PHOTOGRAPHY AS A TOOL FOR TEACHING IN AN E-LEARNING ENVIRONMENT

A CASE STUDY OF CORNERSTONE TRAINING INSTITUTE

BY:

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JUNE 2010

APPROVAL

I certify that the research project submitted was done under my supervision.

SUPERVISOR:

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SIGNATURE.....

DATE...18TH/06/2010.....

DECLARATION

I MOTURI ONSINYO MOSES hereby declare that this research report titled '**Photography as a Tool for Teaching in an E-learning Environment'** is my original work and has never been submitted to any university or college for any award. Where the works of others have been cited, acknowledgement has been made.

Signature……  ……

Date……21st/06/10……

DEDICATION

I dedicate this work to my parents, who played a great role to enable me to reach this step in my education career, who have been pouring insight and light of success to me, my brothers and sister too, as they have been giving me strength and courage during my days in Kampala and all those who gave me a helping hand in writing this report.

ACKNOWLEDGEMENT

The completion of this research project would have not been possible on the researcher's own effort without assistance from the number of committed tireless individuals.

First of all, I thank the Almighty GOD who led me to the success of this project report. I cannot forget to express my heartily thanks to my supervisor Ms. Babirye Anna, a lecturer at Kampala International University for her tireless effort, advices, comments, corrections, encouragement and support in my research.

My special thanks go to all staffs of Cornerstone Training Institute and the e-learning students of the institution for their moral support and for accepting to respond to the questionnaires that enabled me to accomplish my project report.

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LIST OF ABBREVIATIONS

e-learning	–	Electronic Learning
e-classroom	–	Electronic Classroom
e-teaching	–	Electronic Teaching
E-Environment	–	Electronic environment
www	–	World Wide Web
LIT	–	Live Instructor Training
SDLC	–	System Development Life Cycle
etc	–	Etcetera
e.g.	–	For example
i.e.	–	That is

ABSTRACT

E-learning represents an innovative shift in the field of learning, providing rapid access to specific knowledge and information. It offers online instruction that can be delivered anytime and anywhere through a wide range of electronic learning solutions such as Web-based courseware, online discussion groups, live virtual classes, video and audio streaming, Web chat, online simulations, and virtual mentoring.

The aim of this research was to investigate the feasibility, effectiveness and viability of using images in an e-learning environment, in construction management of education and the students' preference between e-learning and traditional face-to-face learning. Basing on looking on what were the main factors causing students not to understand concepts quickly, which in turn has a great impact on growth of the Institute with reference to Cornerstone Training Institute. The study involved both qualitative and quantitative methods. The sample size was 30 people. In which 10 were from the staff, 20 students. Interviews, observations, documentary review and questionnaires were the bases for data collection and its findings has been represented in this research report

During the study the researcher viewed that the procedures are worth undertaking, although there are some few loopholes here and there. If such loopholes are not addressed in the near future then e-learning is going to loose students. Following the study findings, recommendations are very vital for management, in order to improve the efficient use of photography in an e-learning environment. The management should put into action use of photographs as a tool for teaching Online; this will help in students understanding difficult concepts more easily.

CHAPTER ONE

INTRODUCTION

1.1 GENERAL INTRODUCTION

Learning that is facilitated by the use of digital tools and content. Typically, it involves some form of interactivity, which may include online interaction between the learner and their teacher or peers. (*Glenn Rand and Richard Zakia, 2006).* Teaching through the internet and the World Wide Web is rapidly becoming an established practice in many educational institutions globally. E-learning has changed the way information; skills and knowledge are disseminated and shared in conjunction with the use of photography as a tool to enhance students understanding of concepts better.

Live Instructor Training (LIT) via the web can be combined with real time, mentoring, improved learners' services and up-to-date engaging content to create a highly effective multidimensional learning environment. Africa as a continent has adapted this method of learning and its taking effect in many countries for instance Kenya where institutions of higher education are offering services.

1.2 BACKGROUND OF THE PROBLEM

Cornerstone Training Institute was incorporated in November 2002 to provide unparalleled opportunities for learning and professional advancement into the 21st Century in Information Technology, Accounting and Management areas. It's located a kilometer from Nairobi (Kenya) City center in Development House 12th Floor Moi Avenue as its Headquarters with another state-of-the-art branch at Westland's Mpaka Plaza 3rd Floor.

Due to high demand for higher education in Kenya, both the existing public and private universities cannot match the demand, Cornerstone is collaborating with local and international universities to offer degree programmes.

In the institution Students often have a difficult time in visualizing concepts and struggle to grasp information that is presented either verbally or in text. This situation certainly hinders them from performing to their best, hence need for efficient tools to enhance understanding.

1.3 STATEMENT OF THE PROBLEM

Since the existing system uses text or verbal - based system, there is a problem of time consuming on student's trying to visualize concepts and struggle to grasp information that is presented either verbally or in text. When photography is put in use as a tool for teaching in an online environment, it will help in elimination and accomplishment of the above stated problems in that students will be able to learn quickly and grasp concepts fast online, and will not waste resources and time trying to understand data.

1.4 PURPOSE OF THE STUDY

The study is to raise awareness of the range and relevance of photography as a tool in learning and instructional material that can be used effectively in e-teaching in Cornerstone Training Institute.

