

IMPROVING THE CAPACITY OF LAY LEADERS IN THE USE OF ICT AS A
TEACHING/LEARNING TOOLS IN THE CHURCH OF PENTECOST IN TAMALE
METROPOLITAN

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[UDS/MTD/0093/16]

THESIS SUBMITTED TO THE DEPARTMENT OF EDUCATIONAL
FOUNDATIONS STUDIES, FACULTY OF EDUCATION, UNIVERSITY FOR
DEVELOPMENT STUDIES IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF MASTER OF EDUCATION DEGREE IN
TRAINING AND DEVELOPMENT



DECLARATION

Student's Declaration

I hereby declare that this thesis is my own original work and to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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Date:.....

Supervisor's Declaration

I hereby declare that the preparation and presentation of this thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University for Development Studies.

Supervisor's Name: DR. HAJIA ALIMATU CECILIA ISSAKA

Signature:.....

Date:.....



ABSTRACT

This study seeks to improve the skills of facilitators of the Church of Pentecost in Tamale Metro in the use of ICT as a relevant tool to support teaching and learning which will intern increase facilitator's professional growth and development. A purposive sampling method was used to draw a sample of 90 respondents (65 trainees and 25 trainers). Questionnaires were issued to respondents and SPSS Version 17.0 was used to analyze the data collected.

The study revealed that, though the Church has not integrated modern ICT tools in the lay leadership training, lay leaders have an experience in the use of ICT as a teaching and learning tool. Also, the facilitators (trainers) have not been trained by The Church of Pentecost in the use of ICT and previous years lay leadership training programme has not been collaborative among trainees since lessons were not presented in a more dynamic way than simply lecturing and writing on the blackboard. It was recommended that, the Leadership of the church of Pentecost should take steps to implement and integrate ICT methods of Teaching and learning into the lay leadership training programme, thus Power-point/ Projector method should be employed as a principal tool. Also, steps must be taken to acquire Projectors and computers for the facilitation of the lay leadership training programme. ICT workshops for Lay leadership training facilitators in the use of ICT as a teaching tool.



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DEDICATION

This thesis is dedicated to my dear wife, Mrs. Vida Abogorago and my three children;

Yasmin, Caleb and Grace

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I give thanks to God for His grace that is abundant in my life, Ministry and Education. I wish to express my sincere gratitude and appreciation to the Executive council of The Church of Pentecost for granting me the permission to pursue this course. I also wish to express my gratitude to Apostle Isaac Nii Kotei Djani for encouraging me to pursue this course. My appreciation goes to my Supervisor Dr. Hajia Alimatu C. Issaka for her significant help. My appreciation also goes to Horlornyeku Mary Adzoa, Elder Emmanuel Donkor and Elder Matthew Bidinlib for their technical support. I also wish to thank all the respondents of the study for their time and patience in completing the questionnaires.



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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Information and Communication Technology (ICT) is a force that has changed many aspects of human endeavours. The impact of ICT on various fields of human endeavour such as medicine, tourism, business, law, banking, engineering and architecture over two or three decades has been enormous. But when one looks at the field of education, there seems to have been an uncanny lack of influence of ICT and far less change than other fields have experienced. A number of scholars such as Soloway and prior, 1996 have attempted to explore this lack of activity and influence of ICT on education and many others. In other words, though ICT has begun to have presence in education, its impact has not been as extensive as in other fields (Collins, 2002).

Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contacts with learners. With the world moving rapidly into digital media and information the role of ICT in education is becoming more and more important.

The 1990s was the decade of computer communications and information access, particularly with the popularity and accessibility of internet-based services such as electronic mail and the World Wide Web (WWW). At the same time the CD-ROM became the standard for distributing packaged software (replacing the floppy disk). As a result educators became more focused on the use of the technology to improve student learning as a rationale for investment. Any discussion about the use of computer systems in schools is built upon an understanding of the link between schools, learning and computer technology. When the potential use of computers in schools was first mooted,



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the predominant conception was that students would be 'taught' by computers (Mevarech & Light, 1992). In a sense it was considered that the computer would 'take over' the teacher's job in much the same way as a robot computer may take over a welder's job. Collins (2002) refers to this as "a rather grim image" where "a small child sits alone with a computer". However, the use of information and communication technologies in the educative process has been divided into two broad categories: ICTs for Education and ICTs in Education. ICTs for education refers to the development of information and communications technology specifically for teaching/learning purposes, while the ICTs in education involves the adoption of general components of information and communication technologies in the teaching learning process.

It has been suggested that information and communication technologies (ICTs) can and play a number of roles in education such as developing the kind of graduates and citizens required in an information society; improving educational outcomes and enhancing and improving the quality of teaching and learning (Wagner, 2001).

Garrison and Anderson (2003) argue that the application of ICTs in the teaching-learning process can enhance the quality of education in several ways such as increasing learner motivation and engagement, facilitating the acquisition of basic skills and enhancing teacher training. It is very important in the 21st century to use the application of ICTs like Video tapes, Televisions, Projector/Power point presentations, Public address system and Multimedia computer software that combine text, sound and colourful moving images which can be used to provide challenging and authentic content that will not only engage the students in the learning process but as well as make learning concrete.



1.2 Problem Statement

It has been observed that, the methods used by facilitators to facilitate the Church of Pentecost lay leaders training programmes in Tamale Metro is mainly lecture methods and most at times the adults feel tired and lose concentration. They become passive and not active in class. Usually the adults hardly ask questions in class and looked bored.

I also observed that most of the adults absent themselves from the training programs and when questioned, they do not have any tangible reason to give. It has been observed also that, the adults easily forget what they have been taught in class after few days or weeks. This could be as a result of the teaching technique employed in the teaching and learning process.

In the course of my stay in the District, I have noticed that facilitators do not teach using ICT tools such as power point presentation, public addressed system, video tapes, Radio, Internet or televisions. This does not auger well for effective teaching, since this tools has the tendency of improving the concentration and participation of adult learners in class.

It is as a result of the above mentioned incidence that has necessitated embarking on this research to contribute my quota to help facilitators of the Church of Pentecost in Tamale Metro to be aware of the need to add the use of ICT relevant tools to support teaching and learning. This will help to increase facilitator's professional growth and development.

1.3 Objectives of the Study

1.3.1 General Objectives

To determine the effect of ICT as a teaching tool to improve the capacity of lay leaders



1.3.2 Specific Objectives

1. To determine the effect of Projector/power point presentation as a teaching tool to improve adult learning.
2. To explore the use of video as a teaching tool to improve adult learning.
3. To determine the effect of television as a teaching tool to improve adult learning.

1.4 Research Questions

1. How can projector/power point presentation be used to improve adult learning?
2. How effective is the use of video for adult learning?
3. How effective can television be used to improve adult learning?

1.5 Purpose of the Study

The purpose of the study is to improve the capacity of lay leaders in the use of ICT as a teaching/learning tool in the church of Pentecost, in Tamale metro. Most teachers or facilitators prefer the lecture method to the use of ICT in teaching and learning. Efforts have been made by most countries including Ghana to make teaching and learning easy for economic importance and national development. As a result of that, teachers or facilitators need to teach adults by using the relevant ICT tools to attract adult learners towards lessons.



The purpose of this study is to investigate how the use of ICT can improve adult learning in the Church of Pentecost in Tamale Area. It also aims at finding out how specific ICT tools such as the use of power point presentation, public address system and video show can be used to improve adult learning.

1.6 Significance of the Study

The study will give an insight into how to use ICT to facilitate teaching and learning in the District and sister Districts in Ghana to improve on their teaching and learning methods. Stake holders in education will also benefit from this study;

- a) **Adults:** the use of ICT it will enhance adults understanding of concepts and ideas.
- b) **Facilitators:** This study will provide them with effective skills of using ICT in lesson delivery so that adults will be able to follow instructions better.
- c) **Area School Coordinators:** The results of this study will encourage school coordinators to use ICT in lesson delivery for adult learners.
- d) **National Lay Leadership Committee:** The findings of this study may assist the planners to introduce the use of ICT in adult learning.
- e) **Further Research:** The information gained from this study may serve as a guide for other researchers in framing their conceptual framework and design and they can modify it to bring improvement in adult learning.

1.7 Scope of the Study

This study could be applied to all churches in Ghana, the use of ICT to improve adults learning but it falls within the Church of Pentecost in Tamale Metropolis. The study is centred on 90 selected adults from Districts in Tamale Metropolis.

1.8 Delimitation

The study will concentrate on 90 selected adults in Tamale Metropolis and the content will be on assessment.



1.9 Limitations

A study like this nature exploring more into the ways and manners by which people discharge their work duties always has the challenge of respondents' apathy. The researcher had to employ more data collection skills by probing respondents further to illicit the needed information. Getting some facilitators to talk about their ignorance was also a challenge to the researcher. Travelling from researcher's place of residency to the regional capital to meet the supervisor for guidance was also a challenge. Frequent printing and photocopying of research materials also became a serious challenge to the researcher and tired the hands of the researcher in his work.



LITERATURE REVIEW

2.1 Introduction

One of the frequent issues raised in adult education is the method of teaching adults in literacy classes. Two schools of thought are evident in this matter. These are the school of thought that believe methods used for teaching children (pedagogy) could be used and those that oppose the use of pedagogy to teach adults. Hence, they propose the use of andragogy to teach adults. Their position is based on the belief that, in adult literacy classes, adult learners are characterized by a fully developed self-concept as a result of successful performance of social task and perform quite well in recalling materials from long-term memory (Enesco, 1967). Moreover, adults are highly independent. They tend to perceive social events in the light of their effects. They also go through mental and psychological trauma that sometimes adversely affects their ego. In addition, they require external motivation to buy and remain in educational programmes. And they meaningfully apply what is learnt in the classroom, outside the classroom as well as adult learners have attained a reasonable age to be regarded as adults by the society or community they live in (Biao, 1997).

Recalling therefore, that adult education stands to cater for all the socially disadvantaged population in the society, there is the need for teaching methods to involve respect for the instructor's person as well as the adult learners experience and views in all forms of education. This will in no small measure help to promote retention of the learners, promote friendly teaching and learning atmosphere and attract more adults intending to participate in adult learning.



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This study will review literature on adult learners, analysis of the various training techniques more especially on ICT teaching tools, assumptions and principles of adult learning.

2.2 Definition of Concept

- a) Adult: An adult is a person who can exercise his or her civic and political duties. For example, he or she must pay his or her taxes, and be able to vote and be voted for (Asonaba, and Mensah, 2010).
- b) Lay Leaders: Lay Leaders refer to Non-paid officers who perform some aspect of a Pastor's work but did not go through Formal Pastoral Training. Such persons are normally given some form of training to enable them perform creditably or efficiently.
- c) Andragogy: (adult learning) is a theory that holds a set of assumptions about how adults learn. It uses approaches to learning that are problem-based and collaborative rather than didactic (traditional lecturing or teacher knows all model) and recognises more equality between the teacher and learner.

2.3 History of Information and Communication technology

IT defines as Information Technology, consists of study, design, advance development, accomplishment, support or administration of computer foundation information system, mostly software application and computer hardware.

Information technology works with the use of electronic computers and computer software to renovate, defend, development, and broadcast and other information.

Information technology has overstuffed to cover many features of computing and technology, and this word is more familiar than ever before. Information technology subject can be quite large, encompassing many fields. IT professionals perform different



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types of responsibilities that range from installing applications to designing complex computer networks.

IT professional's responsibilities are data management, networking, database, software design, computer hardware, management and administration of whole system. IT (Information Technology) is combined word of computer and communications or "InfoTech". Information Technology illustrates any technology which helps to manufacture, manipulate, accumulate, communicate or broadcast information.

Recently it has become popular to broaden the term to explicitly include the field of electronic communication so that people tend to use the abbreviation ICT (Information and Communications Technology).

The term "information technology" evolved in the 1970s. Its basic concept, however, can be traced to the World War II alliance of the military and industry in the development of electronics, computers, and information theory.

After the 1940s, the military remained the major source of research and development funding for the expansion of automation to replace manpower with machine power.

Since the 1950s, four generations of computers have evolved. Each generation reflected a change to hardware of decreased size but increased capabilities to control computer operations. The first generation used vacuum tubes, the second used transistors, the third used integrated circuits, and the fourth used integrated circuits on a single computer chip.

Advances in artificial intelligence that will minimize the need for complex programming characterize the fifth generation of computers, still in the experimental stage.

The first commercial computer was the UNIVAC I, developed by John Eckert and John W. Mauchly in 1951. It was used by the Census Bureau to predict the outcome of the 1952 presidential election. For the next twenty-five years, mainframe computers were



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used in large corporations to do calculations and manipulate large amounts of information stored in databases. Supercomputers were used in science and engineering, for designing aircraft and nuclear reactors, and for predicting worldwide weather patterns. Minicomputers came on to the scene in the early 1980s in small businesses, manufacturing plants, and factories.

In 1975, the Massachusetts Institute of Technology developed microcomputers. In 1976, Tandy Corporation's first Radio Shack microcomputer followed; the Apple microcomputer was introduced in 1977. The market for microcomputers increased dramatically when IBM introduced the first personal computer in the fall of 1981.

Because of dramatic improvements in computer components and manufacturing, personal computers today do more than the largest computers of the mid-1960s at about a thousandth of the cost.

Computers today are divided into four categories by size, cost, and processing ability. They are supercomputer, mainframe, minicomputer, and microcomputer, more commonly known as a personal computer. Personal computer categories include desktop, network, laptop, and handheld.

2.4 The Concept of Adult Education

Brookfield (1991) posits that Adult education also known as Continuing Education is a broad term for the practice of teaching and educating adults. It plays a significant part in the Lifelong Learning. Unlike education for children and young adults, which is often mandated through legislation and strictly structured into steadily advancing levels of achievement, adult education can be broken into several different fields of specialization: Vocational education, personal enrichment, and, for some adults, remedial training in literacy and other skills. The techniques and tools for adult education are also



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very different from education for children, reflecting the different abilities, motivations, and needs of these students (Castro, 2002). Adult education has grown in importance in modern times, partly as industrialization required more skilled workers, as technology has advanced leading workers to continue to update their skills and knowledge, and also due to the increasing consciousness of the rights of all people to have a chance to fulfill their potential. This brings greater happiness and satisfaction to individuals. At the same time, this benefits society as a whole by supporting the development of each member of society in ways that allow them to contribute more fully and effectively to their community. Adult education, therefore, like that of the youth, is vitally important to the success of a society.

2.5 The Church of Pentecost Lay-Leadership Training

The training is designed to give academic stimulation and also equip church leaders acquire practical insights, develop the opportunity for deeper reflection and action in the light of the challenges of the contemporary society.

