning?

The questionnaires for students consisted of two categories, adoption of educational technology and attitudes towards e-learning. The students were required to answer five questions on demographic information, thirteen questions on adoption of educational technologies and nine questions on students' attitudes towards e-learning; where both open-ended and close-ended questions were employed. The samples in the study consisted of 77 Marist International University College students and five academic staff were interviewed.

## 4.2 Analysis of Students Demographic Information

### 4.2.1 Gender of the Students

The study sought information about the gender of the students to provide information on the extent of gender parity in relation to the adoption of e-learning.

Table 4.1 presents the distribution of respondents by gender

***Table 4.1. Distribution of Students by Gender***

	<b>Frequency</b>	<b>Percentage</b>
Male	34	44.2
Female	43	55.8
<b>Total</b>	<b>77</b>	<b>100.0</b>

The table shows that the male respondents were 34(44.2%) and female respondents were 43(55.8%). This shows that there are no balance in gender since the number

of female students outweighs the number of male students. The gender of the students may affect the approach to e-learning. It may also affect the level of their computer skills (Cooker et al. 2002, Lee 2003).

#### **4.2.2 Age of Students**

The study sought information about the age of the students to provide information on the extent of age parity in relation to the adoption of e-learning. Table 4.1 presents the distribution of respondents by age:

***Table 4.2 Distribution of Students by Age***

	<b>Frequency</b>	<b>Percentage</b>
20 and below	26	33.8
21-25	43	55.8
26-30	6	7.8
31-35	-	-
35 above	1	1.3
No Response	1	1.3
<b>Total</b>	<b>77</b>	<b>100.0</b>

The table above indicates the number of students below the age of 20 which corresponding to -26 (33.8%); for age 21-25- 43 (55.8%); 26-30 -6 (7.8%); and above 35 -1 (1.3%). It shows that the majority of the students are 21 years and above, meaning that they are mature in deciding for themselves. According to Piaget's theory of cognitive development, Sdorow (1993) pointed out that this is

the formal operational stage. A person who reaches this stage is able to reason about abstract as well as concrete situations. The Formal operational stage has much in common with scientific thinking, which solves problems by taking what is known, making a hypothesis about what is not known, and then systematically testing the hypothesis. A person's ability to perform well in ICT courses (e-learning) depends on his or her stage of cognitive development. However, cognitive development does not occur in everybody at the same time. Some students at this age may still find it difficult to manipulate computers. The age of the students may affect their level of computer skills. Mature students may not be as confident as younger students using computers for learning, although mature students are likely to be more independent learners and more willing to participate in discussions (MacDonald and Stratta, 2001).

#### 4.2.3. Programmes According to Departmental Level of the students

*Table 4.3 Distribution of Students at Departmental Level*

Deparments	Fequency	Percentage
B.Ed.	14	18.2
Dip.Ed.	24	31.2
ADBM	4	5.2
DSS	5	6.5
DBM	19	24.7
PRE-U	10	13.0
No Response	1	1.3
<b>Total</b>	<b>77</b>	<b>100.0</b>

Table 4.3 shows that 18.2% of the respondent were from the B.Ed. program; 31.2% of them were from Dip.Ed.program; 5.2% of them were from ADBM; 6.5% were from DSS; 24.7% were from DBM; and 13% were from PRE-U. The table shows that the students are all university students. If these students adopt e-learning and integrate it to their studies, then there is a hope that Vision 2030 of Kenya will be fully achieved in due time.



#### 4.2.4. Students' Year of Study

*Table 4.4 Distribution of Students According to Year of Study*

	Frequency	Percentage
Year one	4	5.2
Year two	45	58.4
Year three	28	36.4
Total	77	100.0

The table shows that 5.2% of the students were year one; 58.4% were year two; and 36.4% were year three. The study indicates that the majority of the students are in Year two and Year three, meaning that they have experienced the difference between traditional face-to-face learning and educational technology in the College.

#### 4.2.5. Students' Time on Internet per Day

*Table 4.5 Distribution of Students' Time on Internet per day*

	Frequency	Percentage
Below 1 hour	30	39.0
1-3 hours	33	42.9
More than 3 hours	8	10.4
No Response	6	7.8
<b>Total</b>	<b>77</b>	<b>100.0</b>

Table 4.5 shows that 30(39%) students used e-learning less than 1 hour per day; 33 (42.9%) students used e-learning 1-3 hours per day; 8 (10.4%) students used e-learning more than 3 hours per day. Hence, the majority of the students spent at least 3 hours on the internet per day. The fact remains that students are prone to internet use. With vast majority of students accessing internet on a daily basis, it indicates that time is important in our lives, if a student can spend 1 hour a day on internet could mean that internet is part of the study for that student.