1.5 OBJECTIVES OF THE STUDY

1.5.1 MAIN OBJECTIVE

The main objective of the study is to raise awareness of the range and relevance of photography as a tool in learning and instructional material that can be used effectively in e-teaching in Cornerstone Training Institute.

1.5.2 SPECIFIC OBJECTIVES

To study the system of Cornerstone Training Institute and come up with user requirements.

Raise awareness of the range and relevance of learning and instructional materials and media that can be used effectively in electronic teaching.

Highlight examples of good practice in the use of photographs, and indicate common errors that should be avoided.

Provide ideas and examples, to Cornerstone Training Institute, for the use of photography as a tool for teaching in an e-learning environment to enhance student learning and understanding.

1.6 RESEARCH QUESTIONS

The study was sought to answer the following questions;

What are the strengths and weaknesses associated with using photographs as a tool for teaching?

Where could the researcher usefully incorporate these ideas into his teaching?

How can one provide ideas and examples for the use of photographs as teaching materials in the e-classroom setting to enhance student learning?

To forecast future advances in e-learning if trend exists, within the interests of the organization?

1.7 SCOPE OF THE PROJECT

Basing on the case study, in any organization serious issues should be addressed by the system to be built, but according to online learning of Cornerstone Training Institute, the researcher will confine to analyzing photography as a tool for teaching in an online environment. The project will identify the problems that the learners face, and how to help to improve the understanding of students.

1.8 SIGNIFICANCE OF THE PROJECT

After the proposed system has been implemented the quality online learning system will be able to:

Increase fast knowledge dissemination.

Class work can be scheduled around personal and professional work

Reduce internet costs and time spent online trying to grasp a concept.

To give learners options to select learning materials that meet their level of knowledge and interest

The number of the students using e-learning in cornerstone Training Institution will increase due to the fact that the system will be fully operational and efficient.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter is designed to discuss about literature review concerning e-learning and uses of photography as a tool for teaching. It constitutes the review of related literature, proposed theory and principles of the study.

2.1 THEORETICAL FRAMEWORK

Education is undergoing a theoretical shift from programmed learning and information processing approaches to knowledge building and transfer. Traditional educational paradigms focused on instructional goals, such as recalling facts, generalizations, defining concepts, and performing procedures. Also students often have a difficult time in visualizing concepts and struggle to grasp information that is presented either verbally or in text. This situation certainly exists in traditional classrooms in Cornerstone Training Institute. The methods used in teaching are poor and cost time and misunderstanding to some learners.

For years, traditional classroom training has been the only viable option. But scheduling class meetings and training classes has become more and more difficult as the pace of learning increases. Also, as the 'workforce' has grown and become more geographically dispersed, bringing students to a common location for training has become an issue.

2.2 CONCEPTUAL FRAMEWORK

This project is to provide a practical framework for Cornerstone Training Institute to teaching online using photography as a tool or resource. Several practical steps were undertaken to

ensure that all learners have opportunities for a range of understanding and acquiring knowledge.

The principles of designing teaching materials to support teaching and learning in a variety of contexts including: The use of overhead projectors-which allows one to show photographs to illustrate the characteristics of a given condition. Using PowerPoint, it enables one to create a series of slides on a computer which may then be projected in the lecture theatre using a data projector. Using video in teaching and learning, video images can also be made available via a website for students to view in their private study time.

The following are some suggestions for how one can incorporate photographs into teaching; to illustrate teaching conditions, to show complex sequences of events and to stimulate student discussion, as an aid to consideration of effective skills.

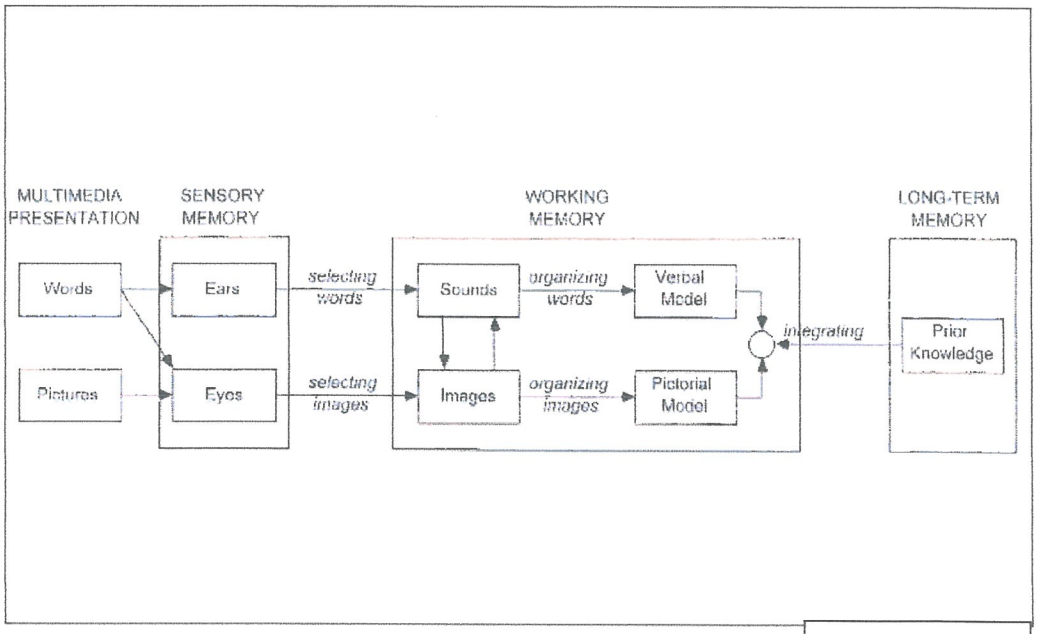

Figure 1. A cognitive theory of multimedia learning.