Topics treated include, “Aspects of the 2017 Theme of the Church,” “Discipleship in The Church of Pentecost,” “Building a Healthy and Vibrant Local Church,” “The Doctrine of God and Christian Attitudes Towards Politics.”

The course module is structured to comprise foundation level, also known as pre-ordination course and the advanced level, which is designed for ordained officers. Participants are often issued with certificates after the end of the training programme.

2.6 ICT Enhancing Teaching and Learning Process

The field of education has been affected by ICTs, which have undoubtedly affected teaching, learning and research (Yusuf, 2005). ICTs have the potential to accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as



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strengthening teaching and helping schools change (Davis and Tearle, 1999; Lemke and Coughlin, 1998; cited by Yusuf, 2005).

In a rapidly changing world, basic education is essential for an individual be able to access and apply information. Such ability must find include ICTs in the global village. Conventional teaching has emphasized content. For many years course have been written around textbooks. Teachers have taught through lectures and presentations interspersed with tutorials and learning activities designed to consolidate and rehearse the content. Contemporary settings are now favouring curricula that promote competency and performance. Curricula are starting to emphasize capabilities and to be concerned more with how the information will be used than with what the information is. Contemporary ICTs are able to provide strong support for all these requirements and there are now many outstanding examples of world class settings for competency and performance-based curricula that make sound use of the affordances of these technologies (Oliver, 2000). The integration of information and communication technologies can help revitalize teachers and students. This can help to improve and develop the quality of education by providing curricular support in difficult subject areas. To achieve these objectives, teachers need to be involved in collaborative projects and development of intervention change strategies, which would include teaching partnerships with ICT as a tool.



According to Zhao and Cziko (2001) three conditions are necessary for teachers to introduce ICT into their classrooms: teachers should believe in the effectiveness of technology, teachers should believe that the use of technology will not cause any disturbances, and finally teachers should believe that they have control over technology. However, research studies show that most teachers do not make use of the potential of ICT to contribute to the quality of learning environments, although they value this potential quite significantly (Smeets, 2005). Harris (2002) conducted case studies in three

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primary and three secondary schools, which focused on innovative pedagogical practices involving ICT. Harris (2002) concludes that the benefits of ICT will be gained when confident teachers are willing to explore new opportunities for changing their classroom practices by using ICT.

As a consequence, the use of ICT will not only enhance learning environments but also prepare next generation for future lives and careers (Wheeler, 2001). Changed pool of teachers will come changed responsibilities and skill sets for future teaching involving high levels of ICT and the need for more facilitative than didactic teaching roles (Littlejohn et al., 2002).

According to Cabero (2001 [not in reference list]), "the flexibilization time-space accounted for by the integration of ICT into teaching and learning processes contributes to increase the interaction and reception of information. Such possibilities suggest changes in the communication models and the teaching and learning methods used by teachers, giving way to new scenarios which favour both individual and collaborative learning". The use of ICT in educational settings, by itself acts as a catalyst for change in this domain. ICTs by their very nature are tools that encourage and support independent learning. Students using ICTs for learning purposes become immersed in the process of learning and as more and more students use computers as information sources and cognitive tools (Reeves & Jonassen, 1996 [not in reference list]), the influence of the technology on supporting how students learn will continue to increase. In the past, the conventional process of teaching has revolved around teachers planning and leading students through a series of 4 instructional sequences to achieve a desired learning outcome. Typically these forms of teaching have revolved around the planned transmission of a body of knowledge followed by some forms of interaction with the content as a means to consolidate the knowledge acquisition.



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Contemporary learning theory is based on the notion that learning is an active process of constructing knowledge rather than acquiring knowledge and that instruction is the process by which this knowledge construction is supported rather than a process of knowledge transmission (Duffy & Cunningham, 1996). In this domain learning is viewed as the construction of meaning rather than as the memorisation of facts (Lebow, 1993; Jonassen & Reeves, 1996). Learning approaches using contemporary ICTs provide many opportunities for constructivist learning through their provision and support for resource-based, student centered settings and by enabling learning to be related to context and to practice (Berge, 1998; Barron, 1998). As mentioned previously, any use of ICT in learning settings can act to support various aspects of knowledge construction and as more and more students employ ICTs in their learning processes, the more pronounced the impact of this will become.

2.7 Knowles' 5 Assumptions of Adult Learners

In 1980, Knowles made 4 assumptions about the characteristics of adult learners. In 1984, Knowles added the 5th assumption. Below are his assumptions.

a) Self-concept

As a person matures his/her self-concept moves from one of being a dependent personality toward one of being a self-directed human being

b) Adult Learner Experience.

As a person matures he/she accumulates a growing reservoir of experience that becomes an increasing resource for learning.

c) Readiness to learn.

As a person matures his/her readiness to learn becomes oriented gradually to the developmental tasks of his/her social roles.



d) Orientation to Learning www.udsspace.uds.edu.gh

As a person matures his/her time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his/her orientation toward learning shifts from one of subject- centeredness to one of problem centeredness.

e) Motivation to learn.

As a person matures the motivation to learn is internal (Knowles, 1984:12).

2.8 Principles of Adult Learning

Andragogy as a study of adult learning originated in Europe in 1950's and was then pioneered as a theory and model of adult learning from the 1970s by Malcolm Knowles, an American practitioner and theorist of adult education, who defined andragogy as "the art and science of helping adults learn". According to Knowles, (1984) there are six principles of adult learning and these are elaborated below

a. Adult Learners are self-motivated and self-directed:

Intrinsically motivated students have a desire to achieve and learn for their own purpose while extrinsically motivated students want to impress others.

b. Adult learners bring life experience and knowledge:

Adults like to be given the opportunity to use their existing foundation of knowledge and experience gained throughout their life and apply it to their new learning experience.

c. Adult learners are goal oriented:

Adult students become ready to learn when they experience the need to learn it in order to cope more satisfying with real life task or problems.



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d. Adult learners are relevancy oriented:

Adults want to know the relevance of what they are learning to what they want to achieve.

e. Adult learners are practical:

Through clinical placement, interacting with adults and their real life situations, students move from theory knowledge to hands on problem solving where they can recognize first-hand how what they are learning applies to life and the work context

f. Adult learners wants to be respected:

Respect can be demonstrated through taking an interest in the student and acknowledging the wealth of experience that the adult student brings to placement.

9. Characteristics of Adult Learners

Christopher (2013) listed the following as adult's learner's traits;

- a. Adult learning is problem-centered rather than content-oriented. (Kearsley, 2010).

Self-direction adults feel the need to take responsibility for their lives and decisions and this is why it's important for them to have control over their learning. Therefore, self-assessment, a peer relationship with the instructor, multiple options and initial, yet subtle support are all imperative.

b. Practical and results-oriented:

Adult learners are usually practical, resent theory, need information that can be immediately applicable to their professional needs, and generally prefer practical knowledge that will improve their skills, facilitate their work and boost their



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confidence. This is why it's important to create a course that will cover their individual needs and have a more utilitarian content.

c. Less open-minded and therefore more resistant to change:

Maturity and profound life experiences usually lead to rigidity, which is the enemy of learning. Thus, instructional designers need to provide the “why” behind the change, new concepts that can be linked to already established ones, and promote the need to explore.

d. Slower learning, yet more integrative knowledge:

Aging does affect learning. Adults tend to learn less rapidly with age. However, the depth of learning tends to increase over time, navigating knowledge and skills to unprecedented personal levels.

e. Use personal experience as a resource:

Adults have lived longer, seen and done more, have the tendency to link their past experiences to anything new and validate new concepts based on prior learning. This is why it's crucial to form a class with adults that have similar life experience levels, encourage discussion and sharing, and generally create a learning community consisting of people who can profoundly interact.

f. Motivation learning in adulthood is usually voluntary:

Thus, it's a personal choice to attend school, in order to improve job skills and achieve professional growth. This motivation is the driving force behind learning and this is why it's crucial to tap into a learner's intrinsic impetus with the right thought-provoking material that will question conventional wisdom and stimulate his mind.

g. Multi-level responsibilities

Adult learners have a lot to juggle; family, friends, work, and the need for personal



quality time. This is why [it's more difficult for an adult to make room for learning](http://www.udsspace.uds.edu.gh), while it's absolutely crucial to prioritize. If his life is already demanding, then the learning outcome will be compromised. Taking that under consideration, an instructional designer needs to create a flexible program, accommodate busy schedules, and accept the fact that personal obligations might obstruct the learning process.

h. **High expectations**

Adult learners have high expectations. They want to be taught about things that will be useful to their work, expect to have immediate results, seek for a course that will worth their while and not be a waste of their time or money. This is why it's important to create a course that will maximize their advantages, meet their individual needs and address all the learning challenges.

2.10 Evaluation of the various Training Methods

This section intends to review the various training methods such as Classroom or Instructor led Training, Interactive methods, Hand -on training, Computer Based Training and Online or E-Learning, their advantages and disadvantages and how to improve some of them for adult learners.

2.10.1 Lecture or Instructor-Led Training

The lecture method forms a quick measure for providing facts to a large number of individuals at one point of time (Dwivedi, 2007).

It is one of the oldest methods of training and it is use to create understanding of a topic or to influence behaviour, attitudes through lecture. A lecture can be in printed or oral form. Lecture is telling someone about something. Lecture is given to enhance the



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knowledge of listener or to give him the theoretical aspect of a topic. Training is basically incomplete without lecture.

There are many types including:

- a) Blackboard or whiteboard. This may be the most “old-fashioned” method, but it can still be effective, particularly if you invite trainees to write on the board or ask for response that you write on the board.
- b) Overhead projector. This method is gradually being replaced with PowerPoint presentations, which are less manually demanding, but overheads do allow you to write on them and customize presentations easily on the spot.
- c) Video portion. Lectures can be broken up with video portions that explain sections of the training topic or that present case studies for discussion.
- d) PowerPoint presentation. Presentation software is used to create customized group training sessions that are led by a trainer. Training materials are provided on CDROM and shown on a large screen for any number of trainees. Employees can also use the programs individually, which allows for easy make-up periods for employees who miss the group session. This method is one of the most common lecture methods and can be combined with hand outs and other interactive methods
- e) Storytelling. Stories can be used as examples of right and wrong ways to perform skills with the result of each way described. This method is most effective with debriefing questions, such as:
 - o How does this story relate to training?
 - o How did the main character’s choices make you feel?
 - o What assumptions did you make throughout the story? Were they correct?



- What would you have done differently? www.udsspace.uds.edu.gh

This method makes communication easier since it is nonthreatening with no one right answer. It is cost effective, especially if trainers have their own stories to tell. Stories can also make sessions more personal if they involve people trainees know. You can also find many training stories online (Hassan, 2014).

According Hassan (2014), there are many advantages and disadvantages of the lecture method.

Instructor-led classroom training is an effective method for presenting a large body of material to large or small groups of people. It is a personal, face-to-face type of training as opposed to computer-based training and other methods we will discuss later. It ensures that everyone gets the same information at the same time and also, it is cost-effective, especially when not outsourced to guest speakers (Hassan 2014).

The lecture methods are sometimes not interactive; ensuring that interaction occurs in the classrooms is required in order to make the interesting. Scheduling classroom sessions for large numbers of trainees can be difficult especially when trainees are at multiple locations (Hassan 2014).

According to Hassan, (2014) a trainer can use lectures effectively for adult learners by making sure your listeners are engaged throughout the period.

2.10.2 Interactive Methods

There are many ways that you can break up training sessions and keep trainees attentive and involved, including:



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- a) **Quizzes.** For long, complex training, stop periodically to administer brief quizzes on information presented to that point. You can also begin sessions with a pre-quiz and let trainees know there will also be a follow-up quiz. Trainees will stay engaged in order to improve their pre-quiz scores on the final quiz. Further motivate trainees by offering awards to the highest scorers or the most improved scores.
- b) **Small group discussions.** Break the participants down into small groups and give them case studies or work situations to discuss or solve. This is a good way for knowledgeable veteran employees to pass on their experience to newer employees.
- c) **Case studies.** Adults tend to bring a problem-oriented way of thinking to workplace training. Case studies teach trainees to handle similar situations and enable the trainees to diagnose a business problem and analyse its critical factors. A case study is criticized that it provides a series of unconnected incidents instead of a general pattern of behaviour (Dwivedi, 2007).

Noe (2010), further explained that cases may be appropriate for developing higher order academic skills such as analysis, synthesis and evaluation and it helps trainees develop the willingness to take risks given uncertain outcomes based on their analysis of the situation.

- d) **Active summaries:** Form small groups and have them choose a leader. Ask them to summarize the lecture's major points and have each group leader present the summaries to the class. Read aloud a prewritten summary and compare this with participants' impressions.
- e) **Q & A sessions:** Informal question-and-answer sessions are most effective with small groups and for updating skills rather than teaching new skills. For example, some changes in departmental procedure might easily be handled by a short



clarification by the [trainer](http://www.udsspace.uds.edu.gh), followed by a question-and-answer period and a discussion period.

- f) **Question cards:** During the lecture, ask participants to write questions on the subject matter. Collect them and conduct a quiz/review session.
- g) **Role-playing:** By assuming roles and acting out situations that might occur in the workplace, employees learn how to handle various situations before they face them on the job. Role-playing is an excellent training technique for many interpersonal skills, such as customer service, interviewing, and supervising. Role-playing encourages participation and involvement, corrects a wrong pattern of behaviour, enables trainees to see themselves in other fellow's shoes and stresses a diagnosis of the problem and reactions of other individuals (Dwivedi, 2007).

The value of role plays is that learners can practise newly learned techniques in a safe environment and have feedback (Rae, 2003).

- h) **Participant control:** Create a subject menu of what will be covered. Ask participants to analyse it and pick items they want to know more about. Call on a participant to find his or her choice. Cover that topic and move on to the next participant.
- i) **Demonstrations:** Whenever possible, bring equipment that are part of the training topic and demonstrate the steps being taught or the processes being adopted.

Interactive sessions keep trainees engaged in the training, which makes them more receptive to the new information and they make training more fun and enjoyable. Also, they provide ways for veteran employees to pass on knowledge and experience to newer employees (Rae, 2003).



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Interactive sessions can take longer because activities, such as taking quizzes or breaking into small groups, are time-consuming. Some methods, such as participant control, can be less structured, and trainers will need to make sure that all necessary information is covered.