#### 4.3. The Adoption of E-learning Among the Academic Staff and Students

The adoption of e-learning among the academic staff and students was viewed from the perspective of the understanding of educational technology by both of the academic staff and students;

- The use of educational technology.
- Awareness of educational technology.

#### 4.3.1 Uses of Educational Technologies Among the Academic Staff and Students

**Table 4.6. Distribution of Students' Response on Whether They Use Educational Technologies.**

	Frequency	Percentage
Strongly agree	45	58.4
Agree	10	13.0
Undecided	4	5.2
Disagree	12	15.6
Strongly disagree	6	7.8
<b>Total</b>	<b>77</b>	<b>100.0</b>

Table 4.6 shows that 45(58.4%) of the respondents strongly agreed that they use educational technologies; 10(13.0%) agreed; 4(5.2%) were undecided; 12(15.6%) disagreed; and 6(7.8%) strongly disagreed. The ability of the students to use educational technologies means they understand what e-learning is in connection to their education. One of the comments of the students on the uses of e-learning was “*The school management is behind in the process of e-learning, and it is taking them back to the traditional system of learning (face-to-face).*” The uses of educational technologies cannot be overstated, it is of paramount in our today’s colleges and universities.

From the interviews conducted with the academic staff, it is clear that the uses of the educational technologies are of paramount importance in today's teaching and learning. One of the academic staff commented strongly that *"It is the easiest way for the students to interact with lecturers today."* The Deputy Principal commented that *"e-learning is the way of the future."*

#### 4.3.2 Awareness of Educational Technology Among the Academic Staff and Students

***Table 4.7 Distribution of Students' Response on the Statement of the Awareness of Educational Technologies but Have not used it.***

	Frequency	Percentage
Strongly agree	6	7.8
Agree	12	15.6
Undecided	8	10.4
Disagree	18	23.4
Strongly disagree	32	41.6
No Response	1	1.3
<b>Total</b>	<b>77</b>	<b>100.0</b>

The table above shows that 6(7.8%) of the respondents strongly agree; 12(15.6%) agree; 8(10.4%) undecided; 18(23.4%) disagree; and 32(41.6%) strongly disagree. This implies that students are aware of educational technologies existence, and they have access to it. From the findings on the opinions of the students on educational technologies, it was said that the administration should teach and encourage

students regarding the significance of educational technologies. Also, the side effects of educational technologies should also be made known to all.

From the interviews of the academic staff on the adoption of educational technology, one academic staff member emphasized that *“There is lack of awareness of the benefit that technologies such as on-line conferencing software could bring to staff-student discussions.”* Another said that *“e-learning is any learning that is resource from, facilitated by electronic media like computers, mobile phones, etc, which the students are prone to.”*

Academic staff need to guide the students on how to effectively use educational technologies to achieve a maximum benefit in their studies.

#### 4.4 Academic Staff and Students Attitudes towards E-learning

**Table 4.8: Distribution of Students Response on the Statements “E-learning is an effective learning method”**

	Frequency	Percentage
Strongly agree	37	48.1
Agree	27	35.1
Undecided	7	9.1
Disagree	5	6.5
Strongly disagree	-	-
No Response	1	1.3
Total	77	100.0

Looking at the statistics of table 4.8 above, 48.1% of the students strongly agreed that e-learning is an effective learning method, while 35.1 % agreed with the

statement; 9.1% are yet to decide, while only 6.5% disagree that e-learning is an effective learning method. The attitude of most students at the Marist International University College remains positive and well balanced. They are open to new experiences and methods of learning, but increased awareness to their rights has resulted in an expectation that they have the choice to reject those they consider unsuitable and to demand a more preferable option.

From the interviews of the academic staff, it shows clearly that academic staff and students have a positive attitude toward the adoption of new teaching/learning methods to meet the demands of the contemporary society. Nevertheless, some said that some of the students *“have no knowledge of computer, no enough internet skills, and there is a lack of awareness both on the part of the academic staff and the students.”*

In the Arts and mathematics, the academic staff felt that the relationship between students and lecturers needed to be different, and that the use of technology was not appropriate for learning in some subjects:

*"Art subjects very much have a dialogic relationship between student and teacher. E-Learning discourages a two way discourse to the detriment of the students' educational development."*

*“In the Art, academic focus is on reading large volumes of texts. This is not recommended on a computer and hence I am sceptical about moving students away from the library and onto the net.”*