2.3 PHOTOGRAPHY

Is the process, activity and art of creating still or moving pictures by recording radiation on a sensitive medium, such as a photographic film, or an electronic sensor. *(http://en.wikipedia.org/sfa-trends-chris-reich-122006/).*

The act of taking and printing photographs *(Webster dictionary, 2005)*

The process of producing images of objects on photosensitive surfaces.

2.3.1 TYPES OF PHOTOGRAPHY

Photographic work can be divided into dozens of categories, many with lots of sub-categories. The following list describes some common types of photography.

Aerial - From a plane, helicopter, balloon or other airborne device.

Architecture, Real Estate - The art of making property appears attractive. Often involves panoramic photography.

Medical -Specialized photography for clinical purposes, i.e. to help reveal and diagnose illness

Microscopic - Any technique for photographing objects too small to be visible to humans.

Scientific - Any specialized photography used for scientific endeavor, e.g. electron microscopy photographs, medical photography, astrophotography, etc.

2.3.2 USES OF PHOTOGRAPHS

Photographs have many uses in business, science, art and pleasure. Scientists have used photography to record and study movements, military, police, and security forces use photography for surveillance, recognition and data storage. Photography is used by amateurs

to preserve memories of favorite times, to capture special moments, to tell stories, to send messages, and as a source of entertainment.

Also they are used as teaching aids in education to enhance understanding of complex issues. Digital imaging can be used to educate children about their world, technology, the arts and self-expression.

Digital cameras and computer programs designed to manipulate images expand students' imaginations and engage them in the learning process.

2.4 E-LEARNING

Knowledge that is passed through the internet, network, or standalone computer *(J.Ismael, 2001).*

Any technology mediated learning using computers whether from a distance or in face classroom setting (Computer Assisted Learning). *(Roger Lewis and Quentin whitlock, 2003).*

Learning that is facilitated by the use of digital tools and content. Typically, it involves some form of interactivity, which may include online interaction between the learner and their teacher or peers. *(Glenn Rand and Richard Zakia, 2006).*

2.4.1 ADVANTAGES OF E-LEARNING

Advantages of e-Learning to the Trainer or Organization

Some of the most outstanding advantages to the trainer or organization are:

Reduced overall cost is the single most influential factor in adopting e-learning. The elimination of costs associated with instructor's salaries, meeting room rentals, and student

travel are directly quantifiable. The reduction of time spent away from the job by employees may be the most positive offshoot.

Learning times reduced, an average of 40 to 60 percent, as found by Brandon Hall (*Web-based Training Cookbook*, 2007, p. 108).

Increased retention and application to the job averages an increase of 25 percent over traditional methods, according to an independent study by J.D. Fletcher (*Multimedia Review,* Spring 2001, pp.33-42).

Expert knowledge is communicated, but more importantly captured, with good e-learning and knowledge management systems.

Advantages to the Learner

Along with the increased retention, reduced learning time, and other aforementioned benefits to students, particular advantages of e-learning include:

On-demand availability enables students to complete training conveniently at off-hours or from home.

Self-pacing for slow or quick learners reduces stress and increases satisfaction.

Interactivity engages users, pushing them rather than pulling them through training.

Confidence that refresher or quick reference materials are available reduces burden of responsibility of mastery.

2.4.2 DISADVANTAGES OF E-LEARNING

Disadvantages to the Trainer or Organization

E-learning is not, however, the be all and end all to every training need. It does have limitations, among them:

Technology issues that play a factor include whether the existing technology infrastructure can accomplish the training goals, whether additional tech expenditures can be justified, and whether compatibility of all software and hardware can be achieved.

Inappropriate content for e-learning may exist according to some experts, though are limited in number. Even the acquisition of skills that involve complex physical/motor or emotional components (for example, juggling or mediation) can be augmented with e-learning.

Cultural acceptance is an issue in organizations where student demographics and psychographics may predispose them against using computers at all, let alone for e-learning.

Disadvantages to the Learner

Technology issues of the learners are most commonly technophobia and unavailability of required technologies.

Reduced social and cultural interaction can be a drawback. The impersonality, suppression of communication mechanisms such as body language, and elimination of peer-to-peer learning that are part of this potential disadvantage are lessening with advances in communications technologies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 INTRODUCTION

The chapter explains what the researcher used to achieve his/her objectives. Details of project design, methodology, and data collection instruments, sampling strategies, research procedure and analysis will be discussed. Also methodology was involved in ongoing research to assess and improve methods of data collection and developing in ways of collection of data. All this is done to fulfill the main objective.