2.10.3 Hands-On Training

Experiential, or hands-on, training, offers several more effective techniques for teaching employees, including:

- a) **Cross-training:** This method allows employees to experience other jobs, which not only improves employee skills but also gives companies the benefit of having employees who can perform more than one job. Cross-training also gives employees a better appreciation of what co-workers do and how their own jobs fit in with the work of others to achieve company or organisational goals.
- b) **Demonstrations:** Demonstrations are attention-grabbers. They are an excellent way to teach employees to use new tools or to teach the steps in a new process. They are also effective in teaching safety skills. Combined with the opportunity for questions and answers, this is a powerful, engaging form of training.
- c) **Coaching:** The goal of job coaching is to enhance an employee's performance. Coaching emphasizes on the individual needs of an employee and is less formal than other kinds of training. There are usually no set training sessions.
- d) **Apprenticeships:** Apprenticeships give employers the chance to shape new workers to fit existing and future jobs. These programs give young workers the opportunity to learn a profession and earn a modest income. Apprenticeship combines supervised training on the job with classroom instruction in a formal, structured program that can last for a year or more.





- e) **Drills:** Drilling is a good way for employees to practice skills. Evacuation drills are effective when training emergency preparedness, for example.

Hands-on training methods are effective for training in new procedures and new equipment and they are immediately applicable to trainees' jobs. It allows trainers to immediately determine whether a trainee has learned the new skill or procedure.

Hand on training is not good for large groups if you do not have enough equipment or machines for everyone to use. Personal coaching can be disruptive to the coach's productivity and apprenticeship can be expensive for companies paying for employees who are being trained on the job and are not yet as productive as regular employees.

2.10.4 Computer-Based Training (CBT)

Computer-based training is becoming progressively prevalent as technology becomes more widespread and easy to use. However traditional forms of training are not likely to be replaced completely by technological solutions, they will most likely be improved by them. Human interaction will always remain a key component of workplace training.

However, it is a good idea to look more closely at what training technologies have to offer and how they might be used to supplement existing training programs or used when developing new ones. Computer-based training formats vary from the simplest text-only programs to highly sophisticated multimedia programs to virtual reality.

2.10.4.1 Major types of Computer-Based Training

- a) **Text-only.** The simplest computer-based training programs offer self-paced training in a text-only format. These programs are similar to print-based, individualized training modules with the addition, in most cases of interactive features. While

simple in format, these www.udsspace.uds.edu.gh programs can be very effective and present difficult information and concepts in an understandable and easily accessible way.

- b) **CD-ROM:** A wide variety of off-the-shelf training programs covering a wide range of workplace topics are available on CD-ROM. Programs can also be created by training consultants for the specific needs of the particular organization or individual departments.
- c) **Multimedia:** These training materials are an advanced form of computer-based training. They are much more sophisticated than the original text-only programs. In addition to text, they provide inspiring graphics, audio, animation, or video. Multimedia tends to be more provocative and challenging and, therefore, more stimulating to the adult mind. Although costs are higher than text-only software, the benefits in terms of employee learning may well be worth it. Multimedia training materials are typically found in DVD format.

2.10.4.2 Overview of Classroom Media Use

The content of an introductory psychology course (and the supporting textbooks) is constantly evolving in response to advances in research and theory. The instructional methods and tools used in the course have also evolved, reflecting shifts in both the preferred pedagogical approaches and in the technological infrastructure available to the instructor and the students. Our goal in this paper is to identify some of the best practices in computer-enhanced classroom instruction. We will begin with some lessons learned from the past two decades of research and classroom experience with instructional technology. We will then consider how these principles can be applied to the use of computer-based technology (PowerPoint, Keynote, Flash, and web pages) in class lectures.



Figure 2. 1: Illustrates how people generally remember



The figure above indicates adults learn better when the teaching element comprises visual and experimental methods rather than just verbal means of teaching.

2.10.4.3 History of Media Use

In a sense, teaching has always been a “multimedia” enterprise; instructors have typically spoken aloud to, drawn pictures, and attempted demonstrations for the benefit of their students. What has changed has been the evolving technology available for combining and delivering that information. Instructors who began teaching in the 1960s or 1970s probably remember a time when the chalkboard was the main form of instructional media used in psychology classrooms, perhaps supplemented by mimeographed handouts and occasional glimpses of a sheep brain, an operant chamber, or a plastic model of an eyeball. These instructors may recall the enthusiasm with which students greeted the introduction of “new technologies” such as photocopied illustrations, slides depicting

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visual illusions, filmstrips with audio narration, and especially full motion 16-millimeter films with re-enactments of classic experiments.

As classroom technology continued to improve, the 1980s saw the introduction of overhead transparencies and videotapes, while the 1990s gave us first videodiscs and then CD-ROMs, the World Wide Web, and eventually digital projectors with the mixed blessings (see Atkinson, 2004b) of Microsoft PowerPoint. Technological innovation has accelerated in the first decade of the new century, with digital projectors as standard features in most classrooms, and CD-ROMs or DVDs accompanying many textbooks.

Most classrooms (and dorm rooms) have high-speed Internet connections that allow reasonable-quality video streaming, and many students now bring wireless laptops, tablet computers, or hand-held devices into the classroom setting.

2.10.4.4 Rationale for Multimedia Use

Why would any instructor want to use multimedia materials in the classroom? To a certain extent, psychology instructors have adopted these new types of media simply “because they could.” As each improvement in technology became available (in many cases with the support of textbook publishers), instructors who saw themselves as “hip, cool, and hi-tech” quickly incorporated the new tools, correctly perceiving that slick multimedia presentations have a certain amount of entertainment value for students.

However, this rationale misses the point; in fact, the use of multimedia materials has substantial grounding in cognitive theory and research although, as is often the case, the research evidence followed the widespread use of these materials rather than preceded it.

Several dozen studies indicate that computer-based multimedia can improve learning and retention of material presented during a class session or individual study period, as compared to “traditional” lectures or study materials that do not use multimedia (see Bagui, 1998; Fletcher, 2003; Kozma, 2001; Mayer, 2001). According to Najjar (1996),





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this improvement can be attributed mainly to *dual coding* of the information presented in two different modalities visual plus auditory, for example (Clark & Paivio, 1991; Paivio, 1986) leading to increased comprehension of the material during the class session, and improved retention of the material at later testing times (Mayer & Moreno, 1998). There is general agreement that multimedia presentations are most effective when the different types of media support one another rather than when superfluous sounds or images are presented for entertainment value which may induce disorientation and *cognitive overload* that could interfere with learning rather than enhance learning (Mayer, Heiser, & Lonn, 2001).

Finally, a number of studies have suggested that student satisfaction and motivation is higher in courses that use multimedia materials (Astleitner & Wiesner, 2004; Yarbrough, 2001). In one particularly large study, Shuell and Farber (2001) examined the attitudes of over 700 college students toward the use of computer technology in twenty courses representing a wide range of academic disciplines. Students were generally very positive about the use of technology, although females rated the use of technology for learning and classroom instruction somewhat lower than did their male peers.

However, not everyone is excited about the new technology. On the basis of negative anecdotes described on student evaluations and in discussions at professional conferences, we can conclude that some students and some instructors have had bad experiences with multimedia in the classroom. It is important to keep in mind that a poorly developed and/or executed use of multimedia can do more harm than good (Daniel, ND).

In our opinion, these negative experiences often seem related to lack of experience with computer technology, instructors allowing the program to direct the flow of the course, or to overly optimistic expectations about the media (or to underpowered projectors that necessitate dimming the room lights). Our own classroom experiences, combined with the

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research evidence, lead us to summarize the potential pedagogical value and rationale for using classroom media in these three points:

- *To raise interest level* -- students appreciate (and often expect) a variety of media
- *To enhance understanding* -- rich media materials boost student comprehension of complex topics, especially dynamic processes that unfold over time
- *To increase memorability* -- rich media materials lead to better encoding and easier retrieval.

2.10.4.5 Instructional Techniques for Appropriate Multimedia Use

- a. ***Prepare a Class Plan.*** The class plan is perhaps the most important resource for the successful use of multimedia materials, because it guides the selection of media and provides the context for each media element. Conceived of in this way, multimedia programs and materials are tools to direct attention and emphasize key points that are best understood visually rather than all-purpose guides for every point of every lecture.

Instructors who begin integrating multimedia into their classes often report that the media use forced them to improve the organization of their class sessions—which may be an added benefit to students (Tufte 2003).

- b. ***Develop the Class Plan as a Slideware Presentation.*** Many instructors use PowerPoint, Keynote, Flash, or a series of linked web pages to organize and present their lecture outline and media. Because PowerPoint is available on nearly 100% of classroom computers, it has become the organizing tool for most instructors. Thus we will focus our comments on PowerPoint, even though we recognize that other tools have some specific advantages.
- c. ***Build In Some Flexibility.*** One major objection to integrating slideware fully into classroom courses is that it would rob instructors of their flexibility to



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diverge from the topic, or go into more depth on one topic, or make an adjustment in response to student questions. The perception of loss of flexibility is related to the amount of planning that it takes to develop a slideware presentation. Once developed, instructors feel that they have to stick to the order and get through all of the content. But there are ways to get around this situation. Remember that less is better when it comes to slideware. By creating guiding bullets as opposed to paragraphs of text, maximizing clarity, strategically including visuals for specific impact rather than just because they may be cute, and minimizing distraction, the slideware becomes more of a guide than a script, allowing instructors to take charge of the flow and use the program to direct it.

There are times, however, when you may want certain resources available just in case students have a particular question or you want the option to talk about a topic at greater depth. Again, slideware does not have to be linear and can be made to accommodate many contingencies. Such flexibility can be accomplished, for example, by creating custom shows (groups of slides arranged by topic) or menus of links to specific slides that you may or may not choose to access.

- i. *Fight against the “Mind-Numbing” Properties of Slideware.* Strong criticisms have been levelled against slideware in general and PowerPoint in particular. For example, Tufte (2003) argues that PowerPoint induces a “cognitive style” that encourages passivity and makes a complex issue seem more simple and clear-cut than it is.

Here is a summary of Tufte’s criticisms of PowerPoint presentations:

- PowerPoint encourages simplistic thinking, with complex ideas being squashed into bulleted lists, and stories with beginning, middle, and end being turned into a collection of disparate, loosely disguised points. This may present a kind of image



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of objectivity and neutrality that people associate with science, technology, and "bullet points".

- PowerPoint presentations seem designed to guide and reassure a presenter, rather than to enlighten the audience.
 - PowerPoint encourages the use of unhelpfully simplistic tables and charts, tied to the low resolution of computer displays and the need for text to be readable by a large audience.
 - PowerPoint lends itself to poor typography and chart layout, especially by presenters who use poorly-designed templates and PowerPoint's default settings;
 - PowerPoint's outline format leads presenters to arrange material in an unnecessarily deep hierarchy, itself subverted by the need to restart the hierarchy on each slide.
 - PowerPoint's "click-for-next-slide" mentality enforces a linear progression through the presenter's hierarchy of ideas (whereas with handouts, readers could browse and explore items at their leisure).
- ii. Other experts argue that we should blame the presenter, not the tool, for mind numbing presentations (Atkinson, 2004a, 2004b; Daniel, in press). Some also argue that cognitive research demonstrates the value of hierarchical organization for comprehension and memory, and point out that the audience generally attends a presentation in order to hear the presenter's organization of ideas rather than to explore the topic on their own.

Many of the criticisms of such presentations are a result of using the program, rather than the lecture outline, to guide the development of the presentation.

- a. ***Where Possible, Include Animations and Video Clips.*** Although it requires more effort to locate and insert these types of materials (not to mention the effort



involved in creating [your own animations and video](http://www.udsspace.uds.edu.gh)), research suggests that these materials have a particularly powerful impact on student learning (Mayer & Moreno, 2002). As you go over the material you want to present in class, look for places where an animation or video clip would be particularly helpful in illustrating a dynamic process that changes over time or has multiple stages. Then look for suitable ready-made animations or video segments that you could plug into the presentation. If you can't locate an acceptable animation, create it yourself, using the simple animation tools built into PowerPoint or Keynote. Even better, enlist the aid of a student or campus technology consultant to help you create it in Flash or some other powerful animation software.

- b. *Use Multimedia in Creative Ways.* Although multimedia materials may have some value when merely added to a PowerPoint lecture outline, many instructors are exploring ways to incorporate these materials in collaborative learning activities involving case-based scenarios or problem-based exercises (Ludwig & Perdue, in press; Rogers, 2002; Savery & Duffy, 1996).

2.10.5 Some Specific Tips for PowerPoint Presentations

d. Designing Presentations

- a. It is not about you – Avoid using the presentation as your lecture notes. A presentation is for the audience and their learning is the primary objective. Write your lecture before opening the PowerPoint program and use slides for information that is best presented visually.
- b. Minimize text – Less is better. Narration is better than written words for learning and retention in a classroom context. Clarity, not comprehensiveness, is your primary objective. In most cases, this means using short phrases rather than full sentences in your bullet points.



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- c. Minimize distractions – Plain is better than flashy.
 - d. Select non-distracting and simple backgrounds
 - e. Select simple, easy-to-read fonts (small fonts annoy audiences)
 - f. Select simple and smooth transitions
 - g. Do not include irrelevant illustrations, animations, or sounds
 - h. Be strategic: A good picture is worth a thousand words and a bad one needs explanation. Choose pictures, graphs and videos that clearly demonstrate the point you want to make.
- Make it yours: Customize publisher content. The slides that come with the book are outlines of the text. Delete slides to make room for yourself and add your own content to highlight your own objectives and style.
 - Save room for dessert – Leave room for flexibility, questions, and the occasional tangent.

iii. *Presenting the Material in Class*

- a. Cover your backside: Do not turn your back on your audience and/or read directly from the slide. Audiences report being annoyed by presenters who simply read their slides. Instead, print out a copy of your bulleted lists and narrate the main points while facing the audience (or orient the classroom computer so that you can view the monitor screen while facing the audience).
- b. Be relevant: Students will write down everything on a slide. To avoid having them writing down point #3 while ignoring your current lecture on point #1, reveal info on the slide as you speak of it.
- c. Fade to black (or white): There are times when you will want student attention away from the screen and on you or discussion. This can be accomplished by



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placing a blank slide at relevant points or, by simply hitting your B key (B blackens the screen, again brings the slideshow back on-screen).

- d. Experiment: Instructor style and learning objectives interact with presentation mode. Try various strategies, evaluate, and select those that work best for you.

e. Some Concluding Thoughts

If done well, multimedia content organized with a slideware tool can generate productive and stimulating presentations that lead to greater retention, application to new situations, and performance on assessments. If not done well, they can be a distraction from learning and ultimately unproductive.

As the need for visual support varies as a function of content and objectives, the decision to use slideware should be made on a lesson-by-lesson basis. At each step in the process, you should ask yourself if the use of this technology is appropriate for your teaching style, the content, your audience, and your desired outcomes. If you decide that using slideware may have a positive effect on your teaching, it is important that you use it consciously, effectively, and strategically.