#### 4.5: Students' Attitudes and Adoption of E-learning

*Table 4.9: Mean Distribution for Adoption and Attitudes of Marist International University College Students Towards the Adoption of E-learning.*

	N	Minimum	Maximum	Mean	Std. Deviation
Adoption	58	1	5	2.7382	1.2908
Attitude	70	1	4.7	2.3133	1.0604
Valid N (listwise)	64				

The table above shows the mean and standard deviation of the Marist International University College students' attitudes and adoption of e-learning. The findings in this study show that the Marist International University College students' attitudes are positive because the standard deviation is 1.0604 while is positive while indicating a mean value of 2.3133. With the mean value at 2.7382 on the adoption level, it shows that the use of e-learning tends to be high among the Marist International University College students.

This result corresponds with the statements of the academic staff in the interview, that the students attitudes towards e-learning is positive which according to Vrana el al. (2005), notes that e-learning offers individual empowerment with greater control over learning. Learners who are comfortable with technology and have a positive attitude towards it are more likely to succeed within an e-learning environment and achieve their learning objectives.

#### 4.6: The Relationship between Adoption and Attitudes among the Students

**Table 4.10: Distributive Correlations between Adoptions and Attitudes of e-learning towards Marist International University College Students.**

		Adoption	Attitude
Adoption	Pearson	1	.342(**)
	Correlation		
	Sig. (2-tailed)	.	.003
	N	75	74
Attitude	Pearson	.342(**)	1
	Correlation		
	Sig. (2-tailed)	.003	.
	N	74	76

\*\*Correlation is significant at the 0.01 level (2-tailed).

The correlation analysis results shown in table 4.10 shows that there is a positive correlation between adoption and attitudes which is ( $r=0.342$ ). This positive correlation coefficient (0.342) indicates that there is a statistically significant ( $p<0.001$ ) linear relationship between the two variables such that the greater adoption of e-learning at MIUC, the more signifies the attitudes of the students. Therefore there is a relationship between attitudes and the adoption of e-learning among the students of MIUC.

In the interviews, the academic staff supported the idea that adoption and attitudes of e-learning by the students are positive in their (academic staff) various areas of discipline. The Deputy Principal said that “*With the adoption of e-learning students can access e-resources from far away, at home, school, or even on their private time.*”



#### **4.7 Opinions of the Respondents on the Enhancement of the Use and Educational Value of E-learning**

From the findings, both groups of respondents extended their personal suggestions on the enhancement of the use and educational value of e-learning: this will enhance the teaching and learning process at MIUC and also can help them attain their preferred goals, one of which is high performance among the academic staff and students.

##### **4.7.1 Students' Opinions on the Enhancement of the Use and Educational Value of E-learning.**

Students studying at MIUC have high expectations on the enhancement of the uses of educational values of e-learning courses. In their opinions, they expressed in the following:

- Guidance from staff that supports and encourages learning, but it should not be too formal or patronizing.
- Course materials to be helpful, the tasks to be manageable and workshop to provide the basic knowledge needed in e-learning
- To be able to progress at their own pace. This adds an additional expectation that staff will be available to support students as required. Obviously, one staff cannot be available 24 hours a day, 7 days a week; therefore, a compromise needs to be sought.

- The technology and e-learning system should be reliable. They expect to be able to access the learning environment from anywhere, on any computer and for it to work without breaking or causing loss of work.

#### **4.7.2: Staff Opinions on the Enhancement of the Use and Educational Value of E-learning**

- There should be easier access to the hardware like computers in the classroom situations. Also students should be encouraged to use them.
- There should be a change in attitude towards the use of ICT by both academic staff and students.
- The school administration should move in line with the number of students, that is they should provide more infrastructure to accommodate the increasing students.
- School administration should train more personnel to help facilitating the use of educational technologies.

## **CHAPTER FIVE**

### **5.1 Introduction**

In this chapter, the summary, the conclusion and various recommendations are presented. The study investigated the attitudes towards the adoption of e-learning in the Kenyan educational system: A case study of Marist International University College, Nairobi.

### **5.2 Summary of the Findings**

The study was designed to investigate the attitudes towards the adoption of e-learning in the Kenyan educational system in Marist International University College, Nairobi.

The study was guided by the following research questions;

- What are the understandings of e-learning to MIUC academic staff and students?
- What are the adoption levels of e-learning among the academic staff and students?
- To what extent does MIUC academic staff and students' attitudes affect e-learning?
- What are the relationships between attitudes and the adoption of e-learning?