3.1 STUDY DESIGN

In order the fulfillment of objective number one, the researcher preferred to use an interview as a primary data or information collection technique, because interviews are very useful for gaining information on perception and beliefs of people, their ideas for change and their opinions and what motivates and de-motivates, frustrates and encourages them. Interviews are one of the most valuable sources of information about an organization; their usefulness far exceeds their cost in most cases. However, the quality of the interview and the data coder is essential to the accuracy of the information.

3.2 SAMPLING TECHNIQUE

In this study both simple random and purposive sampling was applied to select the sample. And since Cornerstone Training Institute has offices which work together to accomplish its goals, it was better for the researcher to make an interview with the Institution's Director, few numbers of students and employees. Having information from these people, the researcher got accurate information about the Institution, hence easy problem identification.

3.3 SAMPLE SIZE

The researcher made an interview with the Director, twenty students and ten staff members. Interview with these categories of people helped the researcher to get useful information. For example the students were able to tell the researcher different problems that they experience during learning process while the Director and employees were able to tell the researcher how they benefit and bear from the current system.

3.4 DATA COLLECTION INSTRUMENTS

General survey research methods were selected because of time frame and nature of the project.

3.4.1 INTERVIEWS

This involved direct collection of information from the concerned individuals both face to face interaction, online chatting and phone calls. The researcher used the interview as the first research instrument because it allowed the exploration of specific topics, while allowing people to tell what they think is important.

3.4.2 OBSERVATION

The researcher also used observation as a research instrument. This involved collecting data about the performance of employees and students by directly observing them at work. This technique was suitable because the researcher got the first hand and accurate information about existing system. Since the current system used by the Institution was text verbal-based system, thus processes that interrupt the flow of information understanding were easily observed.

For the researcher to come up with the useful information about the Institution through this technique, he based on the following steps.

i. Making observation of the current system.
ii. Hypothesizing an explanation for the new system.
iii. Predicting a logical sequence of the hypothesis.
iv. Testing the prediction in an experiment.
v. Creating a conclusion with data gathered in the experiment.

3.4.3 QUESTIONNAIRES

The questionnaires were distributed to all concerned persons. The questionnaires of closed and open-ended questions were used to facilitate data analysis. This method of data collection gave the respondent ample time to fill the questionnaires with the correct information freely.

3.4.4 DOCUMENTATION REVIEW

Data collection and classification of information where collected, copies of blank and completed document. They were however used to find out patterns of data. Document analysis also involved study of journals, magazines and library searches like textbooks.

3.5 RESEARCH PROCEDURES

Before initializing the research, introduction letter from the institution was presented to respective authorities. After receiving the letter data was collected, cross checked and categorized according to the themes ready for analysis.

Prior to starting data collection the researcher reviewed and studied the e-learning environment. The researcher also observed the concerned individuals with the intention of confirming whether the data collected using questionnaires and interviews are reliable.

3.6 DEVELOPMENT METHODOLOGY

The e-learning instructional model is based on the fact that training should enable learners to apply the concepts learned and evaluate the methods to be used, which they can judge both qualitatively and quantitatively. This instructional model followed the System Development Life Cycle (SDLC). This covered many activities, starting from studying why the system is built, analyzing problems, choosing the system design and architecture, implementing and testing it up to delivering the system as the product to the user.

It was done through several development phases and each phase continues and refine what is done in the previous phase.

Planning.

This helped the researcher to study why the system should be built and defining its requirements, it also helped the researcher to carry out an investigation to establish what the current system does, what are the problems and chose the requirements for the system user.

In carrying out an investigation, information about the current system was collected by recording the problems and requirements described by the users of the current system, hence built a picture of the system. The researcher will identify the scope of the problem, plan the development strategy and goals and the systems benefit to the e-learning environment.

Analysis.

In this phase, the researcher performed activities such as problems identification, analysis and even predicting potential problems that can arise in the future regarding the system.

The deliverables of this phase gave the researcher a picture on how the system should be built and guide the developer's works. Analysis was carried out to establish the current system in

detail in order to find out, the difficulties and problems of the system, the user requirements, the inputs to the system and outputs to be generated. The researcher studied and analyzed the educational contents to be taught.

Design.

System analysis leads to design decision, which exactly determines how the system is to operate in terms of process, data, hardware and user interface. The researcher defines how to teach. Good problems are designed for each learning objective as a condition for attaining the target knowledge states. Evaluation exercises were also be set to assess what knowledge has been acquired.

Implementation.

It was the most resource, cost, and time consuming phase of all. Here is when the physical system is validated and finally put in action it includes activities such as user training. And then the researcher came up with the concept of implementing the new system which is to improve the quality of service, utilization of resources, faster access to knowledge and information and reduction of expenditure.

Execution which involved the learner executing the learning process, providing information on the problems encountered and the knowledge acquired. Finally, for monitoring purposes or to determine successes and ascertain the learning product quality, information output during execution was gathered and the results were analyzed in the evaluation. This information permitted to find out whether an educational content learning object should be revised or to ascertain whether any learning objective has been poorly designed.