As we have watched each wave of improvements in hardware and software, as well as the evolving trends in educational pedagogy, it appears to us that the most important lesson is the necessity of keeping the focus on the instructional goal, not on the technology itself.

2.11 Invention and Development of Television

Televisions can be found in billions of homes around the world. But 100 years ago, nobody even knew what a television was. In fact, as late as 1947, only a few thousand Americans owned televisions. How did such a ground breaking technology turn from a niche invention to a living room mainstay?



2.11.1 Mechanical Televisions in the 1800s and Early 1900s

These early televisions started appearing in the early 1800s. They involved mechanically scanning images then transmitting those images onto a screen. Compared to electronic televisions, they were extremely rudimentary.

One of the first mechanical televisions used a rotating disk with holes arranged in a spiral pattern. This device was created independently by two inventors: Scottish Inventor John Logie Baird and American inventor Charles Francis Jenkins. Both devices were invented in the early 1920s. Prior to these two inventors, German inventor Paul Gottlieb Nipkow had developed the first mechanical television. That device sent images through wires using a rotating metal disk. Instead of calling the device a television, however, Nipkow called it an “electric telescope”. The device had 18 lines of resolution.

In 1907, two inventors; Russian Boris Rosing and English A.A. Campbell-Swinton combined a cathode ray tube with a mechanical scanning system to create a totally new television system. Ultimately, the early efforts of these inventors would lead to the world’s first electrical television a few years later.

2.11.2 The First Electronic Television was invented in 1927

The world’s first electronic television was created by a 21-year-old inventor named Philo Taylor Farnsworth. That inventor lived in a house without electricity until he was age 14. Starting in high school, he began to think of a system that could capture moving images, transform those images into code, and then move those images along radio waves to different devices.



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Farnsworth was miles ahead of any mechanical television system invented to-date. Farnsworth's system captured moving images using a beam of electrons (basically, a primitive camera). The first image ever transmitted by television was a simple line. Later, Farnsworth would famously transmit a dollar sign using his television after a prospective investor asked "When are we going to see some dollars in this thing, Farnsworth?"

Between 1926 and 1931, mechanical television inventors continued to tweak and test their creations. However, they were all doomed to be obsolete in comparison to modern electrical televisions: by 1934, all TVs had been converted into the electronic system. Understandably, all early television systems transmitted footage in black and white.

2.11.3 How Did Early Televisions Work?

The two types of televisions listed above, mechanical and electronic, worked in vastly different ways.

Mechanical Televisions

Mechanical televisions relied on rotating disks to transmit images from a transmitter to the receiver. Both the transmitter and receiver had rotating disks. The disks had holes in them spaced around the disk, with each hole being slightly lower than the other.

To transmit images, you had to place a camera in a totally dark room, and then place a very bright light behind the disk. That disk would be turned by a motor in order to make one revolution for every frame of the TV picture. Baird's early mechanical television had 30 holes and rotated 12.5 times per second. There was a lens in front of the disk to focus light onto the subject.



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When light hit the subject, that light would be reflected into a photoelectric cell, which then converted this light energy to electrical impulses. The electrical impulses are transmitted over the air to a receiver. The disk on that receiver would spin at the exact same speed as the disk on the transmitter's camera (the motors would be synchronized to ensure precise transmissions).

The receiving end featured a radio receiver, which received the transmissions and connected them to a neon lamp placed behind the disk. The disk would rotate while the lamp would put out light in proportion to the electrical signal it was getting from the receiver. Ultimately, this system would allow you to view the image on the other side of the disk, although you'd need a magnifying glass.

Electronic Televisions

There is a reason we stopped using mechanical televisions: electronic televisions were vastly superior. Electronic televisions rely on a technology called a Cathode Ray Tube (CRT) as well as two or more anodes. The anodes were the positive terminals and the cathode was the negative terminal. The "Cathode" part of the Cathode Ray Tube was a heated filament enclosed in a glass Tube (the "T" of CRT). The Cathode would release a beam of electrons into the empty space of the tube (which was actually a vacuum).

All of these released electrons had a negative charge and would thus be attracted to positively charged anodes. These anodes were found at the end of the CRT, which was the television screen. As the electrons were released at one end, they were displayed on the television screen at the other end. Indeed, firing electrons against a glass screen doesn't make images. To make images, the inside of the television screen would be coated with phosphor. The electrons would paint an image on the screen one line at a





time. All in all television is www.udsspace.uds.edu.gh an invention that changed society more than any other invention throughout the greater 20th century. It is hard to imagine a world without television, considering all of its uses.

2.11.4 Teaching and Learning: Using Television to Educate, Stimulate and Disseminate

There is no doubting the impact and appeal of television for children. According to Young Media Australia an Australian child 'watches an average of two hours of television each day. This means that by the time they finish secondary school, those children will have spent 11,000 hours in school, but more than 15,000 hours watching television' (Media effects - general).

The potential of television as an educational tool has been widely recognized in terms of early childhood education, since the launch of Sesame Street and Play School more than 30 years ago. Television offers the same potential in primary and secondary education, particularly within the classroom setting. Middle School Online, a project of Northwestern University in the United States, argues that students are much more likely to retain the knowledge gained from television programs and videos than from lectures alone (Why use television in the classroom?). While teachers now make frequent use of other popular technologies such as the Internet and multimedia, it is important to note that television has had a longer and more wide reaching effect on the lives of school students.

When teachers use TV in the classroom, students has a better understanding of the topic, 'and enter into more discussion on the content and ideas presented,' according to Idaho Public Television's Technology Tips for Teachers.

Educators use TV in the classroom to satisfy a variety of objectives:

- To reinforce and expand on content being taught



- To respond to a variety of learning styles www.udsspace.uds.edu.gh
- To increase student motivation to learn
- To stimulate other learning activities.

Television caters to the different learning styles of students, by offering a unique combination of sight, sound, motion and emotion, which can give students a greater understanding of the world around them. They can see historical events enacted, the solar system explored and novels come to life.

In a summary of literature on mass media use in the classroom, Nola Kortner Alex notes that film and television 'can also be related to students' personal experiences, act as a focus for teacher-student interaction, and can be used to promote awareness of the interrelationship between modes (picture, movement, language, sound, captions).' This last point refers to an aspect of television that is under-utilized in education. Television is an excellent tool for illustrating the differences between literary genres, for example comparing a novel to its movie adaptation, or comparing a newspaper story to a television news story.

Television and video play a vital role in distance education, and can be utilized in everything from narrowcast broadcasting to face-to-face video-conferencing. Ron Oliver, (N.D) from Edith Cowan University, argues that Live Interactive Television (a one-way video link between the teacher and student through conventional television delivery, and two-way audio between teacher and students brought about through standard telephone communications) provides a relatively inexpensive delivery medium and uses technologies that are widely available in rural areas.' Oliver suggests that videoconferencing provides the greatest possible interaction between teacher and student.

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The use of television in distance education can also incorporate emerging web and multimedia teaching technologies.

Television is both accessible and user-friendly, allowing a program to be recorded for later use. Teachers can use the functions of the video player to tailor the recorded program to their lesson plan. Idaho Public Television notes the importance of using video functions such as: Pause to keep viewers actively involved in the viewing; Stop - have students record information, examine a chart or draw a diagram; and Rewind and Fast Forward - make use of the video which is directly relevant to the lesson's objectives (Technology Tips for Teachers).

Television has been shown to be an exceptionally important educational tool during the pre-school years. Researchers, from the Department of Human Ecology at the University of Texas, have found that very young children 'who spent a few hours a week watching educational programs... had higher academic test scores... than those who didn't watch educational programs'. The study's lead author, Aletha C. Huston, also claims that good educational programs 'can provide lasting benefits to children at many ages.' In a similar vein, Roger Martin (N.D) of the University of Kansas, has reported on a study undertaken by Deborah Linebarger, who found that children 'who, as pre-schoolers, watched educational TV engaged in more leisure-time book reading as teenagers.'

Popular television programs on topics such as sex can be educational for young people, who might otherwise be too uncomfortable to discuss the issue. A report from the National Women's Health Information Centre in the United States noted 'a study appearing in the November issue of Paediatrics, in which researchers found that 65% of teens who watched an episode of the program Friends, that dealt with the values of condoms in preventing pregnancy, later remembered that information' (post-gazette.com).



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The report also stated that teens who watched the program with an adult were twice as likely to recall the information. This is very relevant to the classroom. Rather than listen to a static talk about contraception, students can watch their favourite show and then be relaxed enough to ask questions of their teacher about the issues raised during the program.

The non-profit agency, Screen rights, licenses educational institutions to copy material from television, and plays an essential role in the use of television in the classroom. Screen rights also licenses all Government and most independent schools, as well as TAFEs and universities, to 'communicate' copied programs for educational purposes. This is particularly relevant to the use of television in distance education. The communication of audio-visual material includes video reticulation, email, broadcast, and online delivery.

Perhaps one of the main factors that contribute to the reluctance of some teachers to use television and video in the classroom is the challenge of finding the time to locate and obtain copies of appropriate classroom material. Enhance TV is a web portal developed by Screen rights that meets these needs. It provides a fast, user-friendly service, allowing educators to search an immense database of audio-visual material, radio material, study guides and web links in order to find material relevant to their teaching area. enhance TV also offers teachers an online educational TV guide and free email subscription service, which keeps them abreast of educational content coming up on television. Teachers can subscribe to the enhance TV subscription service free of charge.

Teachers are fully aware of the enormous influence of television; all that is required now is for them to harness its potential. Many media sources (feature films, music videos, visualizations, news stories) have very high production quality capable of showcasing complex ideas in a short period of time. This helps develop quantitative reasoning. Media



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offers both cognitive and affective experiences. It can provoke discussion, an assessment of one's values, and an assessment of self if the scenes have strong emotional content.

The use of media sources help connect learners with events that are culturally relevant. As a result, a positive consequence of utilizing media is that instructors must keep their materials and examples up-to-date. News stories can be used to connect theories taught in the classroom with real world events and policies. Students can hone their analytical skills by analysing media using the theories and concepts they are studying.

The use of media in the classroom enables students to see concepts and new examples when they are watching television, listening to music, or are at the movies with friends. Students can experience worlds beyond their own, especially if the media is sharply different from their local environment.

2.11.5 Advantages of Usage of Television Training/Teaching

a. More efficient note-taking

It can be difficult for students to concentrate on listening and note-taking simultaneously. Showing presentations and information via an interactive projector gives you the ability to share notes digitally at the end of the lesson and when students know you've got the broader note-taking covered, they can focus more on listening, and only writing down things that are specifically useful to them.

This can also reduce the issue of pupils taking down incorrect or irrelevant notes, which is particularly useful when covering new or complex topics, as it ensures everybody has the same foundations to refer back to. You can also store this information online, so it's no longer the end of the world if a pupil loses their notes right before an exam.



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b. Interactive presentations keep learners engaged

It's much easier to concentrate on something when you're playing an active role. Up to ten students can draw on an interactive projector screen at any one time, making them ideal for increasing engagement via group projects and presentations. When students are working together in front of the class, they are likely to take participation more seriously. The result is that they stay engaged for longer.

c. Interactive projectors also make it easier to teach dynamically

- Allow students' questions to lead topic exploration. Discussing a city? Bring it up on Google Earth
- Use the Screen Freeze feature to revise presentations in real-time without the audience knowing
- Discover a gap in your students' knowledge? Take a moment to research it online as a group

An interactive projector can be a valuable tool for increasing engagement, even if your students stay in their seats. Watch videos together, take online pop quizzes or view real-time information on the topics you discuss.

d. Build games into your lessons

Social networks and Smartphone technology have contributed to the rise in popularity of simple puzzle-type games. For teachers, this is good news: it means that students are already familiar with and fond of the format used in many educational puzzles.

Reward good behavior with a quick on-screen maths game at the end of the lesson, or use quizzes to test English or foreign language skills. Just like Smartphone and



tablets, interactive projectors use multi-touch, meaning multiple students can complete a puzzle together. There are two options here:

- Table-top projection: students can gather round a table and interact with the screen in front of them.
- Wall projection: students can stand up at the front of the class

e. **Teach with a range of mediums.**

The younger the child, the shorter their attention span typically is. Breaking up a lesson into shorter, varied segments can help children stay focused on the material and learn more effectively. Interactive projectors are perfect for this: switching between tasks is as simple as switching between tabs on your browser or opening up a slideshow. Do away with work-sheets: you can now engage students with presentations, interactive games, video content and group activities all in one session. Each element of your lesson can be pre-planned on a laptop, and for simple presentations, you can just insert your USB drive directly into the projector.

Blended learning is also much easier with a projector. You can demonstrate a new concept to your class using the screen, and then allow them to practice in small groups. The information used in your presentation can then be posted online, so students can use it for independent study.

f. **Make better use of time in the classroom**

Before projectors became so common in the classroom, teachers would have to get into class early to write up notes, and constantly erase and rewrite content on the board as the lesson progressed. These regular disruptions often caused students to lose interest, or start chatting among themselves as they waited for the next part of the lesson. Then, more time would be wasted on classroom management.



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Now, you can plan presentations and exercises in advance, use them for multiple student groups, and share them with other teachers. This greatly reduces the admin burden, and makes it easier to stay organised both inside the classroom and out.

In conclusion, despite to numerous advantages, there are also a number of cautions that faculty and other users should keep in mind in utilizing Television. Using TV requires a complete understanding of copyright law, an appreciation of the workload involved, and some skill in recognizing content that will enhance learning, instead of becoming a distraction. Energy and power, bad weather and mechanical faults can also hinder its usefulness.

2.11.6 Online or E-Learning

In addition to computer-based training, many organisations with employees in a variety of locations across the country depend on other technologies to deliver training. According to the ASTD “State of the Industry” report, companies are using a record level of e-learning, and ASTD predicts that number will continue to rise. This method is becoming more and more common as access to the Web becomes more widely available. Some examples include:

- a) **Web-based training:** This method puts computer-based training modules onto the Web, which organisations can then make available to their employees either on the company’s internet or on a section of the vendor’s website that is set up for your company. There are numerous courses available on the Internet in many different topic areas. These courses provide a hands-on, interactive way for employees to work through training presentations that are similar to CD-ROM or PowerPoint, on their own. Training materials are standardized because all trainees will use the same program. Materials are also easy to update, so your training is all the time in step



with your industry. www.udsspace.uds.edu.gh Web-based training programs are also regularly connected with software (a learning management system, or LMS) that makes trainees' progress traceable, which makes recordkeeping very easy for the training manager.