The sample size used in the study was the academic staff and students of MIUC, of which a total of 77 students responded to the questionnaire. For the interview, 5 academic staff and the Deputy Academic Principal were involved in the study. They were chosen to provide the necessary information the researcher needed to answer the research questions as stated in chapter one.

The first objective was to determine the understanding of e-learning among the academic staff and students of MIUC. The study revealed that the academic staff and students are aware of the uses of e-learning in their various disciplines. With the use of educational technologies in the College, both the academic staff and students are able to excel in their educational performance.

The second objective of the study was to determine the adoption levels of e-learning among the academic staff and students. From the study, it shows clearly that the adoption level of e-learning among the MIUC academic staff and students is high.

The third objective of the study was to examine MIUC academic staff and students' attitudes toward e-learning. The findings revealed that the academic staff and students have a strong positive attitude towards e-learning. However, some challenges that both the academic staff and students of MIUC encountered are lack of knowledge, poor networking, insecurity and high cost of educational technology. These challenges hinder them from participating adequately in e-learning courses.

The last objective of the study was to determine the relationships between attitudes and the adoption of e-learning. The researcher made use of correlation coefficient to find out the relationship between adoption and attitude. From the

findings, the level of adoption and attitude are positive -meaning that the mode of learning, which consists of educational technology, self-managed learning and online learning has gained acceptance by the MIUC academic staff and students.

### **5.3 Conclusion**

From the findings of the study, it shows that the academic staff and students of MIUC have a positive attitude towards e-learning and have adopted new methods of learning through the use of educational technology (e-learning) in addition to traditional education (classroom learning). But the major problems that hinder both the academic staff and students are: lack of in-service training of the academic staff, lack of trained personnel in the ICT field, insufficiency of infrastructures in the Collage to meet the growing population, and lack of interest in the use of e-learning.

Unfortunately the uses of e-learning courses are still attempting to mimic traditional classroom courses; a more effective use of e-learning would be to encourage independent learning and problem solving. There should be a blended learning where traditional learning would be an additional support to e-learning.

## **5.4 Recommendations**

Having carried out the study on the attitudes towards the adoption of e-learning in the Kenyan educational system, the researcher revealed many challenges facing both academic staff and students in fully adopting electronic learning (e-learning) strategies. The following are some of the recommendations that would help improve their efficiency in integrating e-learning into the teaching and learning system:

1. Students should be given the opportunity to communicate and personalize their interaction with the e-learning systems, so that they can learn at their own pace.
2. There should be guidance from the staff that supports and encourages teaching and learning through the use of modern technology (e-learning).
3. E-learning is a new phenomenon in African schools. For it to pave way to the adoption of ICT, the African sector should provide access to constant power supply.
4. The College administration should provide workshops and seminars to provide basic knowledge needed in e-learning.
5. The College administration should move in line with the number of the students meaning that they should provide more infrastructure to accommodate the growing number of students.
6. The College administration should train more personnel to help in facilitating the use of educational technologies.

7. There should be a change in attitude towards the use of ICT (e-learning) by both academic staff and students.
8. Sometimes, e-learning systems are not reliable. The management should work in-line to provide adequate internet security, to enable access to learning environment from anywhere, on any computer and for it to work without breaking or causing loss of work.

### **5.5 Suggestions for Further Research**

Following the findings of the study, the researcher suggests the following areas for further research:

- i. Academic staff attitudes towards electronic learning in Arts, Sciences and Mathematics.
- ii. Challenges faced by academic staff and students on the use e-learning in developing countries.

## REFERENCES

- Achebe, C. (1958). *Things Fall Apart*. East African Education publication, Nairobi.
- Alex, K.M. and Charles, M.A. (2006). *Comprehensive Computer Handbook*. Harrison and Wormans, Johannesburg, RSA.
- Alias, N.A., Zainuddin, A.M., (2005). *Innovation for Better Teaching and Learning: Adopting the Learning Management System*. Malaysian Online Journal of Instructional Technology, Vol. 2, No.2, pp 27-40.
- Alain, C.Y.L. (2005). *A Case Study On Implementing E-learning Through The Use of INTI Online*. INTI College Malaysia.
- Allen, M.W. (2003). *Michael Allen's guide to e-learning*. John Wiley & Sons, Incorporated, Hoboken, New Jersey.
- Baker, M.B., Boggs, R., Arabasz, P. (2003). *Student and Faculty Perspectives on E- learning Support*. Educase center for Applied Research, Research Bulletin, Volume 2003, Issue 16, pp 1-10.
- Banas, E., Emory, F. (1998). *History and Issues of Distance Learning*. Public Administration Quarterly, Volume 22. Number 3, pp: 365-383
- Berry, L.L. (2000). "Relationship marketing of services growing interest, emerging perspectives" (reprint from Academy of Marketing Science (1995)) , in Sheth, J.N. and Parvatiyar, A. (Eds), *Handbook of Relationship Marketing*, Sage Publications, London.
- Bloisi, W. (2007). *Management and Organizational Behaviour*. McGraw-Hill Companies, UK.



