EDUCATIONAL VIDEOS IN TEACHING AND LEARNING: ATTITUDES AND PERCEPTIONS OF STUDENTS AND LECTURERS IN THE FACULTY OF ART, KNUST.

By

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DECLARATION

I hereby declare that this submission is my own work towards the award of a Master of Philosophy degree in Art Education. It contains no material previously published by another person or material which has been accepted for any other degree of the university, except where due acknowledgement has been made in the text.

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ABSTRACT

Video as a multimedia is one of the most important learning media that presents a visually stimulating learning environment. This gives learners the opportunity to understand and memorize information better. However, most teachers give less attention to the relevance of using educational videos in their lessons. Several lecturers at the Faculty of Art, Kwame Nkrumah University of Science and Technology, Kumasi seem to be more comfortable with the traditional classroom method of teaching as it is the most commonly and widely used method in Ghanaian schools. This is because not much have been done to create the awareness and to help teachers in integrating educational videos into their classroom lessons. As such, only a few of them occasionally use this vital educational resource in their lessons. This study therefore aimed at creating awareness of the relevance of educational videos in teaching and learning with the following objectives: to assess the attitudes and perceptions of students and lecturers in the Faculty of Art, KNUST regarding the usage of educational videos in teaching and learning, to find out how educational videos impact students' learning and to propose a model for using educational videos in teaching. Both quantitative and qualitative data were collected using online questionnaires and structured interviews respectively. A Stratified random sample of 301 students and a purposive sample of 5 lecturers responded to the questionnaire and the interviews respectively. Data obtained were analyzed using descriptive statistics for the questionnaire and thematic discussions for the interviews. According to the findings, students see videos as some sort of motivation which help them in their learning activities whiles the lecturers also see it as teaching aids that help them to explain concepts better to their students. In all, the remarks on video as a medium that can be used to complement classroom instructions were encouraging. Majority of the participants were of the view that the videos they watched impacted their learning positively and enhanced their learning approaches as well. Therefore, it is believed that the learning outcomes of students could be improved by instructors through the use of educational videos as a major aspect of the general educational process. As such, the study has proposed a model that can serve as a guide to aid lecturers to effectively use educational videos as part of classroom instruction in the Faculty of Art, KNUST.

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DEDICATION

I dedicate this work to the Nabang and Benson families for their moral, spiritual and physical support towards a successful completion of my MPhil programme.

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CHAPTER ONE

INTRODUCTION

1.1 The Background to the Study

Using video to learn is not new in this world where technology is almost taking over the conventional methods of doing things in today's world. The use of educational videos is on the rise for teaching and learning in various educational environments around the globe. This can be attributed to the fact that continuing technological advancements enable videos to be accessed more easily and faster on multiple platforms and other digital devices. It can be viewed on multiple basic gadgets owned by students, in multiple formats (before, during, and after class sessions). In higher education, the expanding normalness of innovation is driving the suitability and accessibility of web based instructions and the open scholarly resources, and video is assuming a vital role in encouraging these improvements (Bates, 2015; Van den Brink et al., 2014)

Studies on multimedia learning have exhibited more positive results for students who learn from resources that adequately put words and pictures together, instead of those that consist of words alone (Mayer, 2008). According to Allam (2006) the innovativeness in the utilization of moving pictures and sound to impart a concept is indeed engaging and insightful and it additionally empowers students to gain a wide range of transferable skills in their studies. These include but are not limited to collaborative working, research skills, problem solving, technological and organizational skills. These skills when appropriately embedded in a sensibly constructed classroom activity, for instance as a project-based learning activity, they go a long way to combine the different elements of skill, competency and knowledge acquisition, utilizing approaches and technologies that are significant for engaging the present-day students.

Boateng *et al.* (2016) reports that in many parts of Sub-Saharan Africa, the field of education is confronted with a genuine challenge of progressing at the same rate as developed countries are. The principal difficulty is the failure to build up the highest teaching and learning conditions, based on video-situated communication. Video, a

standout amongst the most expanded and unmistakable virtual learning media captures and displays information and offers a visually stimulating learning condition that enables students to understand more and retain information adequately (Fern, Givan, & Siskind, 2011; Syed, 2001). However, Karppinen (2005) states that the importance of videos depends on the ways they are used in normal educational circumstances. If properly done, better results will be achieved from learning activities undertaken by students (Boyle, 1997; Karppinen, 2005).