- b) **Tele- or videoconferencing:** These methods permit the trainer to be in one location and trainees to be dispersed in several locations. Participants are networked into the central location and can usually ask questions of the trainer via the telephone or by a web-chat feature. Lectures and demonstrations can be effective using this method.
- c) **Audio conferencing:** This method is similar to videoconferencing but involves audio only. Participants dial in at the planned meeting time and hear presenters present their training. Question and answer sessions are often held at the end of sessions in which participants can email questions or call in and talk to a presenter.
- d) **Web meetings, or webinars:** This method contains audio and visual components. Participants dial in to receive live audio training and also follow visual material that appears on their computer screens. These presentations are related to CD-ROM or PowerPoint presentations and sometimes offer marginal online interactivity. Q & A sessions may also be held at the end of sessions.
- e) **Online colleges and universities:** This method is also known as distance learning, and many schools now offer certificates or degrees through online programs that need only minimal on-campus residency.
- f) **Collaborative document preparation:** This method requires participants to be connected to the same network. It can be used with coaches and trainees to teach writing reports and technical documents.





- g) **E-mail:** You can use e-mail to [promote or enhance](http://www.udsspace.uds.edu.gh) training. Send reminders for upcoming training. Solicit follow-up questions for trainers and/or managers. Conduct training evaluations through e-mail forms.

Online or e-learning programs are effective for training across multiple locations. They save the company money on travel expenses and can be a less expensive way to get training from expert industry professionals and consultants from outside the company. They are also useful for refresher training and are good for self-directed learning as well as to update with new company policies or procedures, federal regulations, and compliance issues and offer trainers a growing array of choices for matching training programs to employee knowledge and skill levels.

However, these programs require trainees to be computer literate. They are usually generic and not customized to your company's needs. Some employees may not like the impersonal nature of this training. Employees may be too intimidated by the technology or the remoteness of the trainer to ask questions.

Lack of computer terminals or insufficient online time may restrict or preclude access to training. Inadequate or outdated hardware devices (e.g., sound cards, graphics accelerators, and local area networks) can cause programs to malfunction.

Your company's Internet servers may not have enough bandwidth to receive the materials. In conclusion all these Computer-based training programs are easy to use and are good for helping employees develop and practice new skills. They are useful for refresher training as well as applicable to self-directed learning.

They can be cost-effective because the same equipment and program can be used by large numbers of employees. They are flexible because trainees can learn at their

own pace and at a time www.udsspace.uds.edu.gh that's convenient for them. Computer-based programs are available 24 hours a day, 7 days a week. No matter which shift an employee works, training is always available.

Some programs are interactive, requiring trainees to answer questions, make choices, and experience the consequences of those choices. This interaction generally results in greater comprehension and retention. They are uniform, which makes it possible to standardize training. They are measurable. When computers are used for training, it is possible to track what each employee has learned right on the computer. Most programs have post-tests to determine whether the employee has understood the training. Test scores give trainers statistics for training evaluations.

However, these programs require trainees to be computer literate and require trainees to have computer access. There is little or no interaction with a trainer; if trainees have questions, there's no one to ask. These programs are not effective at teaching "soft-skills," such as customer service, sales, or sensitivity training and also are not the best choice for new or one-time training. Trainers need live interaction to ensure new skills or concepts are being communicated. Trainees need to be able to ask questions and receive feedback. Some poorly designed programs are "boring" and result in trainees having a poor retention rate of the material as well as a low finish rate.



RESEARCH METHODOLOGY

3.0 Introduction

This chapter discussed the research design, research setting, population of the study, inclusion and exclusion criteria, sample size, sampling technique, data collection techniques and tools for data collection, data analysis methods, study variable measurements, and ethical considerations of the study. Research methodology is a creative approach to understanding, using methods and approaches to respond to a particular question or subject matter.

3.1 Research Design

Mixed method research design is adopted in this study because it blends both strengths of quantitative and qualitative research designs. Mixed method design was considered most suitable. It was used because the research objectives were designed to cover a wide range of exploring various ICT methods for facilitation. This enabled the researcher to gather detailed data on their knowledge and use of ICT using multiple data sources. In this way, quantitative and qualitative methods were used together to counterbalance and complement each other (Denzin 1984; Cohen, et al. 2000; Tashakkori & Teddlie, 2003, 2010; Johnson & Onwugbuzie 2004).

Sale, Lohfeld and Brazil (2002) defined mixed method approach as a combination of quantitative and qualitative methods utilized in a single study. Unusually, the two (quantitative and qualitative) are considered to represent one approach (mixed method). Similarly, several researchers including Creswell (2009); Denzin (1984); Cohen, et al. (2000); Tashakkori and Teddlie (2003, 2010); Johnson and Onwugbuzie (2004); and Kuyini (2013) argue that mixed method approach is not committed to any one system of



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worldview or paradigm. Research design is the approach one selects to combine different aspects of a research in a logical sequential manner to effectively address a research problem or subject matter. The idea of this study is to rely as much as possible on the participants' views of the study.

3.2 Geography of Study Location

The Tamale metropolis is one of the 26 districts in the Northern Region. It is located in the central part of the region and shares boundaries with the Sagnarigu district to the north and west, Mion district to the east, East Gonja district to the south and Central Gonja district to the south-west. The metropolis has a total estimated land size of 646.9018 km²(Ghana Statistical Service , 2010). Geographically, the metropolis lies between latitude 9°16 and 9°34 North and longitudes 0° 36 and 0° 57 west. There are 115 communities in the metropolis.

3.2.1 Demographics

According to the results from the Ghana Statistical Services (2010), population and housing census, the total population of the Tamale metropolis was 223,252 with a female population of 112,143 (50.2%) which is more than the male population of 111,109 (49.8%). In relation to religious affiliations, Muslims constitute the majority (90.5%) followed by Christians (8.8%), African traditionalist, (0.3%), other religious bodies (0.2%), while 0.2% do not ascribe to any faith. Among the Christians, the Catholics have the highest proportion (3.0%), followed by Pentecostal/Charismatic (2.4%), Protestants (2.4%) and other Christians make up the remaining 1% (GSS, 2010).

3.2.2 Vegetation

The metropolis lies within the savannah woodland zone in the country. The trees in this zone and for that matter the metropolis are short scattered wood lots in nature. The major



tree types in the metropolis www.udsspace.uds.edu.gh include Dawadawa, Nim, Acacia, Mahogany, Shea and Baobab. Shea tree is the only economic tree which has gained international recognition. (GSS, 2010)

3.2.3 Institutional Profile

The Church of Pentecost

Pastor James Mckeown, an Irish man, accepted God's command to relocate to the then Gold Coast in 1937 as a missionary of the Apostolic Church, UK. As a missionary he encountered and survived many setbacks. His corporation with the Faith Church in Gold Coast then ended abruptly in 1938 for being hospitalized for malaria. His opponents contended that seeking medical assistance was a mark of no faith in the healing power of God. Eventually, Pastor Mckeown had to relocate at Winneba, Asamankese Anum, to start afresh as his first station. The fruit his labour established the Ghana Apostolic Church in 1953. With grace everything stabilized upon a ruling by President Kwame Nkrumah for Pastor Mckeown and his followers to adopt a new name, The Church of Pentecost in 1962. Currently the church has branches in over ninety (90) countries. The administration of the church is handled currently by a 15 member Executive Council, under the leadership of Apostle Professor Opoku Onyinah.

Tamale Area

The Area of the Church of Pentecost was established in the year (1953) is one of the Areas in the Church of Pentecost in the Northern Region. Tamale Area has sixteen (23) Districts, One Apostle, 24 Pastors and their wives. The current membership of the Area is 16,642.



3.3 Population of the Study

The population of this study involves all officers and ministers in the Tamale metro of the Church (Within the Tamale metro, the church has three hundred and sixty-eight (368) ordained leaders, which include One hundred and fourteen (114) Elders, One hundred and nine (109) Deacons and One hundred and forty-five (145) Deaconesses. Population in research refers to members of a particular group of persons or animals in a define location, from which the researcher intends to draw his study sample

3.4 Sample Size

Bartlet, Kotrlik and Higgins (2001) advised strongly that good research work mush have appropriate and in-excessive sample size. Inappropriate sample size can lead to sampling bias.

To avoid sampling bias in the study, all those were relevant to the study were assembled and purposively selected, Sample, in research refers to that group of the study's population from which necessary data for its conduct would be obtained. In other words, it represents a smaller group of the elements or members, drawn through some definite procedure from a specified population. Sixty five (65) Trainees and Twenty five (25) Trainers (facilitators) were purposively selected for this study.

3.5 Sampling Techniques

Purposive sampling technique was used. A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study. Purposive sampling is also known as judgmental, selective, or subjective sampling.

This type of sampling can be very useful in situations when you need to reach a targeted sample quickly, and where sampling for proportionality is not the main concern. There



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are seven types of purposive samples, each appropriate to a different research objective.

This method is used because not all persons in the population may be computer literate.

Purposive sampling technique is used in studies when researchers intend to engage in a sequence of strategic choices concerning the nature of the data, from whom, where, how and what data to extract from research participants (Onwuegbuzie & Leech, 2007; Cohen et al., 2000). One chief reason for using purposive sampling technique was to select elite or key informants who had in-depth knowledge of the subject matter and willing to share their multiple experiences with the researcher.

The processes of selecting the respondents started with the identification. They were identified during the group informal interviews and were recruited thereafter. They were contacted for further detail discussion about the research. Through discussion of research aim and the content of the consent forms, respondents were subsequently selected. Hamersley and Atkinson (1996) argued that, in research, access to space is totally different from access to information. Access to the participants had to be renegotiated, so respondents were given two to three days to indicate, via personal contact or mobile text, their agreement or disagreement to participate in the study. Those willing to participate in the study contacted the researcher personally. Finally, agreements on actual dates, time, and locations were made.

3.6 Data Collection Techniques and Tools

Questionnaires were used. The questionnaires had both closed and open ended questions designed by the researcher. The closed ended questions had a list of choice that the respondent has to choose from, and the open ended had space for respondents to write their response. Participants read the information sheet and had all misunderstandings clarified and signed the consent form before the questionnaires were filled. The filling of



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the questionnaires took place at the various Local Assemblies, in the Tamale Metro. Administration and answering of questionnaires started from 1st to 6th January, 2018.

Ninety (90) questionnaires were distributed to participants. The participants were required to complete the questionnaires as accurately and as honestly as possible without any influence of others.

All participants completed the questionnaire under the same conditions. The questionnaire administration took one week and participants completed and returned all the questionnaires. All participants were told not to identify themselves on the questionnaire, and they were reassured that their responses would remain anonymous. Some of the important reasons for using questionnaire were that its construction and distribution was very easy and inexpensive, and confidential information was also given freely.

3.6.1 Validity and Reliability

After the instruments were constructed, it was first, presented to my supervisors to assess the face, content and construct validity of the instruments. After a thorough review of the items, the supervisors recommended for deletion and addition of some items. For example, some item were not soliciting information that was relevant to study. (Appendix). Supervisors also recommended that the structure of the instruments be adjusted in a way that could provoke participants' interest and facilitate reading. After their recommendations were effected, the central idea for validating the instrument was to experience the research process in terms of time required for each item; familiarity of the terminologies used and required; and participants' understanding of the statements in the instruments. After a discussion on the nature of the items, some items had to be



rephrased for easy understanding, while others had to be deleted completely based on supervisor's recommendation.

The reliability tests were performed by an expert to assess the consistency and the number of factors found in the items. Item was found to be 0.78, indicating a good data reduction (Warner, 2008).

3.7 Data Analysis Method

American Psychological Association (APA) and other researchers recommended that real raw data should be thoroughly screened before any data analysis and any potential problems should be reported in research reports (APA, 2001; Warner, 2009; McClendon, 2004; Ciaran, Miller, Maltby, & Fullerton, 2009). This recommendation is based on the reality that real datasets often contain errors such as inconsistent responses, missing data, extreme outliers, within group sample size that are too small for the intended analysis and non-normal distribution shapes. For this reason, data screening was performed to allow for identification and detection of the stated problems as well as to aid in finding possible remedies for potential problems prior to actual data analysis.

However, for any quantitative data screening, emphasis is often placed on the following: identification of missing data, inconsistencies and errors, normality of sample distribution and identification and handling of outliers (Warner, 2009; McClendon, 2004). These issues were addressed in sections that follow.

The data collected was grouped for editing and keyed into the Scientific Package for Social Sciences (SPSS) version 20 and Microsoft Word. Association between variables was determined by SPSS version 20 and Microsoft Word. Percentages and frequencies of variables are presented in tables and bar charts.



3.8 Study Variables Measurement

3.8.1 Research Variables

This study presents various research variables that interact with each other. The independent variables in this study include age, gender and nationality, level of education, which was used to assess respondent's social and historical background of the study. The dependent variables include the knowledge, personal experience, attitude and effects of ICT as a teaching tool among respondents.

3.8.2 Scales of Measurement

This research study used nominal and ordinal scales of measurement. The nominal scale of measurements included age, gender and level of education,

An ordinal scale using the following; strongly agree, agree, neutral, disagree and strongly disagree was used as well. To assess the respondents' idea on the effects of ICT as a teaching tool, the ordinal scale points of strongly agree, agree, neutral, disagree and strongly disagree were assigned 1, 2, 3, 4, and 5 score points respectively.

3.9 Ethical Consideration

Prior to the study, an introductory letter was given to the Church of Pentecost, Tamale Area, to inform them about the study, and to seek their approval. The researcher explained the purpose, objectives, benefits and potential risk to participants and allowed them to ask questions for clarification. Only participants who consented to participate were recruited. Participants were assured of confidentiality and privacy to any information they give. They were also informed of their right to withdraw at any point in time during data collection, if the study has a negative influence on them.



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I therefore, had the professional responsibility to respect the rights and dignity of the research participants. Nairne (2000) argued that respecting the rights and dignity of the research participants means showing concern for the health, safety, welfare of the participants. Also, the researcher should ensure that no diabolical mind-altering treatment should be done to affect the participants permanently “in the name and pursuit of science” (p.61). For this reason, the issue of informed consent, debriefing and confidentiality were addressed.

Debriefing

Debriefing is one of the important ingredients in the conduct of research. It is intended to clear up any misunderstanding the research participants might have about the research. A full disclosure of the nature of the study, including general and specific objectives, physical and emotional risk associated with the study was explained to the participants before they participated in the study. This gave opportunity to the researcher to alleviate any form of anxiety the participants were likely to develop because of their participation in the research. Debriefing was organized in two sessions, individually and in group.

All participants who showed interest to take part in the study were debriefed accordingly in their various schools. The debriefing session tackled issues of confidentiality, ethical issues that might arise during data collection, and respect for the rights of the research participants’ legality of withdrawing from the research project without any legal bindings etc.