3.7 DEVELOPMENT TOOLS FOR THE SYSTEM

In order to test and validate Cornerstone Training Institute of using photography as a tool for teaching in an e-learning environment (online system) the following should be present:-

3.7.1 OPERATING SYSTEM

According to Jeremy Kirk (2006), XP is known for its improved stability and efficiency over different versions of Microsoft windows. It presents a significantly redesigned graphical user interface, hence adding the ability for windows to use visual styles to change the user interface. Also it has the ability to handle large numbers of users simultaneously. On using this type of operating system, windows XP Service Park 2 is considered because its compatible to many software's.

3.7.2 PROGRAMMING TOOLS

Use of application software's such as publishing packages like Adobe Photoshop and Microsoft Power point to teach online.

3.8 LIMITATIONS OF THE STUDY

The area of study was wide since the organizations and concerned individuals were scattered and had to be interviewed. The interviewee(s) also were busy during the interview hours and thus the interview interfered with their regular programs. Another problem is limited funds: this affected the sample size since the researcher was not able to reach interviewees who stay far away. Thus careful purposeful selection was made for the qualitative data to ensure that the findings are a representative body of knowledge. However, after analyzing, designing and implementing a tool for teaching online students, they are required to adopt and be able to use

the resource effectively.

3.10 CONCLUSION

This chapter gives the research a taste of the various methods of data collection and is used to undertake research. The data collected was crucial for the improvement on the current e-learning system in that, it is to be used as in-depth procedure for the development of the better environment for e-learning. Therefore, System Development Life Cycle is used in developing the management information system because it gives the project duration and the costs.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.0 INTRODUCTION

Date analysis, here the researcher interprets and analyzes findings obtained from the Institution on the basses of research objectives. Data collected were through questionnaires distributed to both students and teachers. Also findings were obtained from interview conducted by researcher and management officers. In addition more data was obtained also from secondary data by viewing the book of organization ad the general profile of the institution policy.

4.1 DEDUCTIONS FROM THE PREVIOUS CHAPTER (METHODOLOGY)

Various methods are used to try bringing out a comprehensive depiction of the current e-learning system in Cornerstone Training Institute.

4.2 GENERAL OBSERVATION

Comparing responses of the text/verbal system on different "peoples" with the recommended (new) system.

GROUP	RESPONSE	CURRENT SYSTEM		NEW SYSTEM	
STUDENTS		Observer 1	Observer2	Observer 1	Obsever2
	Speed of Understanding	30%	20%	65%	50%
	Productivity	35%	30%	70%	70%
	Consistency	20%	30%	80%	65%
	Performance	23%	28%	75%	60%
STAFF	Efficiency	15%	10%	80%	75%

Table 4.1: Table showing general observation of members supporting the previous system compared to the new system.

The researcher took the initiative to compare both the current system and the new system in terms of its efficiency, reliability and productivity and it was evident that the new system is indeed ideal for the effectiveness of learning.

4.3 QUESTIONNAIRES

The following are some of the responses the researcher got from the questionnaires he distributed to the users of e-learning in Cornerstone Training Institution.

The response of this questionnaire had based on interpreting the study and also making conclusion and recommendations.

First of the entire researcher seeks to know:

1. The strengths and weaknesses associated with using photographs as a tool for teaching?

2. Where could it be useful to incorporate these ideas into his teaching?
3. How can one provide ideas and examples for the use of photographs as teaching materials in the e-classroom setting to enhance student learning?

These are some of the results found as to the questions given.

1. Please indicate which of the following places you are studying (tick all the boxes that apply):

Respondent	5	2	23
Inquest	At my place of work	At home	On campus
Percentage (%)	16	7	77
Conclusion	It was very clear that the users do attend classes from the institute.		

Table 4.2: The table above displays the results showing the most used study places

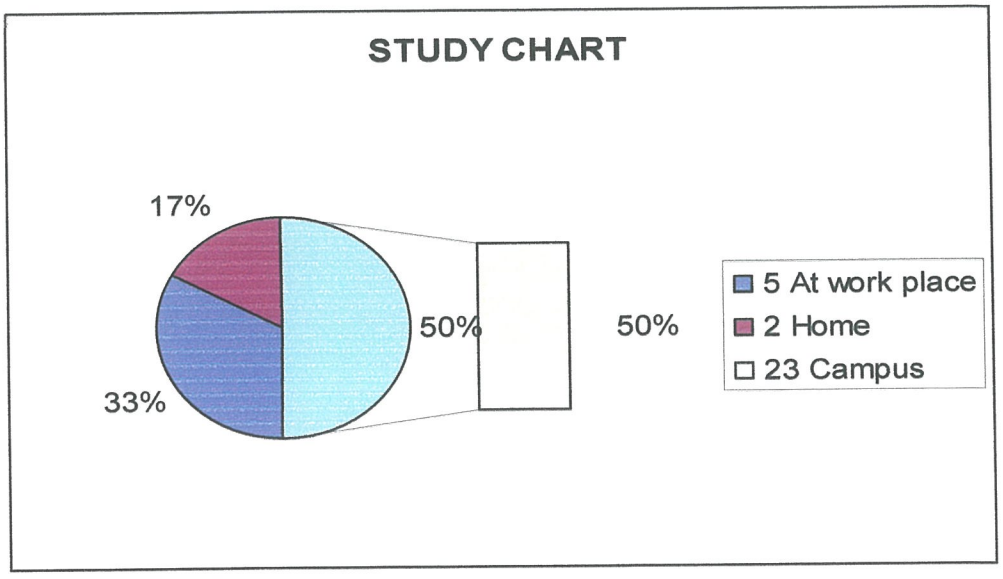

Figure 2: illustrates most used study place

2. Does photography in explaining concepts enhance your understanding?

Respondent	20	5	5
Inquest	Yes	No	Nil
Percentage (%)	66	17	17
Conclusion	From the above, it was evident that images enhance understanding as compared to the previous system.		