Furthermore, several researches and scholars have promoted audio-visuals as vital tools for achieving positive learning outcomes. Videos according to Goldman (2007) give great renditions of computerized pictures, sound and text that can be uploaded and transferred to a common virtual community.

Over the last two decades, the use of educationally valuable videos in teaching and learning seems to be on the increase as some instructors employ them in their lecture rooms (Alavi, Yoo, & Vogel, 1997; Rahm & Reed, 1997). Therefore, it can be said that the utilization of videos as a medium of instruction is gently gaining roots in Sub-Saharan African countries, particularly among tertiary institutions (Boateng et al., 2016). Perhaps, video can be as good as a teacher in imparting knowledge or showing methods in helping students to pick up and understand what they are learning.

1.2 Statement of the Problem

Woolfitt (2015) posits that the increase in the use of video as an instructional medium is gradually gaining popularity amid the instance of traditional face-to-face teaching in Higher Education. It could be attributed to the fact that using videos in learning matches several (if not most) students' preference. Also, Prensky (2010) states that some students learn better through images (still/animated), others through words (spoken/written) and majority of them learn better through both. Generally, young people of today prefer videos to reading as a way of learning because audio-visuals provide a rich medium for communicating complex information and it gives them the opportunity to learn at any pace which is convenient for them. For instance, some students may watch the video in bits skipping parts of it which they deem are less

important whereas others will prefer to watch the entire video at once depending on the subject under study (de Boer, 2013).

However, teachers seem to be more comfortable with the traditional classroom method of teaching as it is the most commonly and widely used method in Ghanaian schools. They have not taken much advantage of the opportunities videos offer in the teaching and learning process. Also, the institutional capacity to keep up video as a technique in teaching and learning and social resistance in relation to change are some of the hidden factors (Boateng et al., 2016).

A preliminary study by the researcher through personal conversations with some students (undergraduates, KNUST) revealed that they often resort to videos to help them understand concepts they are taught at lectures to effectively enhance their learning. Others also indicated that some few lecturers occasionally show videos in their lessons during instructional periods to explain concepts. Other times, they give out some of these videos to students to watch after instructional hours. The findings suggest that lecturers give little attention to the utilization of educational videos to complement the traditional classroom instruction in the Faculty of Art, KNUST, Kumasi. This therefore implies that as students in the Faculty are spicing their learning with educational videos, most lecturers do not pay much attention to the use of educational videos in teaching and learning.

Therefore video usage in teaching and learning in the Faculty of Art, KNUST has a lot to do with the awareness, attitudes and perceptions of both students and lecturers toward educational videos, the impact and how they are used both in the teaching and learning processes. However, these areas have not received much attention and as such, not much has been done to support the usage of educational videos in teaching in the Faculty. Therefore, this study seeks to identify the attitudes and perceptions of students and lecturers regarding the use of educational videos in teaching and learning and also to propose a model for the effective integration of educational videos into teaching and learning at the Faculty of Art, KNUST.

1.3 The Objectives of this study

The research sought to achieve these objectives:

1. To identify the attitudes and perceptions of students and lecturers towards the use of educational videos in teaching and learning in the Faculty of Art, KNUST.

2. To find out the impact of educational videos on students' learning in the Faculty of Art, KNUST.

3. To propose a model for using educational videos in teaching and learning in the Faculty of Art, KNUST.

1.4 The Research Questions

1. What are the attitudes and perceptions of students and lecturers towards the utilization of educational videos in teaching and learning in the Faculty of Art, KNUST?

2. How do educational videos impact students' academic life in the Faculty of Art, KNUST?

3. How will a model will help in using educational videos effectively in teaching and learning in the Faculty of Art, KNUST?

1.5 Delimitation

The study is restricted to identifying and analyzing the attitudes and perceptions of both lecturers and students in the use of educational videos in teaching and learning. It also seeks to develop an educational framework for the effective integration of videos into teaching and learning. Geographically, the study is limited to the five Departments in the Faculty of Art, KNUST namely; Communication Design, Industrial Art, Painting and Sculpture, Publishing Studies and IRAI.