Informed consent

Participants were appropriately informed about the importance of the principle of informed consent. They were properly informed, in an easy-to-understand language, of the significant factors that could affect their willingness to participate in the study. They also understood that if they chose not to participate in the study, for whatever reason,



they would suffer no negative consequences for withdrawal, or being forced to do so. In addition, written consents were obtained from participants.

Confidentiality

Participants were assured of confidentiality. They were assured that the researcher will not report or discuss any confidential information obtained from them without their permission. Additionally, they were guaranteed that their names and any traces that could lead to the revelation of their identities would be made anonymous.



DATA ANALYSIS AND PRESENTATION

4.0 Introduction

This chapter presents the data analysis and research findings that look at improving the capacity of Lay leaders in the use of Information Communication Technology. Out of the sample of 90, 65 were Trainees while 25 were facilitators. The results were analyzed and the necessary comparison made with tables and graphs

4.1 Overview of Response

Descriptive statistics were obtained using SPSS. The key descriptive measures are the mean, standard deviation, the minimum and the maximum values of the variables over the period under consideration. Key highlights as discussed in the ensuing discussion.



Table 4.1: Descriptive Statistics

Variable	Category	Frequency	Percentage
Age group	16-25	11	12.2
	26-35	40	44.4
	36-45	29	32.2
	46-55	9	10.0
	56-65	1	1.1
	Total	90	100.0
Gender	Male	70	77.8
	Female	20	22.2
	Total	90	100.0
Level of Education	JHS	5	5.6
	SHS	10	11.1
	Tertiary	75	83.3
	Total	90	100.0
Attend Recent lay Leadership training	Yes	81	90.0
	No	9	10.0
	Total	90	100.0
Role in Leadership Training	Trainer	25	27.8
	Trainee	65	72.2
	Total	90	100.0

(Field Data: 2018)



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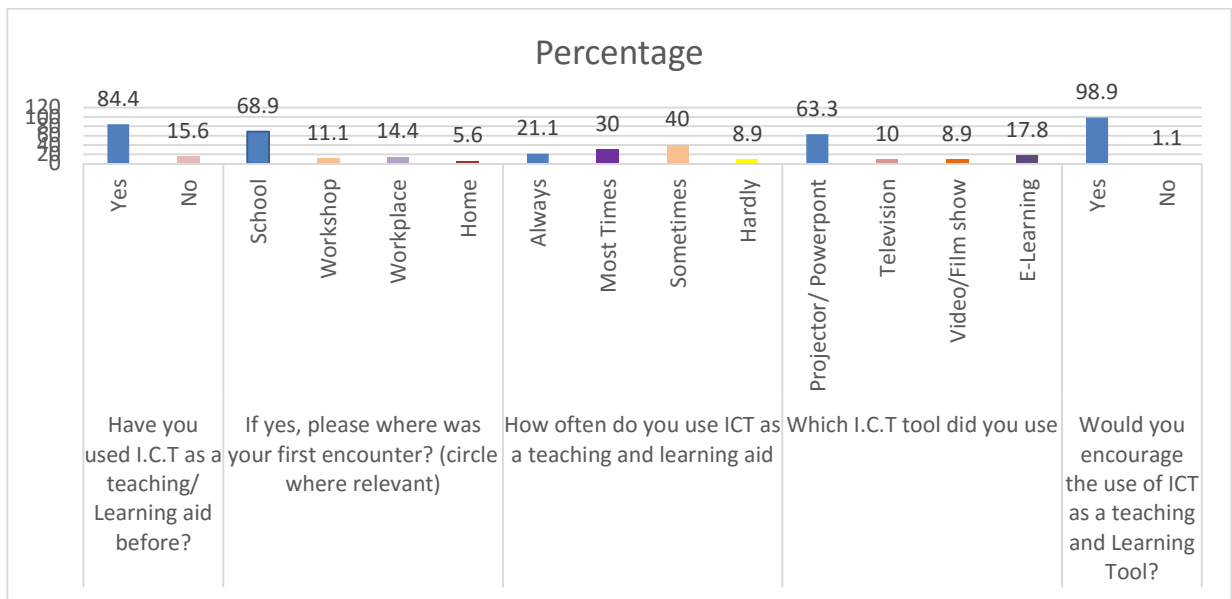
The variables used in this research include age, Gender, Level of Education and those who attended the recent Lay Leadership Training Program. It can be observed from the table above that, out of the 90 respondents, 11 of them representing 12.2% fell into the age bracket of 16-25 years. 40 of them representing 44.4% fell in the age brackets of 26-35 years, 29 respondents which is 32, 2% were in the age brackets of 36-45 years. 9 respondents that is 10% fell between 46-55 years and finally only 1 respondent 1.1% was in the age brackets of 56-65 years. 56.6% of the total responded were mainly youth.

This means The Church of Pentecost brings the youth into leadership than the adults. It also means that the Church has a brighter future because the youth in leadership is enough to take over leadership from the old when they go on retirement. 70 of the respondents were males out of the 90 responded representing 77.7% while 20 were females representing 22.2%. The gender ratio was not intentional, the questionnaire was administered based on who was available at that particular time the questionnaire was given out but it also means that the Church brings more males into leadership than the females.

Majority of the respondents 75 of them had attended Tertiary Institution representing 83.3% of the total respondents of 90. Ten (10) of them that is about 11.1% attended SHS and 5 of the remaining respondents had attended JHS representing 5.6%. The results showed that The Church of Pentecost in Tamale Metro have more of its leaders attended Tertiary Institution. 81 respondents which represent 90% attended the recent Lay Leadership Training program and 9 of the respondents which is 10% could not attend. The result shows that the trainers and the trainees attached importance to the Lay Leadership Training program organized by the Church.



4.3 Knowledge in I.C.T. As a Teaching Tool



(Field Data: 2018)

Figure 4.1: Knowledge in I.C.T. as a Teaching Tool

Figure 4.2 shows the respondents knowledge in I.C.T as a teaching tool. The results from the data analysis showed that 84.4% of the responded has ever used ICT as a teaching or learning tool. 15.6% of the responded said they have never used it before. The results shows that majority of the Lay Leaders has an experience on the use of ICT.

68.9% of the respondents said they first encounter the use of ICT in the School, 11.1% said at workshop, 14.4% indicated that at workplace and 5.6% also said they encountered it use at home. It means ICT is widely used in many places and introducing it will not be a new thing to both the trainers and the trainees of the Lay Leaders Training program organized by The Church of Pentecost.

Out of the 90 respondents, 63.3% used Projector/ Power point as a Teaching or Learning tool, 10% used Television, 8.9% used video/ film show and 17.8% used E-Learning.



Since Projector and E – Learning is widely used by the respondents, using it as Teaching and learning aid will not be a problem at all at the Lay Leaders Training program.

98.9% indicated that they will encourage the use of ICT as Teaching and Learning tool and only 1.1% said he will not encourage it use. The results of data collected and analysed shows the urgent need for the Church to integrate the use of ICT in its Lay Leaders Training programs.

Table 4.2: A Cross Tabulation of the Use of I.C.T against other Variables

Use of I.C.T as teaching and learning aid against other variables		Gender		Level of Education			Did you attend the recent lay-leadership training school?	
		Male	Female	JHS	SHS	Tertiary	Yes	No
Have you used I.C.T as a teaching/Learning aid before?	Yes	58	18	2	8	66	68	8
	No	12	2	3	2	9	13	1
	Total	70	20	5	10	75	81	9
How often do you	Always	15	4	0	2	17	17	2
	Most Times	18	9	2	4	21	23	4
	Sometim	30	6	1	3	32	33	3





use ICT as a teaching and learning aid	es							
	Hardly	7	1	2	1	5	8	0
	Total	70	20	5	10	75	81	9
Which I.C.T tool did you use	Projector							
	/Powerp oint	46	11	2	5	50	54	3
	Televisio n	7	2	3	0	6	6	3
	Video/Fi lm show	6	2	0	2	6	6	2
	E- Learning	11	5	0	3	13	15	1
	Total	70	20	5	10	75	81	9
Would you encourage the use of ICT as a teaching and Learning Tool?	Yes	69	20	5	10	74	80	9
	No	1	0	0	0	1	1	0
	Total	70	20	5	10	75	81	9

(Field Data: 2018)

For the cross analysis of respondent's knowledge in I.C.T. as a teaching tool against some socio-demographic characteristics, it can be observed from table 4.2 above that, 58 out of the 70 males have used I.C.T while 18 out of 20 females have used it. Thus for both

males and females, majority www.udsspace.uds.edu.gh have used ICT as a teaching and learning aid, Therefore Gender as a variable has no influence on the use of ICT as a teaching and learning tool. Hence no matter the gender of the Lay leaders, there will always be a high familiarity with ICT. For the Educational level, it can be observed that 3 out of 5 respondents who have JHS as their highest level of Education have not used ICT before as a teaching and learning aid. For the SHS and tertiary levels, Majority have used ICT. This shows that the educational level of the respondents has an influence on the familiarity of ICT, thus the higher the education, the higher the familiarity rate.

Considering how often the respondents used ICT as a teaching and learning aid, it can be observed for a cross examination with the gender that, out of the 70 males, only 7 (10%) hardly use ICT while only 1 out of 20 females hardly use it as a teaching and learning aid. Thus majority of both males and females have either been using ICT always, most at times or sometimes. Gender therefore has no influence on how often the respondent use ICT. With the Level of Education also, most of the respondents of all level have been using ICT as a teaching and learning aid either Always, most often and sometimes, this shows that, the level of education doesn't have much to do with how often the respondent use ICT.

Also, for the type of ICT tool used by the respondents as teaching and learning too, projector/Power point stands out to have the majority. This is followed by E-Learning, and this runs throughout for both the gender and the all Levels of Education thus, there is no matter the gender or the Level of education, respondents will use Projector/Power point as teaching and learning aids.

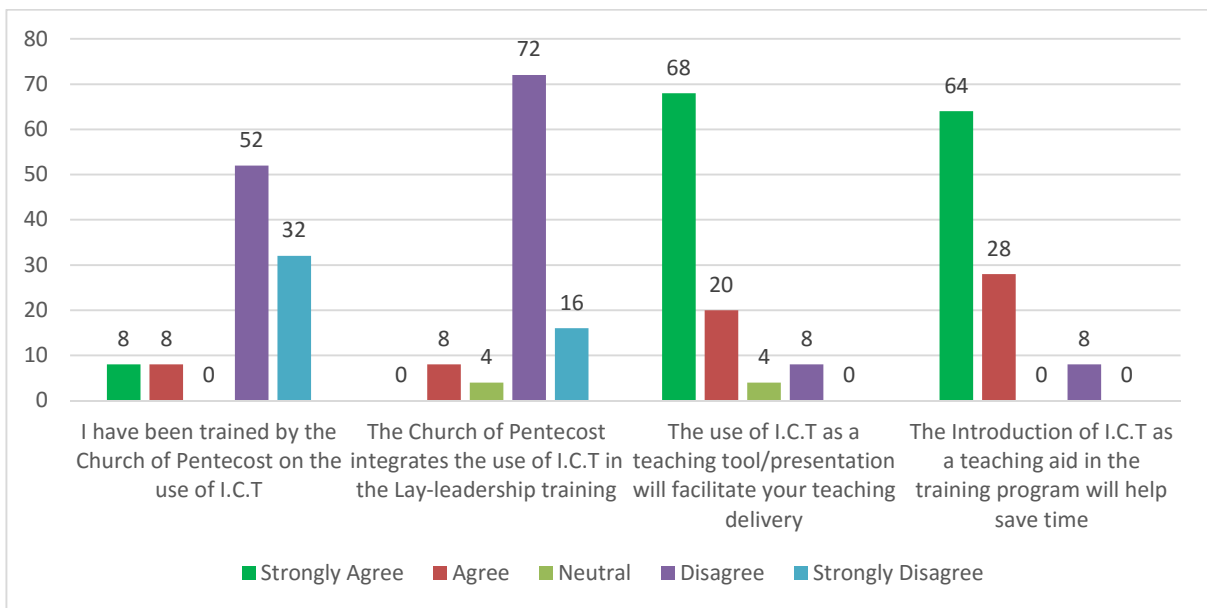
To consider also whether or not, the respondent will encourage the use of ICT as a teaching and learning aid, only one of the respondents would not encourage the use of

ICT. To cross examine that with the gender level, it can be seen that, that respondent is a male. For the educational level, that respondent has a tertiary level of education and the same respondent attended the recent Lay leadership training school. After examining the respondent, he explained that, he would discourage the use of ICT as a teaching and learning aid until there has been a sensitization and adequate training and familiarization of both trainers and trainees.



4.4 Trainers Knowledge and Perception on the Use of ICT

4.4.1 Trainers Knowledge and Perception on the use Of ICT as a Teaching and Learning Tool



(Field Data: 2018)

Figure 4.2 Trainers Knowledge and Perception on the use of ICT as a Teaching and Learning Tool

The data analysis revealed that 84% of the respondents or the facilitators were of the view that they have not been trained by The Church of Pentecost on the use of ICT. The church of Pentecost should introduce ICT training for the Lay Leadership Training Programme



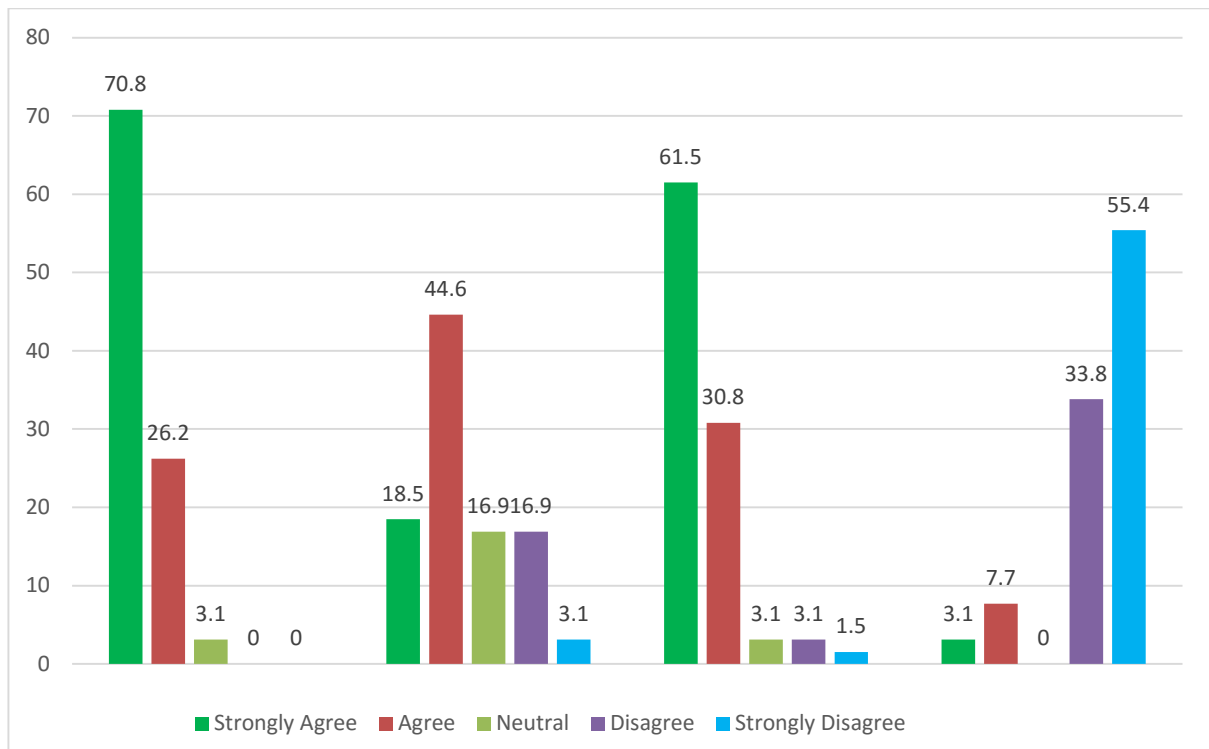
facilitators on the Use of ICT and if possible extend it to the trainees. The trainees can intend introduce it as a teaching and learning tool to the Members of the Church. Only 8% of the responded said they have received training from the Church on the use of ICT.