Bower, B.L. (2001). *Distance Education: Facing the Faculty Challenge*. Online Journal of Distance Learning Administration, Vol. IV, Number II, Summer.

Breckler, S. J. (1984). *Empirical validation of affect, behavior and cognition as distinct components of attitude*. *Journal of Personality and Social Psychology*, 47 (6). 1191-1205. American Psychological Association, Washington D. C.

Clark, R.C., and Mayer, R.E. (2003). *E-Learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning*. John Wiley & Sons, Incorporated. San Francisco, California.

Chyung, S.Y., Vachon, M. (2005). *An Investigation of the Profiles of Satisfying and Dissatisfying Factors in E-learning*. *Performance Improvement Quarterly*; 18, 2; ABI/INFORM Global pg. 97.

Cohen, E.B., Nycz, M. (2006). *Learning Objects and E-Learning: an Informing Science Perspective*. *Interdisciplinary Journal of Knowledge, and Learning Objects* Volume 2.

Collis, B., Moonen, J. (2005). *An On-going Journey: Technology as a learning workbench*. University of Twente, Enschede, Netherlands.  
<http://www.BettyCollisJefMoonen.nl>, ( Accessed June 28, 2010)

Cone, J.W., Robinson, D.G. (2001). *The Power of E-Performance*, ERIC education Resources Information Centre, Washington.  
<http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp> (Accessed January 26, 2011)

- Conrad, K. (2000). *Instructional design for web-based training*. HRD Press, Amherst, Massachusetts.
- Cotton, K. (1991). *Computer-Assisted Instruction*. School Improvement Research Series, Northwest Regional Educational Laboratory, London.
- Daily Nation, (March 29, 2010). '*Transforming Education through e-learning*' The 1<sup>st</sup> Regional e-learning conference in Kenya.
- Daily Nation, (March 30, 2010). *E-learning 'still a dream' for local schools*.
- Deka, T.S., McMurry, P. (2006). *Student Success in Face-To-Face and Distance Tele-class Environments: A matter of contact*, International Review of Research in Open and Distance Learning, Volume 7, Number 1. pp 1-16.
- Galagan, Patricia A. (2002). *Delta Force* Gatewood, R.D., Field, H.S. ( 1990). Human Resource Selection, The Dryden Press , Orlando, FL.  
<http://www.scribd.com/doc/2931290/Attitude-towards-Elearning>,  
 (Accessed September 22, 2010)
- Hall, B. (1997). *Web-based Training*. John Wiley & Sons Inc., New York.
- Hedge, N., Hayward, L. (2004). *University e-learning contributing to Life-long learning in a networked world E-Learning*. 1:128 – 145  
<http://www.nationmaster.com/country/ni/Internet> (Accessed August 24, 2010)
- Homan, G., Macpherson, A. (2005). *E-learning in the corporate university*. Journal of European Industrial Training; 29(1):pg. 75.

- Hong, K., Lai, K., Holton, D. (2001). *Web based learning environments: Observations from a web based course in a Malaysian context. Australian Journal of Educational Technology* 17(3). 223-243. <http://cleo.murdoch.edu.au/ajet/ajet17/hong.html> (Accessed September 23, 2010).
- Hunt, N. and Tyrell, S. (2001). *Stratified sampling*. <http://www.coventry.ac.uk/ec/~nhunt/meths/strati.html> (Accessed December 2, 2010).
- Khan, J. A. (2002). *Research methodology*. APH Publishing Corporation. New Delhi.
- Kirk, J. (2001). *Interact! With Online Learning*. ASTD's Source for E-learning. <http://www.astd.org/LC/2001/>. (Accessed November 5, 2010).
- Kombo, D. K., Trompo, D. L. (2006). *Proposal and Thesis Writing*, Paulines Nairobi.
- Kothari, C.R. (2004). *Research Method*. New Age International (P) Limited, publishers, New Delhi.
- Koul, L. (1990). *Methodology of Education Research*. Vikas Publishing House PVT Ltd, New Delhi.
- Larry, K. (2004) *Future Talk*, Harper Collins books, New York.
- Laudon, K., Laudon, J., Das, R. (2010). *Management Information System*, Indian Institute of Management Ahmedabad, New Delhi.