Table 4.3: This table shows the response from e-learning students and Institution staff about use of photography to enhance understanding.

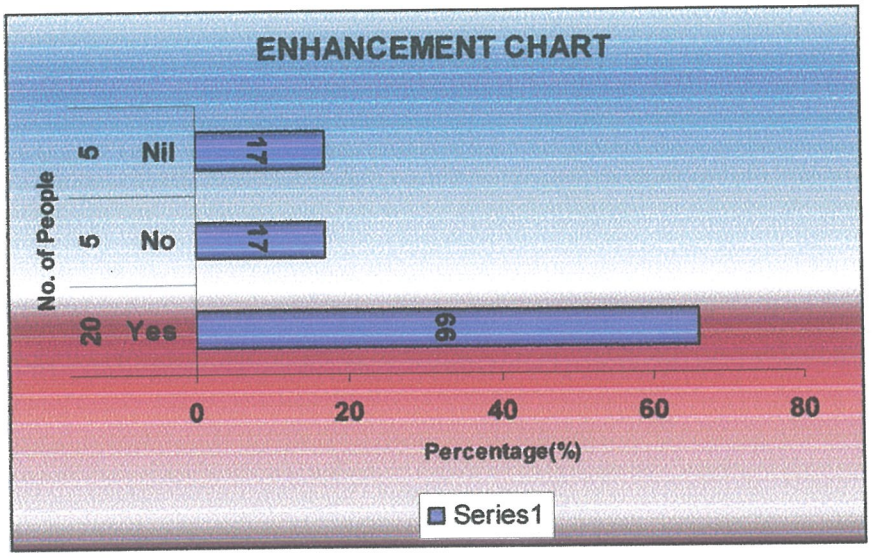

Figure 3: displaying how photography enhances understanding to learners

3. Do you think the system should be improved?

Response	Yes	No	Total
No of answer obtained	30	-	30
Percentage (%)	100	-	100%

Table 4.4: Table illustrating actual response of the question about improving of the current system.

From the above table has been shown that all respondent that is 100 percent agree that use of photos or images in an e-learning environment will enhance understanding of concepts.

4. By using photography as a tool for teaching in an e-learning environment, we mean the use of any kind of images on Internet or communication service that supports you in a learning activity.

Question number	Disagree strongly	Neither agree nor disagree	Disagree	Agree strongly
A	2	5	1	22
B	1	2	0	27
C	0	1	10	19
D	0	0	5	25
E	1	8	0	21
F	0	2	2	26
G	1	10	1	18
H	0	7	7	14

Table 4.5: This table displays distinctively how many supports the new system - use of photography as a tool for teaching in an e-learning environment and its importance.

4.4.1 INTERVIEWS

This involved direct collection of information from the concerned individuals both face to face interaction. this took place with the management of Cornerstone Training Institute and the students. Some of the responses were found through online chatting with the students and management who were supporting the idea of using photography as a tool in teaching in an e-learning environment. The researcher used the interview as the most reliable research instrument to support his recommendations and conclusions.

Response	Yes	No	Total
No of answer obtained	30	-	30
Percentage (%)	100	-	100%

Table 4.6: This table displays results on the interview carried out between the researcher and students supporting the new system.

4.5 APPLIED TECHNOLOGY

In this research, the researcher created a dynamic PowerPoint slideshow using screenshots, images, and hyperlinks to enhance the content. This slideshow was enhanced using video technology integrated with Microsoft Producer and uploaded to the website.

Technology Used: PowerPoint, Microsoft Producer, webcam, microphone

Also in this research, the researcher took pictures using a digital camera in addition to scanning images using a digital scanner, which he uploaded to a computer's hard drive and Institution's website, with an aim that learners will gain a better understanding of picture properties and discover a variety of ways to format images including alternative methods of

saving and capturing images from a website to use them in explaining concepts. In addition, other activities included how to use images in assessments and discussion board forums.

Technology Used: digital camera, software to transfer and scan images, Blackboard

Student Feedback and Success

The results of this project showed that the researcher's efforts have been successful. As the first images appeared and video clips, online students called to inform the researcher how much the images and audio helped them understand the processes that were studying in the course. "Oh, to see the images, I understand now," was a phrase which was used more than once. The first students to notice the images were quick to post a bulletin to other students to alert them. Online students remarked that the streaming media files captured from the classroom helped them to understand more difficult concepts that they encounter in there course.