The results also showed that 88% of the trainers or facilitators said that, ICT is not integrated into the Lay Leaders training program and only 12% said otherwise.92% of the respondents supported the fact that introduction of ICT as a teaching aid in the training program will help save time.

Cabero (2001) also agreed that the use of ICT saves time. According to him, the flexibility time- space accounted for by the integration of ICT into teaching and learning process contributes to increase the interaction and reception of information. Such possibilities suggest changes in the communication models and the teaching and learning methods used by teachers, giving way to new scenario which favours both individual and collaborative learning. Eighty-eight percent (88%) of the respondents accepted the fact that, the use of ICT as a teaching tool will facilitate teaching delivery, 4% showed neutral and 8% disagreed that ICT tool will help in teaching delivery.

According to Majumdar (2002), the integration of ICT offers unprecedented opportunities to the education systems with its capacity to integrate, enhance and interact with each other over a wide geographical distance in a meaningful way to achieve the learning objectives, the growth of the communications system, their ease of use, the power and diversity of information transfer allows teachers and students to have access to a world beyond the classroom, interactivity, flexibility and convenience have become the order of the day in the ICT supported environment, ICT helps the learner to share learning resources and spaces, promote learner centered and collaborative learning principles and enhances critical thinking, creative thinking and problem solving skills.

4.4.2 Trainees Knowledge and Perception on the use of ICT as a Teaching Tool for Lay Leadership Training



(Field Data: 2018)

Figure 4.3: Trainees knowledge and perception on the use of ICT as a teaching tool for lay leadership training

The analysis of the trainees' knowledge and perception on the use of ICT as a teaching tool revealed that 70.8% strongly agreed that ICT motivates learning, 26.2% also agreed to the fact that ICT motivates learning and only 3.1% were neutral. This means that 97% of the trainees support the fact that ICT motivates learning. 44.6% agreed Lay Leaders training program has been interactive without the use of ICT, 18% strongly agreed the program has been interactive and effective without the use of ICT. 16.9% were neutral, 16.9% disagreed and 3.1% strongly disagreed that the past years Lay Leadership training has been interactive and effective without the use of ICT. 61.5% of the responded strongly agreed and 30.8% agreed that the use of ICT as a teaching aid promote collaborative



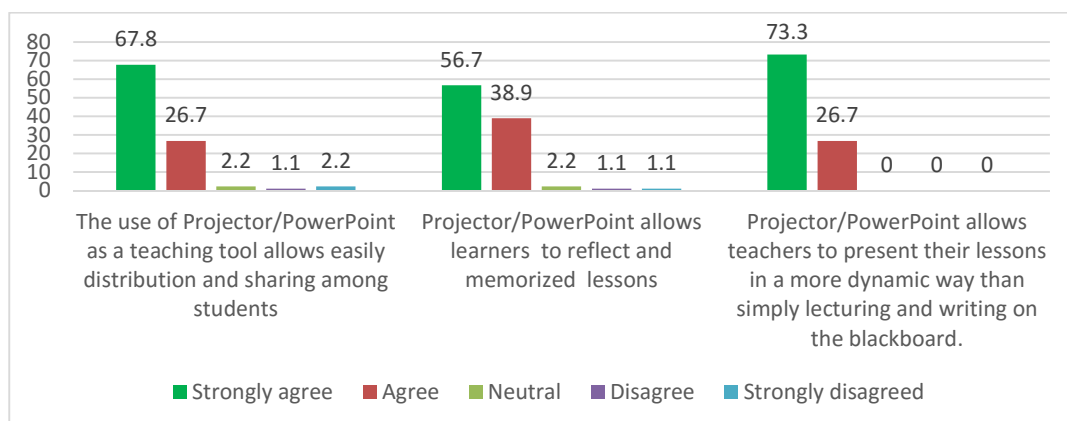
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learning among students. 3.1% were neutral, 3.1% disagreed and 1.5% strongly disagreed. It means that 92.3% of the respondents and for that matter the trainees support that ICT promote collaborative among students. Surprisingly, 55.4% strongly disagreed and 33.8% disagreed that audio- visual communicative methods such as power point or projector, Television are integrated into The Church of Pentecost Lay Leaders Training program.

The results however, showed that, 3.1% strongly agreed and 7.7% agreed that audio Virtual communicative methods are integrated in the Lay Leaders Training Program. In all 89.2% of the respondents said Audio-virtual communicative methods are not integrated in the Lay Leaders Training program. The field of education has been affected by ICTs, which have undoubtedly affected teaching, learning and research (Yusuf, 2005). ICTs have the potential to innovate, accelerate, enrich and deepen skills, to motivate and engage students to help create economic viability for tomorrow's workers, as well as strengthening teaching and helping school change (Davis and Tearle, 1999; Lemke and Coughlin, 1998; cited by Yusuf, 2005).

4.5 Effects of I.C.T as a Teaching Tool

4.5.1 Effects of Projector/Power-point as a Teaching Tool



(Field Data: 2018)

Figure 4.4: Effects of Projector/Power-point as a Teaching Tool

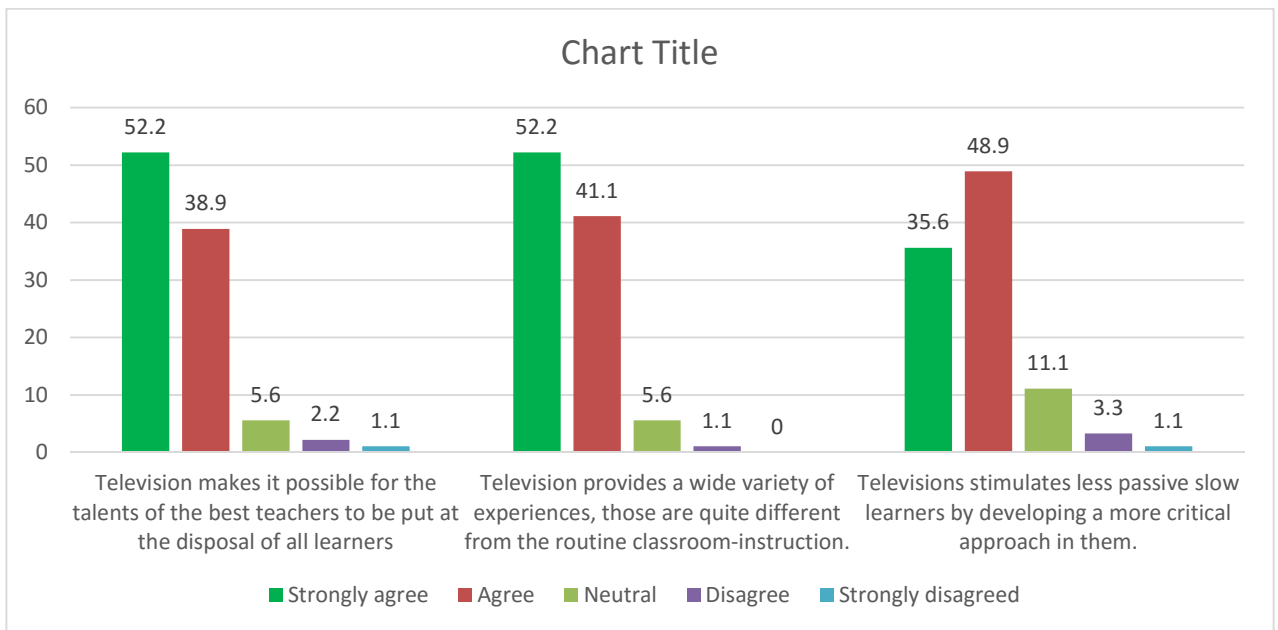
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On the effects of projector or power point as a teaching tool, 67.8% of the respondents indicated that the use of projector/ power point allows easily distribution and sharing among students. 26.7% agreed that it allows easily distribution and sharing among students. 1.1% disagreed, 2.2% strongly disagreed and 2.2% were neutral about the fact that Projector allows easily distribution and sharing among students. 94.5% of the respondents were of the view that projector/ power point allows easily distribution and sharing among students. 56.7% strongly agreed that projector/power point allows learners to reflect and memorized lessons. 38.9% agreed that it really support learners to reflect and memorize lessons. A total of 95.6% of the respondents accepted the fact that projector allows learners to reflect and memorized lessons

However, 2.2%, 1.1% and 1.1% were neutral, disagreed and strongly disagreed that projector allows to reflect and memorize lessons. 73.3% strongly agreed that power point/ projector allows teachers to presents their lessons in a more dynamic way than simply lecturing and writing on the blackboard. 26.7% also agreed that it allows teachers to presents their lessons in a dynamic ways. Interestingly, 100% of the responded supported that projector/ power point allows the facilitators to present their in a more dynamic way than lecturing and writing on the backboard.



4.5.2 Effects of Television as a Teaching Tool



(Field Data: 2018)

Figure 4.5: Effects of Television as a Teaching Tool

From the figure above, it can be observed that, 52.2% of the respondents strongly agreed that Television makes it possible for the talents of the best Teachers to be put at the disposal of all learners. 41.1% also agreed that Television allows the best teachers talents to put at the disposal of all learners.

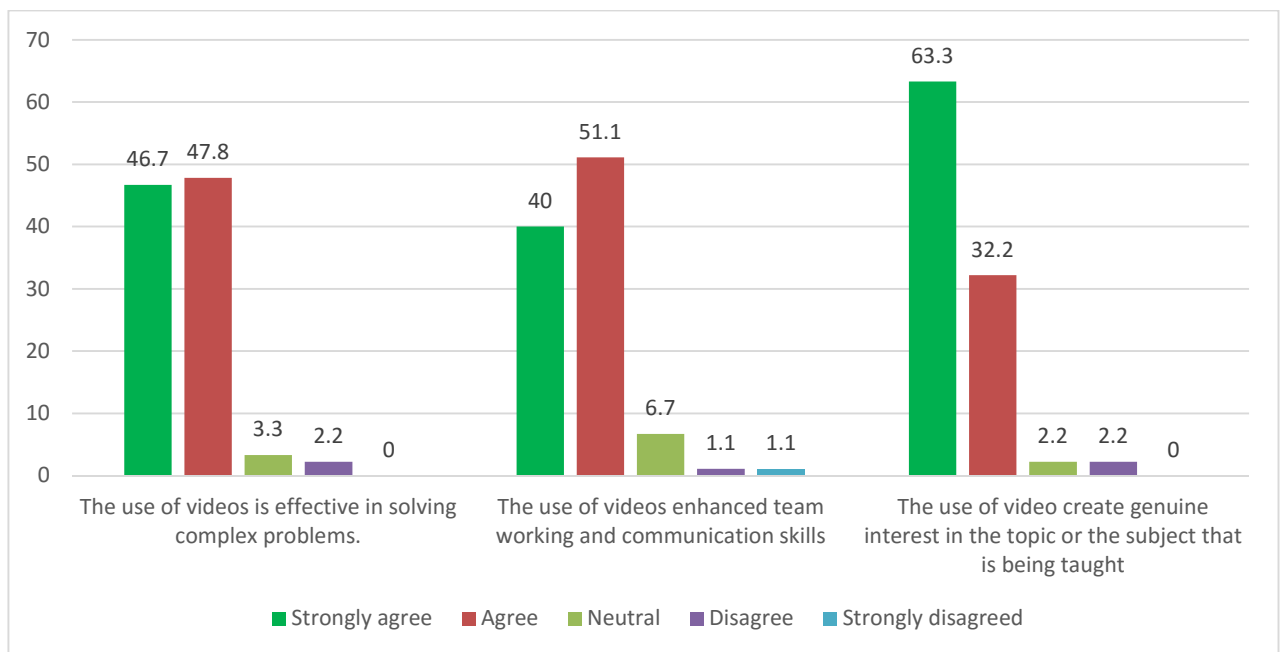
5.6% of the respondents however showed neutral and 1.1% of them disagreed that Television can allow the talents of the best teachers to put at the disposal of all learners. The analysis showed that 93.3% of the respondents said Television allows the talents of the best teachers to be put at the disposal of all learners. 52.6% and 41.1% of the respondents strongly agreed and agreed respectively that Television provide a wide variety of experiences, those are quite different from the routine classroom instructions.

5.6% of the respondents were neutral and 1.1% disagreed. It means 93.7% support the fact that Television provides variety of experiences which are quite different from the



routine classroom instruction. 35.6% of the respondents strongly agreed that Television stimulates less passive slow learners by developing a more critical approach in them. 48.9% agreed. 11.1% were neutral, 3.3% disagreed while 1.1% of the respondents strongly disagreed that Television stimulates less passive slow learners by developing a more critical approach in them. A total of 84.4 supported that Television stimulates less passive slow learners by developing a more critical approach in them.