- Lee, K.T. (2005). *E-learning: The Quest for Effectiveness*. Malaysian Online Journal of Instructional Technology Vol. 2, No.2, pp 61-7.
- MacDonald, and Stratta, (2001). *Academic Skills in higher Education: Does age matter*. University of Huddersfield, Huddersfield, UK.  
<http://www.srhe.ac.uk/conference2010/abstracts/0284.pdf> (Accessed March 10, 2011)
- Macpherson, A., Elliot, M., Harris, I., Homan, G. (2001). *Reflections on E-learning: Pedagogy and Practice in the Corporate Sector*. Manchester Metropolitan University Business School Working Paper Series Online, UK.
- Macpherson, A., Homan, G., Wilkinson, K. (2005). *The implementation and use of e- learning in the corporate university*. Journal of Workplace Learning; 17(1/2):pg. 33.
- Mahapatra, B.C. (2005). *Information Technology and Education*. Sarup and Sons, New Delhi.
- Mahmod, R., Dahian, N., Ramavah, T., Karia, N., Asaari, M.H.A.H. (2005). *Attitudinal belief On Adoption of E-MBA Program In Malaysia*. Turkish Online Journal of Distance Education-TOJDE, Volume :6 Number: 2 Article No: 10.
- Mering, J., Robbie, D. (2004). *Education and Electronic Learning - Does Online Learning Assist Learners and How Can It be Continuously Improved?* Swinburne Sarawak Institute of Technology. Sarawak, Malaysia and Swinburne University of Technology, Melbourne, Australia.

- Moisio, A., Markkula, M.L, Smeds, R. (2003). *E-Learning Lessons Learnt from a Student Perspective: A Crosscase Comparison between Public and Private Organizations*. International Workshop of the IFIP WG 5.7: Experimental Interactive Learning in Industrial Management 22-24 May 2003 in Aalborg, Denmark.
- Mwololo Waema, T. “A Brief History of The Development of An ICT Policy In Kenya,” in *At The Crossroads: ICT Policy Making In East Africa*. 2005. IDRC. [www.idrc.ca/openbooks/219-8/#page\\_25](http://www.idrc.ca/openbooks/219-8/#page_25) (Accessed December 13, 2020).
- “National ICT Policy” (2006). *Ministry of Information and Communications*. <http://www.information.go.ke/docs/ICT%20Policy.pdf> (Accessed December 2, 2010).
- Noe, R., Hollenbeck, J., Gerhart, B. and Wright, P. (2003). *Human Resource Management- Gaining Competitive Advantage*. McGraw-Hill, Irwin.
- Ojo, D.O., Olakulehin, F.K. (2006), *Attitudes and Perceptions of Students to Open and Distance Learning in Nigeria*. Nigeria. International Review of Research in Open and Distance Learning, Volume 7, Number 1. pp 1-10.
- Onunga, J. (1997). *Introduction to Microcomputer and programming*, University of Nairobi, Nairobi.
- Onunga, J. (2003). *The Internet*, Mariwa Publishers University of Nairobi, Nairobi.
- Orodho, (2003). *Essentials of Educational and Social Science Research Methods*. Masola Publishers, Nairobi.

- Partridge, & Edwards, (2004) *Establishing the IT Student's Perspective to e-Learning: Preliminary Findings from a Queensland University of Technology Case Study*. Issues in Informing Science and Information Technology.
- Pang,V., Wah, L.K., Keong, T.C., Mohamed, S. (2005). *E-Learning Initiatives In Educating Student Teachers*. GEMA Online Journal of Language Studies Volume 5(2).
- Rossett, A. (2002). *The ASTD E-Learning Handbook*. Best Practices, Strategies, and Case Studies for the Emerging Field.
- Salas, R. J., Marinescu, I.D., Noreyan, A. A. (2002). *New Millennium Frontiers on precision engineering*. International Journal of Production Research, Volume 40, Number 15, 15 October 2002 , pp. 3807-3819(13)  
<http://www.ingentaconnect.com/content/tandf/tpr> (Accessed November 5, 2010).
- Santally, M.I., Senteni, A. (2005). *Adaptation Models for Personalization in Web-based Learning Environments*. Malaysian Online Journal of Instructional Technology, Vol. 2, No. 1.
- Sharpe, et al. (2007). *Rethinking Pedagogy for a Digital Age, designing and delivering e-learning*. Routledge, London.
- Singh, Y. K. (2007). *Research Methodology*. APH Publishing Corporation, New Delhi.
- Sdorow, (1990). *Psychology*. Brown and Benchmark Publishers, Oxford, England.
- Swidan ,(2006). *Analyzing academic staff and students' attitudes towards the adoption of e-learning*. asiapacific-odl.oum.edu.my/C70/F275.pdf (Accessed June 25, 2010).