1.6 Significance of the study

The proposed model for the integration of educational videos in teaching and learning in higher educational institutions in this study could set the stage for a more persevering effort towards the proper integration of videos (audio-visuals) in lessons taught. This will ensure the provision of opportunities for lecturers to make use of videos to help students with varied learning styles in classroom instructions. Students' access to videos used by lecturers during instructional hours will serve as resources within and outside instructional hours and would therefore deepen students' knowledge and understanding on concepts learned.

1.7 Definition of Terms

This part of the study defined terms as used in relation to the study. They are as follows;

Animation: It is the technique of photographing where images or objects are manipulated to appear as moving images in a film.

Audio: A sound, especially when recorded, transmitted, or reproduced.

Educational video: A resource used to add visual stimuli to teaching and learning.

eQuestionnaire: An electronically generated questionnaire usually administered over the internet to respondents.

Photo: An invention that is a visual or unmistakable rendering of somebody or something with the help of light and it is usually static.

Still image: A static photograph or drawing.

Sub-Saharan Africa: The area of the African continent that is located south of the Sahara. According to the United Nations, it comprises all the African countries that are either fully or partially located south of the Sahara.

Video: A recording of motion images and sound, particularly as a digital file.

1.8 Abbreviations and Acronyms

ADD	Attention Deficit Disorder
AVI	Audio Video Interleave
CPD	Continuing Professional Development
CTML	Cognitive Theory of Multimedia Learning
Com. Design.	Communication Design
DVD	Digital Video Disc
ELT	English Language Teaching
ESL	English as a Second Language
ICT	Information and Communication Technology
IRAI.	Integrated Rural Art and Industry
JPEG	Joint Photographic Experts Group
KNUST	Kwame Nkrumah University of Science and Technology
MPEG	Moving Picture Experts Group
PDF	Portable Document File
SSA	Sub-Saharan Africa
TV	Television
UNESCO	United Nations Educational, Scientific and Cultural Organization
URL	Uniform Resource Locator
VCR	Video Cassette Recording
ISD	Instructional Systems Design

1.9 Organization of the Study

This study consists of five chapters. The first chapter entails the background of the study; the problem statement; objectives of the study, delimitation, and organization of the study. Chapter Two reviewed the literature that discusses the conceptual and theoretical frameworks, the concept of attitudes and perceptions, teaching and learning, learning styles, using educational videos in Higher Education, Effective learning with videos and Effective teaching with and through videos, etc. The third chapter discussed the methodology employed in the study. The fourth chapter presented and analysed the data gathered from the key outcomes of the study, that is, the assembling of data, presentation of data, analysis and the presentation of the proposed model for using educational videos in teaching and learning. Finally, chapter five included the Summary, the Conclusion and the Recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Overview

This section of the study presents the review of related studies that has been conducted on the present study on; *Educational Videos in Teaching and Learning in the Faculty of Art, KNUST; attitudes and perceptions of lecturers and students.* In this chapter, the following are the topics which were discussed:

a. The Cognitive Theory of Multimedia (CTML)
b. The Concept of Teaching
c. Theories of Learning
d. Attitudes and Perceptions of Visual teaching and Learning
e. Howard Gardner's Theory of Multiple Intelligences
f. Visual Literacy
g. Critical Literacy and Media Literacy
h. How Video affects the Brain
i. Using Short Videos as Authentic Materials for Education
j. Benefits of using short videos in teaching
k. Selection of videos for Classroom Usage
l. Why integrate videos in teaching?
m. Instructional Design Model
n. The Technology Acceptance Model (TAM)

2.2 Theoretical Assumption

2.2.1 The Cognitive Theory of Multimedia (CTML)

In this theory, Mayer (2010) and other cognitive scholars underscore that the brain is supported by multimedia in the acquisition of information in the learning process. They believe confidently that learning is more effective when it is done through words and

pictures than when it is done through words only. This is referred to as the principle of multimedia (Gall & Tufte, 2004).

Multimedia experts in general define multimedia as the combination of words and images. Mayer (2010) opines that multimedia learning is done when one builds a mental representation from words and pictures. These words may be in a spoken or written form and the images can appear as graphical representations which include pictures, animation, video, or illustrations. Multimedia as a directive strategy seeks to employ cognitive research to merge both words and images to maximize learning effectively. It is based on this theoretical assumption that the study was undertaken to create awareness on the use of educational videos to complement the traditional classroom instruction with the hope that, lecturers will be encouraged by the findings to do more in integrating educational videos in their lesson preparations.