The researcher also noted that since students sometimes cannot meet with faculty during set office hours to discuss assignments or class content. To accommodate scheduling conflicts, instructors can meet with students in real-time and see and hear each other using webcam technology. In addition, visuals (images) of sample documents is necessary to reinforce difficult concepts. Using the Blackboard virtual classroom, instructors can display material and access URL's to enhance the session.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 INTRODUCTION

This chapter presents the discussions, conclusions and recommendations of the study. The first section covers the discussions then conclusions of the research findings, finally section two presents the recommendations of the study. The researcher concludes that use of photography as a tool for teaching in e-learning environment will be the efficient way of delivering concepts and quick grasping of information.

5.1 DISCUSSION

In this section the researcher tries to interpret the finding obtained in relations to objectives and purpose of the study. Finding obtained were from organization document, Interviews, Observation and questionnaires distributed by the researcher to students and employees of the institute. From the response of the above methods used by the researcher's recommendations and conclusions of the study were derived.

Since the students often have a difficult time in visualizing concepts and struggle to grasp information that is presented either verbally or in text. This situation certainly exists in traditional classrooms but can become particularly acute in an online environment. In the study of biology, we discuss cells, living organisms, and processes of life that are often difficult to visualize from only a verbal or text-based explanation. For biology, in other words, a picture certainly is worth a thousand words.

My desire is to create opportunities for students to have meaningful professional experiences with real school context after they had learned too much theory from schools. The classroom culture with all its limitations remains a location of possibility for students as well as for research and teaching of pre-service teachers.

Table 4.1 shows general observation of members supporting the previous system compared to the new system, this shows that there is a problem in the current system the institution is using to teach online. Hence need for improvement of the system.

Also from the rest of the tables they clearly depict how e-learning students, really need the rest of the system to be improved in order for them to understand and enjoy the services of e-learning.

Teachers acquire their proficiency and competence in teaching when there concepts are understood and followed by students. Images are inherently generic structures and the expectations of teacher performance can be established in all classrooms in all educational contexts. But the reality of teaching can be very different if one only uses the 'old' style of teaching.

5.2 MERIT OF THE SYSTEM

The system is designed in such a way users/students can access information and understand more quickly. The following are the benefits compared to conventional training approaches:

Lifelong learning for all learning styles. e-learning is a key means of delivering lifelong learning, cultivating a culture of innovation and expanding productivity. e-learning

environments if modified that is by use of images in teaching will be effective for learners who require more time to absorb information.

Quality control and consistency. e-learning provides a consistent delivery of material and builds a shared language and understanding in the workplace; it also allows staff to customize content and monitor student's progress.

To track training effectiveness (or absorption)

5.3 LIMITATIONS OF THE SYSTEM

Just like any other system, this system may not fully meet the demands of each and every user. As a result, the user should be aware of the following limitations;

It was very difficult to attach statistical table to the system. The user will have to refer to the online system before drawing any conclusions about the relevance of results.

Slide shows are a great tool to help explain difficult topics but can sometimes be monotonous. Adding screen shots, images, and hyperlinks to web sites can add some pizzazz, but these tools may not make the topic clear to the viewer.

E-learning is not necessarily the best medium for all learning and should not be seen as replacing or diminishing current tried methods. For example: A lecture is true multi-modal delivery as it involves words, pictures, animations, body language and personal opinions.

5.4 PROBLEMS ENCOUNTERED

The project faced the following problems while developing the system;

- Limited technological knowledge slowed down the project especially during the connection process.
- The period for developing the system was not enough to favor development of a better system as actually proposed by the project.

5.5 CONCLUSION

E-Learning represents an innovative shift in the field of learning, providing rapid access to specific knowledge and information. It offers online instruction that can be delivered anytime and anywhere through a wide range of electronic learning solutions such as Web-based courseware, online discussion groups, live virtual classes, video and audio streaming, Web chat, online simulations, and virtual mentoring.

The researcher's goal is to increase student learning and performance by infusing streaming media content into both our online and traditional courses. The researcher hopes that such technology would help to overcome the problems of online and traditional classrooms. By using streaming media technology, which allows files to play as they download, information will be delivered were content that would be difficult to convey in other ways. Additionally, the researcher sought to enhance the learning process for students in Cornerstone Training Institute by providing course materials that would allow for reflection and review after they encountered them in the classroom. Therefore there is need for enhancing the e-learning system so that students can get ease in accessing and grasping concepts.

5.6 RECOMMENDATIONS

After collecting and analyzing the results of the research, the researcher came up with the following recommendations:

One way to start is to define the goals of the desired learning solution which should be driven by the following factors:

Perform task analysis

The online tutors of Corner Training Institute should determine the tasks to be taught, identify subtasks and other elements involved, and identify the knowledge, skills, and attitudes required to complete the tasks efficiently and effectively.

Perform training needs analysis

Cornerstone Institute staff should identify the target audience for the training. Identify the shortfall in knowledge, skills, and attitudes of this audience and determine what the target learners need to know.

Review existing capabilities

The e-learning teachers should review existing methods which worked and infrastructure for providing training or meeting learning needs.

Determine Expectations

Identify concrete expectations requirements from the desired e-learning solution.

The development of photography as a tool for teaching in an e-learning environment strategy begins by setting goals. What should the image in an e-learning environment strategy

accomplish? Without a true understanding of the goals, it will be difficult, if not impossible, to be successful.