Taynton, Y. (2000). *Online Learning: A Student Perspective*. ASCILITE 2000 conference proceedings.

The Standard, (April 12, 2010). *Inadequate policies hinder e-learning*.

The Standard, (October 31, 2007). *ICTs have made learning pleasant*.

Vrana, V., Frigidis, G., Zafiropoulos, C., Paschaloudis, D.(2005). *Analyzing Academic Staff and Students' Attitudes Towards The Adoption of E-learning*. Technological Education Institute of Serres, Greece.

Wentling, T.L., Waight, C., Strazzo, D., File, J., Fleur, J.L., Kanfer, A. (2000). *The Future of e-Learning, A Corporate and an Academic Perspective*. Knowledge and Learning Systems Group.

White, C.J. (2005). *Research: A practical guide*. Ithuthuko Investment, Pretoria.

William, M.K. (2006). *Sampling*, <http://www.socialresearchmethods.net/kb/sampling.php> (Accessed June 12, 2010).

Zhang, D., Zhao, J., Zhou, L., & Nunamaker, J. (2004). *Can e-learning replace classroom learning?* Communication of the ACM, Volume 47, Number 5. pp: 75-79

## APPENDICES

### Appendix I: Questionnaire for Students

**MARIST INTERNATIONAL UNIVERSITY COLLEGE**  
**CONSTITUENT COLLEGE OF CATHOLIC UNIVERSITY OF EAST**  
**AFRICA (CUEA)**  
**DEPARTMENT OF EDUCATION**

Dear students,

I am a student of Marist International University College (MIUC), Karen, Nairobi. I am carrying out research on the attitudes towards the adoption of electronic learning (e-learning) in the Kenyan educational system. It is a case study focusing on Marist International University College. You are cordially requested to contribute information to this study. As you answer, kindly bear in mind that your contributions will be considered authentic and vital since you will be speaking out of experience. Be assured that your contributions in this regard will be highly appreciated and treated with confidentiality.

Thanks in advance for your cooperation.

Samuel Chidinma Okebaram

#### **SECTION A: DEMOGRAPHIC INFORMATION**

Instruction: Kindly tick [☐] against the information that applies to you in this section.

1. **Gender:** i) Male [☐]      ii) Female [☐]
2. **Age:** i) 20 and below [☐]      ii) 21-25 [☐]      iii) 26-30 [☐]      iv) 31-35 [☐]  
v) 35 and above [☐]



3. **Department:** i) B.Ed. [ ] ii) Dip. Ed. [ ] iii) ADBM [ ]  
iv) DSS [ ] v) DBM [ ] vi) PRE-U [ ]
4. **Year of study:** i) Year one [ ] ii) Year two [ ] iii) Year three [ ]  
iv) Year four [ ]
5. **Time spent on internet per day:** i) Below 1 hour [ ] ii) 1-3 hours [ ]  
iii) More than 3 hours [ ]

## SECTION B: ADOPTION OF EDUCATIONAL TECHNOLOGIES

Please put a tick [ ☐ ] in the most appropriate space to indicate your level of agreement, using the scale given below. **Strongly Agree - 5, Agree – 4, Undecided – 3, Disagree – 2, Strongly Disagree -1**

	Statement	5	4	3	2	1
1	I use educational technologies.					
2	I am aware that technology exists, but I have not used it.					
3	I am currently trying to learn the basics about educational technologies.					
4	I am beginning to understand the process of using technology and can think of specific tasks in which it might be useful.					
5	I occasionally use educational technologies, and I am beginning to gain confidence.					
6	I always use educational technologies in educational activities.					
7	I often use the Internet for educational activities.					
8	I often use the Internet for e-mailing.					
9	I often use the Internet for chatting (such as ICQ).					
10	I avoid using Web Sites whenever I can.					
11	I have problems finding my way around Web Sites.					
12	I often seek for help in the Internet.					
13	I prefer the Web-Assessed activity to the paper- Assisted activity.					