2.2.2 The Elements of the CTML

The CTML, according to Mayer (2009) dwells on the possibility that students tend to construct meaningful linkage between both words and images and they are able to learn more effectively than they could do with only words or only images. Accordingly, the CTML seeks to help learners to construct mental representation from the presented material in a learning situation. The student's responsibility is to understand the displayed material as a functioning member and be able to construct new knowledge in the end. Also, Mayer (2003) states that the CTML dwells on these three notions: limited capacity assumption, the active processing assumption and the dual-channel assumption.

Sweller (1994) posits that the limited capacity assumption depends on cognitive load theory and states that each sub-system of working memory has constrained limit. Secondly, the dual-channel assumption dwells on the theory of working memory by Baddeley (1986) and Paivio's theory of dual coding (Clark & Paivio, 1991). It is the working memory that has both auditory and visual channels. The third assumption according to Mayer is the active processing assumption which infers that individuals build important knowledge when they focus on the relevant material, at that point arrange it into an intelligent mental structure, and incorporate it with their previous knowledge.

2.2.3 The Three Memory Store Structure of the CTML

CTML adopts a framework which consists of three memory stores as follows; the sensory memory, the working memory and the long-term memory. The sensory memory according to Sweller (2005) is the cognitive component that allows us to see new piece of information. The working memory is the cognitive structure in which a person deliberately processes information, and the long-term memory is the cognitive component that stores our knowledge base. We only become aware of the information in long-term memory when it has been shifted to working memory. According to Mayer (2005), the sensory memory has a visual sensory component that briefly holds both printed text and pictures as visual images; and a sound-related memory that quickly holds sounds and spoken words as sound-related pictures. This sensory memory is also termed as sensory registers (Schnotz, 2005).

The working memory takes care of, or chooses data from the sensory memory for preparation and coordination. The sensory memory holds a correct tangible duplicate of what was displayed for under 0.25 of a second, while the working memory holds a processed version of what was introduced for less than 30 seconds and can process just bits of material at any one time Mayer (2010a). Now, the long-term memory holds the whole store of a man's knowledge for an inconclusive measure of time. Figure 1 is a diagram of how the human memory works according to the Mayer's CTML.

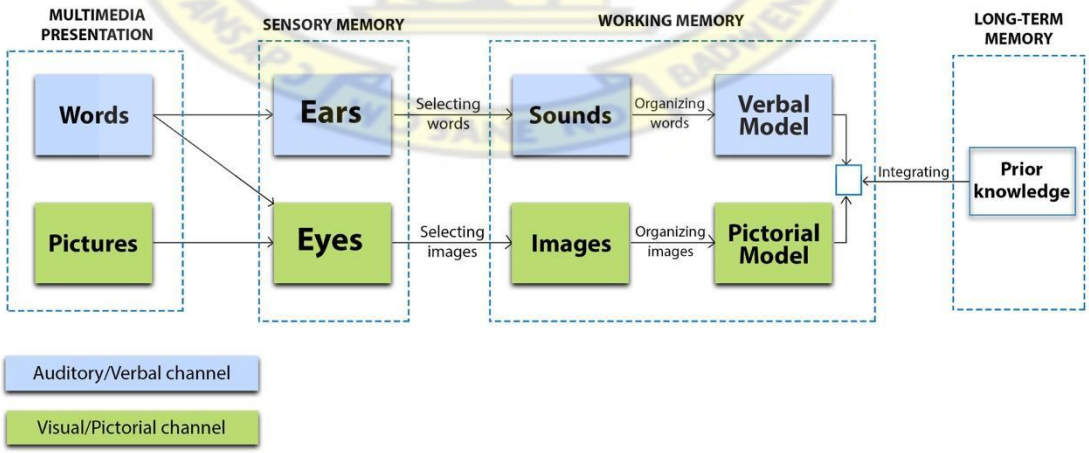

Figure 2.1 The Cognitive Theory of Multimedia Learning (Mayer 2010)

The memory according to Mayer (2005) has five kinds of representation of words and images that happen as data is handled. Each kind shows a specific phase of processing in the three memory stores model of multi-media learning. The first kind of representation is the words and images in the multi-media presentation itself. The second kind is the acoustic representation (sounds) and pictorial representation (images) in the sensory memory. The third kind is the sounds and pictures in working memory. Also, the fourth kind of representation is the verbal and pictorial models which are additionally found in working memory. Finally, the fifth kind is prior knowledge, or constructions, which are kept in long-term memory.