4.5.3 Effects of Video as a Teaching Tool



(Field Data: 2018)

Figure 4. 6: Effects of Video as a Teaching Tool

Figure 4.7 above shows that, 46.7% of the respondents strongly agreed that the use of video is effective in solving complex problems, 47.8% also agreed but 6.7% were neutral, 1.1% disagreed and 1.1% also strongly disagreed that video can be used to solve complex problems.94.5% of the respondents were of the view that Video really can solve complex problems.40% of the respondents strongly agreed that the use of video enhances team working and communication skills, 51.1% also agreed that video improves team work and



communication skills. Also, www.udsspace.uds.edu.gh 6.7% of the respondents were neutral, 1.1% disagreed and 1.1% strongly disagreed. 91.1% of the respondents said, video can be used to enhance team work and communication skills. 63.3% strongly agreed that the use of video creates genuine interest in the topic or the subject that is being taught. 32.2% agreed that it was true. 2.2% were neutral and 2.2% also disagreed that video enhances team work and improves communication skills. 95.5% of the respondents are of the view that the use of video creates genuine interest in the topic or the subjects that is being taught.



SUMMARY OF FINDINGS, CONCLUSION ANDRECOMMENDATIONS

5.0 Introduction

This chapter captures the summary, conclusion and recommendations of the study. The chapter summarizes the results of improving the capacity of lay leaders in the use of ICT as teaching and learning tools in the Church of Pentecost, in Tamale Metro. The chapter continues to make recommendations based on the findings of the study.

5.1 Summary of Findings

5.1.1 Knowledge in ICT as a Teaching and Learning Tool

The results from the analysis revealed that majority of the responded have used ICT as a teaching or learning tool before. Thus majority of the Lay Leaders have an experience in the use of ICT. Also, majority of the respondents had their first encounter of the use of ICT in the School, whiles others also had their first encounter at workshop, workplace and at home. This shows that ICT is widely used in many places and the school is the principal place of encounter for most of the respondents. Also, for the type of ICT tool used by the respondents as teaching and learning too, projector/Power point stands out to have the majority, followed by E-Learning and then Television.

5.1.2 Trainers Knowledge and Perception on the use of ICT as a Teaching and Learning Tool

It was also realized from the analysis majority of the respondents or the facilitators (trainers) have not been trained by The Church of Pentecost on the use of ICT for the lay leadership training. The results also showed that majority of the facilitators (trainers) indicated that ICT is not integrated into the Lay Leaders training program and only few



indicated otherwise. Also, www.udsspace.uds.edu.gh Majority of the respondents (both trainees and trainers) supported the fact that the introduction of ICT as a teaching aid in the training program will help save time. Majority of the facilitators (trainers) also strongly accepted the fact that, the use of ICT as a teaching tool will facilitate teaching delivery,

5.1.3 Trainers Knowledge and Perception on the use of ICT as a Teaching and Learning Tool for Lay Leadership Training

For the trainees' knowledge and perception on the use of ICT as a teaching tool, the analysis revealed that majority of the respondents strongly agreed that ICT will motivate teaching and learning in the lay leadership training. The rest either agreed or have a neutral stand to the fact that ICT motivates learning, while there was no indication for disagree or strongly agree. Thus, almost all of the respondents are of the view that ICT will motivate teaching and learning in the lay leadership training.

Majority of the respondents also agreed that Lay Leaders training program has been interactive and effective without the use of ICT, only few disagreed that the past years Lay Leadership training has been interactive and effective without the use of ICT. This may have been because ICT has not been introduced or used before in the lay leadership training and thus the participants are addicted to and comfortable with the traditional way of conducting the leadership program.

Also, most of the respondents (trainees) were in agreement that the use of ICT as a teaching and learning aid promotes collaborative learning among students. Only few of the respondents disagreed. Thus almost all of the respondents and for that matter the trainees support that ICT promote collaborative among students.

It was also realized that, almost all of the respondents disagreed that audio-visual communicative methods such as power point or projector, Television are integrated into





The Church of Pentecost www.udsspace.uds.edu.gh Lay Leaders Training program. Few indicated otherwise, explaining that some facilitators use Laptops and other devices like tablets to visually display some of the contents. Thus, it was realized that the ICT has not been employed or integrated into the Church of Pentecost Lay Leadership Training Program.

5.1.4 Effects of Projector/Power Point as a Teaching and Learning Tool

The analysis showed that, Majority of the respondents indicated (with strongly agree and agree choices) that the use of projector/ power point allows easily distribution and sharing among students. Only few indicated otherwise. It has been found also that, those who indicated otherwise are not really familiar with the use of Power-point/ Projector. Majority of the respondents also accepted the fact that projector allows learners to reflect and memorized lessons. Almost all the respondents agreed that power point/ projector allows teachers to presents their lessons in a more dynamic way than simply lecturing and writing on the blackboard

5.1.5 Effects of Television as a Teaching and Learning Tool

The analysis of responses showed that, majority the respondents agreed (with the strongly agree and agree choices) that Television makes it possible for the talents of the best Teachers to be put at the disposal of all learners. Also, majority of the respondents indicated affirmatively that Television provide a wide variety of experiences, those are quite different from the routine classroom instructions. Only few indicated otherwise. The analysis also revealed that majority of the respondents supported that Television stimulates less passive slow learners by developing a more critical approach in them.

5.1.6 Effects of Video as a Teaching and Learning Tool

The analysis revealed that, majority of the respondents agreed (with the strongly agree and agree options) that the use of video is effective in solving complex problems.

Majority also affirmed that, the use of video enhances team working and communication skills. Also, it was seen that majority agreed that the use of video creates genuine interest in the topic or the subject that is been taught.

5.2 Conclusion

From the results, it can be concluded that The Church of Pentecost, Tamale Metro, has not integrated any ICT tool into the Lay leadership training Program. Nevertheless, the respondents, who form lay leaders in the church of Pentecost in Tamale Metro have used ICT as a teaching or learning tool before. Since they have an experience in the use of ICT as a teaching and learning tool, implementing, employing and integrating ICT into the lay leadership training will not be so challenging for the participants.

The facilitators (trainers) have not been trained by The Church of Pentecost in the use of ICT for the lay leadership training, thus they don't use any modern ICT method in their facilitation. This consequently affects the effectiveness of their delivery and their impact on the trainees since the trainees accepted the fact that, the use of ICT as a teaching tool will facilitate teaching delivery.

For the trainees, the use of ICT as a teaching and learning aid promote collaborative learning among students. We can conclude thus that the previous year's lay leadership training programme has not been collaborative among trainees since ICT as a teaching and learning Aid has not been integrated into The Church of Pentecost Lay Leadership Training Programme.

Also for the trainers/facilitators, ICT allows teachers to presents their lessons in a more dynamic way than simply lecturing and writing on the blackboard. Thus, in the previous year's Lay leadership training program, lessons were not dynamically presented thus it did not stimulate the passion of trainees especially less passive slow learners



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For all the respondent categories, ICT methods creates genuine interest in the topic or the subject that is been taught. Thus it can be concluded that, the previous year's Lay Leadership School was not able to attract the interest of the participants.

5.3 Recommendations

The Leadership of the church of Pentecost should take steps to implement and integrate modern ICT methods of Teaching and learning into the lay leadership training programme. This will facilitate effective teaching delivery from the trainers and also help the trainees by creating genuine interest in the topic and promote collaborative learning among them. Power-point/ Projector method should be employed as a principal tool since majority of the lay leaders are more familiar with this tool than the others. Thus The Church of Pentecost must take steps to acquire Projectors and computers for the facilitation of the lay leadership training programme

The Church of Pentecost should organize a training programme and ICT workshops for Lay leadership training facilitators in the use of ICT as a teaching tool. This will enable them present their lessons in a more dynamic way than simply lecturing and writing on the blackboard so as to help improve the effectiveness of their delivery and their impact on the trainees.

Frequent Workshops should be organized for the Lay leaders in the Church of Pentecost to familiarize them on the modern ICT tools for teaching and learning and the advantages. This will help denigrate some of the difficulties and challenges.

Also, since majority of the lay leaders who are well educated are more familiar with modern ICT tools for teaching and learning, the church should ensure that in the subsequent appointment of lay leaders, majority should be well educated so that they



wouldn't have challenges with the modern ICT tools for teaching and learning and the Church would not spend too much in organizing ICT workshops.



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APPENDIX A

SAMPLE QUESTIONNAIRE FOR TRAINERS

UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF EDUCATION

QUESTIONNAIRE

Questionnaire on improving the capacity of lay leaders in the use of Information Communication Technology (I.C.T) as a teaching tool among leaders in the Church of Pentecost, Lameshegu District. This questionnaire is designed for academic purpose by a final year student in UDS, in partial fulfilment for the award of Masters in training and development (MTD). All information provided on this sheet shall be held anonymous and confidential. Kindly provide appropriate response to the questions by ticking the designated boxes provided and fill-in where necessary. By accepting to complete the questionnaire, it suggests you have consented to be part of the research.

Date of Interview..... Questionnaire number.....

SECTION A: SOCIO-DEMOGRAPHIC DATA

Please tick and fill-in where appropriate.

- 1) Age group
A. 16-25 [] B. 26-35 [] C. 36-45 [] D. 46-55 [] E. 56-65 []
- 2) Gender A. Male [] B. Female []
- 3) Nationality A. Ghanaian [] B. Others, Please specify.....



- 4) Level of Education www.udsspace.uds.edu.gh
 A. J.H.S [] B. S.H.S [] C. Tertiary []
- 5) Did you attended the resent lay-leadership training school?
 A. Yes B. No
- 6) What is your role in the lay-leadership training
 a. Trainer b. Trainee c. Other, please specify

SECTION B; KNOWLEGDE IN I.C.T. AS A TEACHING TOOL.

- 7) Have you used I.C.T as a teaching/Learning aid before? A. Yes [] B. No []
- 8) If yes, please where was your first encounter? (circle where relevant)
 A. School B. Workshop C. Workplace D. Home
- 9) How often do you use ICT as a teaching and learning aid
 A. Always B. Most times C. Sometimes D. hardly
- 10) Which I.C.T tool did you use
 A. Projector/PowerPoint B. Television C. Video/film show D.E-Learning
- 11) Which type of computer system do you have
 A. Desktop B. Laptop C. Smartphone D. Other please
 specify.....
- 12) Do you have access to internet
 A. Yes B. No
- 13) Would you encourage the use of ICT as a teaching and Learning Tool?
 A. Yes B. No



SECTION C: TRAINERS KNOWLEDGE AND PERCEPTION ON THE USE OF ICT AS A TEACHING TOOL FOR LAY LEADERSHIP TRAINING (11-14)

Plases indicate your opinion with each statement by ticking in the appropriate box

	Strongly agree	Agree	Neutral	Disagree	Strongly disagreed
14. I have been trained by the Church of Pentecost on the use of I.C.T					
15. The Church of Pentecost integrates the use of I.C.T in the Lay-leadership training					
16. The use of I.C.T as a teaching tool/presentation will facilitate your teaching delivery					
17. The Introduction of I.C.T as a teaching aid in the training program will help save time					



SECTION E: EFFECTS OF I.C.T AS A TEACHING TOOL ON LEARNERS.



	Strongly agree	Agree	Neutral	Disagree	Strongly disagreed
Projector/PowerPoint	agree				disagreed
18. The use of Projector/PowerPoint as a teaching tool allows easily distribution and sharing among students					
19. Projector/PowerPoint allows learners to reflect and memorized lessons					
20. Projector/PowerPoint allows teachers to present their lessons in a more dynamic way than simply lecturing and writing on the blackboard.					
VIDEO					
21. The use of videos is effective in solving complex problems.					
22. The use of videos enhanced team working and communication skills					



23. The use of video create genuine interest in the topic or the subject that is being taught.					
TELEVISION					
24 Television makes it possible for the talents of the best teachers to be put at the disposal of all learners					
25 Television provides a wide variety of experiences, those are quite different from the routine classroom-instruction.					
26 Televisions stimulates less passive slow learners by developing a more critical approach in them.					

27. The use of I.C.T as a teaching aid will promote teaching and learning among participants of the Lay-Leadership training. A. Yes [] B. No []

28. If yes, can you explain further?

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29. What should be done to improve upon the use of ICT as a Teaching and Learning aid in Tamale Metropolis

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SAMPLE QUESTIONNAIRE FOR TRAINEES

UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF EDUCATION

QUESTIONNAIRE

Questionnaire on improving the capacity of lay leaders in the use of Information Communication Technology (I.C.T) as a teaching tool among leaders in the Church of Pentecost, Lameshegu District. This questionnaire is designed for academic purpose by a final year student in UDS, in partial fulfillment for the award of Masters in training and development (MTD). All information provided on this sheet shall be held anonymous and confidential. Kindly provide appropriate response to the questions by ticking the designated boxes provided and fill-in where necessary. By accepting to complete the questionnaire, it suggests you have consented to be part of the research.

Date of Interview..... Questionnaire number.....

SECTION A: SOCIO-DEMOGRAPHIC DATA

Please tick and fill-in where appropriate.

1) Age group

B. 16-25 [] B. 26-35 [] C. 36-45 [] D. 46-55 [] E. 56-65 []

2) Gender A. Male [] B. Female []

3) Nationality A. Ghanaian [] B. Others, please specify.....

4) Level of Education A. J.H.S [] B. S.H.S [] C. Tertiary []



SECTION D; TRAINEES KNOWLEDGE AND PERCEPTION ON THE USE OF ICT AS A TEACHING TOOL FOR LAY LEADERSHIP TRAINING (15-18)

Plases indicate your opinion with each statement by ticking in the appropriate box

	Strongly agree	Agree	Neutral	Disagree	Strongly disagreed
14. The use of I.C.T motivates learning.					
15. The past years lay leadership training has been interactive and effective without the use of I.C.T					
16. The use of I.C.T as a teaching aid promote collaborative learning among students					
17) Audio-visual communicative methods such as Projector/PowerPoint, television have been integrated into the church of Pentecost leadership training.					



SECTION E: EFFECTS OF I.C.T AS A TEACHING TOOL ON LEARNERS.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagreed
Projector/PowerPoint					
18. The use of Projector/PowerPoint as a teaching tool allows easily distribution and sharing among students					
19. Projector/PowerPoint allows learners to reflect and memorized lessons					
20. Projector/PowerPoint allows teachers to present their lessons in a more dynamic way than simply lecturing and writing on the blackboard.					





VIDEO					
21. The use of videos is effective in solving complex problems.					
22. The use of videos enhanced team working and communication skills					
23. The use of video create genuine interest in the topic or the subject that is being taught.					
TELEVISION					
24. Television makes it possible for the talents of the best teachers to be put at the disposal of all learners					

<p>25. Television provides a wide variety of experiences, those are quite different from the routine classroom-instruction.</p>					
<p>26. Televisions stimulates less passive slow learners by developing a more critical approach in them.</p>					

27. The use of I.C.T as a teaching aid will promote teaching and learning among participants of the Lay-Leadership training.

A. Yes [] B. No []

28. If yes, can you explain further?

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29. What should be done to improve upon the use of ICT as a Teaching and Learning aid in Tamale Metro

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