Before implementing the new system of e-learning, the Institution needs to set common goals or objectives which include the following:

To motivate students and staff

E-learning using photography is considered an effective way to keep up with new technology, to generate new ideas, and to keep your workforce fresh and inspired.

To improve flexibility of course delivery

Most smaller organizations don't have the staff to manage their training and development initiatives that includes Cornerstone Training Institute. Using images in e-learning technologies can overcome these administrative restrictions.

To expand the capabilities of students in using of streaming media to enhance teaching and improve learning

Also the Institution is supposed take advantage of a **SMART** board in conjunction with streaming media technology to provide multimedia content to students. A **SMART** board is an electronic version of a whiteboard that is compatible with programs such as Microsoft PowerPoint. Any PowerPoint slides, including images, and any notes written on the SMART board can be captured and saved as HTML files. The classroom is equipped with a camera, a microphone, and a computer with the software I need.

The SMART board can also be used to create streaming media content modules for the online classes. Each stage of the process can be represented on a separate SMART board slide with

a link to an audio explanation. This technique can prove extremely valuable for demonstrating how to approach problem solving, including population genetics problems, and for explaining difficult processes like nerve impulse transmission.

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APPENDICES

Appendix A: WORK PLAN

This indicates the lapses of the several tasks for the project from the beginning to the finish time.

GANTT CHART

ID	Task name	March April May June August October
1	Project plan	
2	Analysis	
3	Design	
4	Implementation	

Legend: Uncompleted task Completed task

Figure 4: Illustrates the System Development Lifecycle phases and time taken to solve each

TIME TABLE

TIME FRAME FOR RESEARCH REPORT	
ACTIVITY	**DURATION IN DAYS**
Proposal writing	20
Data collection	14
Data editing	7
Data analysis and presentation	10
Report writing and Compiling	14
TOTAL TIME PERIOD	**65**

Time table showing the length of time taken to complete the project

Appendix B: RESEARCHER'S BUDGET

THE RESEARCHER'S BUDGET IN UGANDA SHILLINGS.

ITEM	AMOUNT @	AMOUNT IN TOTAL
Internet usage	3000@session for 40 days	120,000
Transport	1500@For 60 days	90,000/=
Flash disk	2GB @30000	30,000/=
Library fee		50,000/=
Stationary		50,000/=
Typing and printing		50,000/=
Book binding		50,000/=
TOTAL		**440,000/=**

Appendix C: QUESTIONNAIRE

QUESTIONNAIRE

TITLE: PHOTOGRAPHY AS A TOOL FOR TEACHING IN AN E-LEARNING ENVIRONMENT

Dear respondent(s), I am a student at Kampala International University carrying out a project as a partial fulfillment of the requirement for the award of the Bachelor Degree of Computer Science with Education.

I kindly request you to answer this questionnaire with maximum honesty. It is meant for academic purpose and all the information will be held confidential by the researcher also it will aid in the designing and implementation of a new system.

Please respond to the questionnaire appropriately and give more clarification where necessary. Your response is necessary for the success of this project and it will therefore be highly valued.

INSTRUCTIONS

a) Read the Questions Carefully
b) Answer all Questions
c) Tick the appropriate answer in the box
d) Each Question should have at least one answer

Full Names: .....

E-mail address: .....

Phone number: .....
(Optional)

Title: .....

Questions

University or college you are attending:

……

……

What subjects are you studying?

……

……

Please indicate which of the following places you are studying (tick all the boxes that apply):

At home ☐
At home and using a computer connected to the internet ☐
At my place of work ☐
On campus ☐
Elsewhere – please specify: ☐

4. Choose 4 technologies from the given options below you like to use most:
   - Communicating with students ☐
   - Communicating with tutors/teachers ☐
   - Planning a individual learning task ☐
   - Revising for an exam ☐
   - Reading course material ☐
   - Viewing course material ☐
   - Self assessment exercises ☐

5. Please explain how you use the technologies you have listed during your learning activities:

   ……

   ……

.....

.....

.....

6. Does photography in explaining concepts enhance your understanding?

YES ☐ NO ☐

If yes briefly explain how and if no give reason(s) why

.....

.....

.....

.....

7. Please indicate whether you disagree strongly, disagree, neither agree nor disagree, agree strongly with each of the following statements

Using photography as a tool for teaching in an e-learning environment, we mean the use of any kind of images on Internet or communication service that supports you in a learning activity.

	disagree strongly	Neither agree nor disagree	disagree	agree strongly
a) Photography in e-learning is an Important element of my course	☐	☐	☐	☐
b) Without use of images in e-learning I would be unable to Study	☐	☐	☐	☐

c) Photos in e-Learning is one of a number of important components of my course	☐	☐	☐	☐
d) Images in e-Learning makes my course more enjoyable	☐	☐	☐	☐
e) My college/university is not very smart in the way it uses e-learning	☐	☐	☐	☐
f) With e-learning I interact more with other students	☐	☐	☐	☐
g) I find using e-learning difficult without images	☐	☐	☐	☐
i) Getting access to an Internet-connected computer having the enhancement capabilities is a problem for me.	☐	☐	☐	☐

Thank You for Your Time