2.3 Concept of Teaching

The term "Teaching" is perhaps not only difficult to define but also mind-boggling as many authors often describe what teaching is instead of defining it. According to Rhodes (1983), teaching is something we do every day. Apart from formal instruction in schools and colleges, guardians show kids how to do things, even young people teach one another, and grown-ups exchange information at work and in the bar and on streets. Each experience of at least two individuals may end up with one or the other teaching something. It might be insignificant; however, it is teaching anyway.

To support this definition, Kalyani *et al.* (2016) say teaching is not restricted to educators and students.. Educating is a procedure which is continuous. The teaching process is a sort of exchange or sharing of information from one individual to the next. The individual who gives out his/her insight is known as the educator and the person who gets it, is known as the educated. Each educated individual is also fit for transferring his/her insight to other individual. Consequently, teaching is an endless process of information exchange.

Therefore, the underlying idea is that teaching is a continuous activity that involves two people where there is a transfer of knowledge from a more experienced person to a less experienced person. There is some subject matter or material that the teacher shares with or presents to learners; that is, there is something that the teacher teaches (the

"stuff" of teaching), be it academic knowledge, personal feelings, or technical skills (Posner, 2000).

Teaching in its broadest sense according to the The Alberta Teacher's Association (2012) is a process that induces learning. Teaching is the structured application of knowledge, abilities and credits intended to give novel service to meet the educational needs of the individual and that of society. Thus, teaching seeks to impart knowledge to students to help them to conform to the norms of society and to be able to make informed choices in life.

Furthermore, Gardner (1983) writes,

> *"Muska Mosston in his book, Teaching; From Command to Discovery, describes teaching as decision-making, and I think that while teaching is more than that, it is at least that. Mosston uses the terms pre-impact, impact, and post-impact to identify the categories of decisions to be made, impact would not be my choice as a word, but Mosston selects it to differentiate between the teacher-student direct encounter, and the work done before and after that encounter. Pre- and post-impact decisions are frequently not considered a part of teaching and I think Mosston has done us a service in reminding us that they are. The continuum he presents, from command to discovery, suggests seven teaching styles in which the teacher and students share varying degrees of responsibility and opportunity for making the essential decisions. While he has an evident bias toward the discovery end of the spectrum, he contends that an effective teacher is one who can use more than one teaching style. Ability to do so allows the teacher to use the process of teaching more creatively in relation to the learners and the content".*

Finally, some scholars think that teaching is an art because some people teach naturally and effectively as if they have been trained to teach. For example; in Ghana some pupil teachers in our basic and junior high schools have been known to be effective in their teaching. However, it should be emphasized that today's or modern teaching has to be considered as a science more than as an art. Tamakloe (1994) holds the view that teaching in these days does not leave things to chance as in the case of teaching as an

art. Whatever the case may be, teachers should make conscious efforts to employ all the necessary skills acquired in order to impact positively on students.

From the discussions and definitions above, it can be deduced that teaching is a conscious process where there is an encounter between two people. During this encounter there is an activity geared towards the transfer of knowledge from an experienced person. This activity should not neglect the many opportunities that technology offers which can enhance teaching. These technologies include, but is not limited to using videos (audio-visuals) to augment teaching in the classroom. The knowledge gained by the learner is to help him/her to become a well-informed person in society.

2.4 Theories of Learning

There are several theories of learning by several scholars and schools of thought in academia. However, for the sake of this study, some of the most influential theories of learning are reviewed in order to lay emphasis on certain practices that the research sees as important in the way students learn in the Faculty of Art.

Learning denotes a process that unifies a person and environmental experiences and influences for acquiring, advancing or transforming one's knowledge, abilities, attitudes, values, conduct and world viewpoints. The Learning theories developed a hypothesis that portrays how the process occurs. The logical examination of learning started energetically toward the start of the twentieth century. It is evident that the potential effects of these theories are on their ascendency in the educational sector across the globe. In that, all practices in the educational sector regarding teaching and learning revolve around these theories. On this note, we look at some of the influential learning theories as follows; the behaviourist theories, the cognitive psychology, the constructivism theory, the social constructivism theory, the experiential learning theory, the multiple intelligence, and the situated learning theory and community of practice.