Additional comments on educational technology (e-learning)

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### SECTION C: STUDENTS ATTITUDES TOWARDS E-LEARNING

Listed below are statements expressing attitudes which one has towards e-learning. Please put a tick [  $\sqrt{\quad}$  ] in the most appropriate space to indicate your level of agreement, using the scale given below. **Strongly Agree - 5, Agree – 4, Undecided – 3, Disagree – 2, Strongly Disagree -1**

	Statement	5	4	3	2	1
1	E-leaning is useful for life-long learning.					
2	E-learning is an effective supplement to traditional education (classroom teaching).					
3	E-learning can boost the reputation of the lecturer.					
4	E-learning is useful for undergraduates.					
5	E-learning is an effective learning method					
6	E-learning is a demanding task that students cannot avoid.					
7	E-learning is useful in my subject area.					
8	E-learning is not necessary in tertiary education.					
9	E-learning is a fashion that will diminish soon.					

What suggesting can enhance the use of e-learning in your area of specialization?

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Do you have any further comments about the educational value of e-learning?

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What challenges do you encounter in using electronic learning (e-learning)?

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## Appendix II: Interview Guide for Academic Staff

1. How would you define e-learning?

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2. Are you aware of the use of moodle or e-portal in teaching and learning in schools?

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3. Do you use e-learning regularly, sometimes or not at all?

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4. Do you think e-learning can boost the teaching and learning in MIUC?

YES [ ☐ ]      NO [ ☐ ]

Reasons.....

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5. What are the attitudes of your students towards the use of e-learning?

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6. Are your students responding adequately to the use of e-learning in your area of discipline?

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7. What training have you had for e-learning (internal and external)?

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8. How adequate are the MIUC ICT infrastructures in the school that can facilitate the use of e-learning?

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9. What would you suggest to enhance the use of e-learning in your discipline?

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10. Do you have any further comments about the educational value of e-learning?

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**Appendix III: Interview guide for the Deputy Principal**

1. In the fast growing world of today, many universities are into information technology. What have you put in place to help in facilitating teaching and learning in the school?

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2. E-learning is one of the ways to enhance education today. What are your opinions above it?

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3. Are you aware of the use of moodle or e-portal in teaching and learning in schools?

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4. What security measures do you think can be put in place to enhance maximum protection from fraudsters?

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5. How adequate are the MIUC ICT infrastructures in the school that can facilitate the use of e-learning?

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6. Do you have any further comments about the educational value of e-learning?

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#### **Appendix IV: Photos of MIUC**



**ICT (E-learning) in MIUC offers new opportunities to improve Languages as a tool to achieve development.**



**The current status and achievement in the use of ICTs at Marist International University College.**





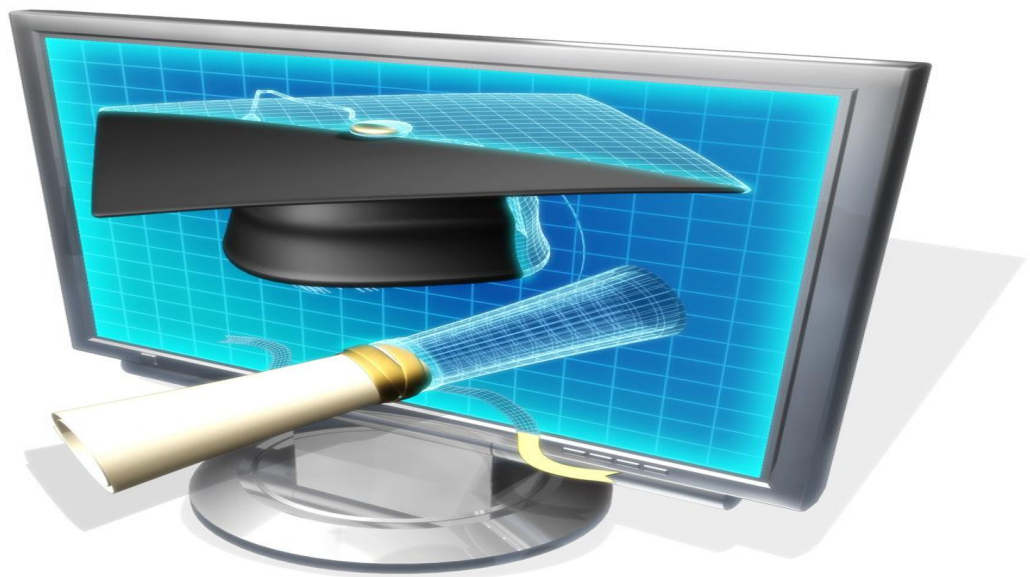
**Students at MIUC use ICT (E-learning) as a tool for extending education opportunities to act as agents of liberation, transformation and development of humanity. (MIUC Vision)**



**Capacity building to enhance the skills of academic staff and students of MIUC into the digital content development.**



**MIUC the centre of ICT (E-learning) excellence in developing, maintaining better learning resources.**



**Transforming education through e-learning**