2.4.1. The Behaviourist theory of Learning

The behaviorist points of view of learning started in the mid-1900s, and ended up prevailing in the mid-twentieth century. The fundamental thought of behaviorism is that learning comprises of an adjustment in conduct because of the influence of the environment on an individual's behaviour. Behaviorists are keen on quantifiable changes in conduct. Thorndike, one astute behaviourist theorist, revealed that (1) reactions to stimuli are strengthened when followed by a positive reward, and (2) reactions to stimuli end up more grounded by exercise and repetition. For the purpose of this study, the researcher dwells on the assumption that educational videos can be used in the classrooms as stimuli to enhance learning. Skinner, another powerful behaviorist, came up with his variation of behaviorism known as the "operant conditioning". In his opinion, compensating the correct portions of the more difficult conduct strengthens it, and supports its repetition. Therefore, reinforcers are intended to manage the manifestations of the expected behaviours. Learning is comprehended as the well-ordered or progressive estimate of the planned incomplete practices using reward and punishment. The best-known utilization of Skinner's theory is a "programmed instruction" whereby the appropriate succession of the partial behaviours to be learned is indicated by explained tasked investigation.

2.4.2 The Cognitive Psychology Theory

Cognitive psychology was started in the late 1950s, and added to the move far from behaviorism. Here, Individuals are never seen as accumulations of reactions to external stimuli as comprehended by behaviorists, but they are seen as information processors. Cognitive Psychology focuses on complex mental phenomena which are overlooked by the behaviorists, and it was impacted by the development of the computer as an information-handling gadget, which was likened to the human mind. In cognitive psychology, learning is comprehended as the securing of knowledge: the learner is an information processor who receives information, embraces intellectual tasks on it, and stocks it in memory. This can be likened to the three store structures of the CTML which are; the sensory memory, the working memory and the long-term memory which performs the following tasks (a) perceiving information, (b) processing information and (c) storing of information respectively. In this manner, it’s appropriate strategies for instruction are lecturing and reading textbooks; and, at its most extraordinary, the

student is not actively involved in the receiving of information from the teacher (Smith, Roe, and Burns, 2011).

2.4.3 The Constructivism Theory

Constructivism rose in the 1980s. It gave rise to the possibility that students are not just beneficiaries of information, but that they effectively build their knowledge in association with the environment and through the rearrangement of their psychological structures. Learners are along these lines seen as sense-makers, not just gathering given information but they process it. This perspective of learning prompted the move from just acquiring knowledge to the construction of knowledge analogy. The developing evidence of the constructive idea of learning was likewise in accordance with the work of influential theorists, for example, Jean Piaget and Jerome Bruner. While there are distinctive adaptations of constructivism, what is found in like manner is the learner-centered approach whereby the educator turns into an intellectual guide of student's learning and not an information transmitter. Therefore, introducing a video content in a lesson will give the students the chance to participate in the instructional process by make meaning or constructing relevant knowledge with the visual resource.

2.4.4. The Social Learning Theory

An outstanding social learning theory has been created by Albert Bandura. He works within both cognitive and behavioural systems that embrace attention, memory and motivation. His theory of learning recommends that individuals learn inside a social setting, and that learning is encouraged through ideas such as imitation, modelling and observational learning. Bandura set forward "reciprocal determinism" that holds the view that a man's conduct, environment and individual characteristics all correspondingly impact each other. There are some environments which are rare to both the teacher and the students at the particular moment that learning is taking place. The only option at that particular moment is acquiring an audio- visual resource to help the learner to fully understand what goes on in such environments. In his opinion, children learn from watching others and also from "model" behaviour, which are processes involving attention, retention, reproduction and motivation. The significance of positive role modelling on learning is all around reported (Coleman, 2011).

2.4.5 The Experiential Learning Theory

The Experiential learning theories expand on social and constructivist theories of learning, yet put experience at the center of the learning process. They expect to understand the way and manner in which experiences regardless of whether first or second hand inspire learners and make progress with their learning. Subsequently, learning is about critical experiences in general everyday presence that incite an alteration in an individual's knowledge and behaviours. A persuasive custodian of these theories, Carl Rogers recommends that experiential learning is "self-initiated learning" as people have a distinctive tendency to learn; and that they learn when they are totally engaged with the learning process. Rogers set forward the following insights: (1) "learning must be facilitated: we can't educate someone else specifically", (2) "students turn out to be more rigid when they are threatened", (3) "noteworthy learning happens in a situation where danger to the student is decreased to a base", (4) "learning is well on the way to happen and to last when it is self-initiated". He highlights a dynamic, continual progress where new learning outcomes influences learning situations. This dynamic procedure of progress is frequently considered in literature works on organizational learning (Coleman and Willis, 2015).

2.5 Attitude and Perception of Visual teaching and Learning

Cennamo (1993) in an assessment of researches on video-based instruction perceived three key factors that could conceivably impact education. First of all, the content of the video and the theme of deliberation. Secondly, the perception of the value of video by the (supposed) learner. Lastly, the reason for the utilization of the video. It has been recommended that information displayed in a visual format is very essential; and the mix of visual information and sound can better help understanding and retention (Baggett, 1989). Various investigations have suggested that the blending of visual information and sound in a learning material enhances better retention than those exhibited through a single information format. Moreover, results from studies among university students have proposed that video enhances learning results. For example, an investigation of 147 psychology students announced that video was a more compelling method of teaching than textual content for displaying real-life circumstances with a specific intention to enhance the student's understanding,

retention and fulfilment (Choi and Johnson, 2007). In some other investigation among students, it was accounted for that videos promoted the relevant parts of learning, and in addition, the enthusiastic inclusion in the whole learning process (Hakkarainen, Saarelainen, and Ruokamo, 2007; South, Gabbitas, and Merrill, 2008).

Moreover, there is a recommendation that video can link knowledge to significant tasks, contexts in which it is utilized (South et al., 2008). Video empowers learning through reflection, where the conventional classroom setting is characterized by a more coordinated effort and discussion which might be hard to accomplish (South et al., 2008). Additionally, Lange (2008) holds the view that video might likewise support and affect emphatically the learning procedures and results. Also, Prensky (2005) recommends that immature learners are particularly responsive to video content since they think that it is interesting and this is beneficial to them in the learning process. In a study by Tang and Austin (2009) looking at the utilization of a scope of instructional strategies, comprising PowerPoint presentation and videos, young learners revealed a great delight, yet they were not really studying from video. On the other hand, matured students opted for video lectures. For such reasons, the study is geared toward adult learners in the Faculty of Art, KNUST.

Mayer further argues that multimedia that incorporates words and images or video promotes learning results than the one which is made of words alone. It has been proposed that multimedia achieved this by helping the sense-making procedure through the use of both the verbal and visual cognitive process simultaneously (Mayer, 2009). The various channels of conveyance, portrayal of thoughts, and the stimulation of the senses given by multimedia brings about a higher intellectual action, improved retention and comprehension of content (Fee and Budde-Sung, 2014).

DeLeeuw and Mayer (2008) and Mayer (2009) propose that to utilize multimedia successfully, extreme handling of information ought to be limited; there ought to likewise be a rearrangement of how essential information is handled; and a procedure where newly discovered information is composed and incorporated to make sense. Notwithstanding, Mayer's standards for utilizing multimedia, basically overlook the learners' social foundation or language abilities (Fee and Budde-Sung, 2014).

The importance of video relies on a scope of variables, considering the manner it is utilized. For example, random video content which is not basic to the main curriculum

can possibly impede learning by over-burdening students and diverting vitality and attention (Mayer, 2009). At the end of the day, the abuse of innovation may contrarily affect (as opposed to help) learning and retention. Likewise, how and what is discovered is additionally a vital factor to consider in a multimedia material. Nonetheless, a challenge to this is the considerable decent variety that has risen up out of the globalization of University campuses. It has been proposed that tertiary education might be a standout amongst the most globalized divisions in the world with students and teachers more portable than previously (Saltmarsh and Swirski, 2010).

Besides, the open door for concurrent interest given by videos do away with a student's quest to compete to be perceived by the teacher and different students (Lynn, 2013). Thus, learners who are thoughtful people can take part in the instructional process without going after consideration, and students who are the outgoing type will not need to hold up until being perceived to take part in the instructional process or discussions (Strauss, 1996; Yelle, Winniford, and Sanford, 1995). Likewise, the utilization of video instead of the conventional classroom encounter diminishes the student's social exposure; and this decreases the nervousness and fear related with self-introduction (Corston & Colman, 1996; Strauss, 1996). In all, these features of a video improve support all the more similarly crosswise over members (Dede, 1990; Strauss, 1996).

In conclusion, with the integration of educational videos into lessons demands that teachers should be mindful of the attitudes and perceptions of their students whether positive or negative to see how best they can address certain misconceptions if any before using such resources. By so doing, they will be considering the content of the video and the theme of deliberation, the value of the video to the (supposed) learner and the reason(s) for which the video is being utilized.

2.6 Howard Gardner's Theory of Multiple Intelligence

Developed by Dr. Howard Gardner, a professor of education at the Harvard University, the multiple intelligences theory suggests that the conventional notion of intelligence based on I.Q. testing is very limited. In order to dispute that intelligence is based on an individual's I.Q., he proposes eight unique intelligences that account for a more extensive scope of human potentials in individuals. They are as follows:

1. Linguistic intelligence ("word smart")

2. Logical-mathematical intelligence (“number/reasoning smart”)
3. Spatial intelligence (“picture smart”)
4. Bodily-Kinesthetic intelligence (“body smart”)
5. Musical intelligence (“music smart”)
6. Interpersonal intelligence (“people smart”)
7. Intrapersonal intelligence (“self-smart”)
8. Naturalist intelligence (“nature smart”)

Gardner again says that our schools and culture concentrate the majority of their consideration on logical-mathematical and linguistic intelligence. We regard the exceedingly eloquent or logical individuals of our culture. Nonetheless, Dr. Gardner says that we ought to also place the same measure of consideration on people who exhibit other intelligences: the architects, dancers, artists, naturalists, fashion designers, advisors, footballers, business visionaries, and other people who advance the world in which we live. However, several children who have these endowments do not get much support in school. A significant number of these children are indeed, tagged as "learning disabled or underachievers" when their unique way of thinking and learning are not considered in an intensely logical-mathematical or linguistic classroom.

The theory of multiple intelligences puts forward a noteworthy change in the way our schools are being ran. It recommends that educators be prepared to present their lessons in a wide assortment of ways utilizing music, craftsmanship activities, multimedia, role play, field trips, inward reflection and significantly more to foster a more inclusive education. Fortunately, the theory of multiple intelligences has caught the eye of numerous teachers around the nation, and many schools are right now utilizing its philosophy to overhaul the way it educates kids. The terrible news is that there are a huge number of schools still out there that instruct in a similar old dull way, through dry presentations (lectures), and exhausting worksheets and textbooks. It is for this reason that this study was conducted to encourage the use of educational videos (multimedia) among others as a part of teaching and learning strategies in the Faculty of Art, KNUST. The test is to get this information out to more instructors, school overseers, and other people who work with children, so that every child has the chance to learn courses in a way that supports their unique personalities.

The theory additionally has solid ramifications for adult learning and development. A number of adults end up with careers or jobs that do not make ideal utilization of their most exceptionally created intelligence and abilities. For instance, the profoundly bodily-kinesthetic person who is stuck in a linguistic or consistent work area when he or she would be considerably more joyful and fulfilled in an occupation which demands physical strength. This theory gives adults a radical better approach to take a look at their lives by analyzing possibilities that they deserted in their adolescence.

Figure 2.2 Howard Gardner's Theory of Multiple Intelligences

2.7 Visual Literacy

Conventionally, print media have been the main focus of schools, but new communication modes have made it necessary to reconsider what reading entails and its functions in the blends of texts and pictures, movements and sounds, designs and letters that account for the situations of 21st skill education (Hayles, 2010). Also, Semali (2003) gives a wide comprehension of the idea of "content", and characterizes it as any articulation created by writers, artists, or players in the media business.

Gradually, the visual medium of video is taking over quite a bit of what we do today through writing (Marc Prensky, 2012). The visual component of the video content requires the ability to interpret visuals. Being able to interpret visuals demands "the

capacity to comprehend, make and utilize ethically huge amounts of useful pictures, objects, and noticeable activities" (Felten, 2008).

According to Seppänen, Ahonen and Clarke (2006) the viewer starts to contemplate the implications of presentations and visual dispositions and gets to be mindful of the compositions and the powerful links associated with them. If that happens, then visual proficiency has been accomplished. This is firmly identified with film literacy. Also, Monaco and Lindroth (2000) state that film resembles a language but it is not. As such, the techniques utilized to learn a language can be used to study a film. Also, Vetrie (2004) states that literacy skills can be increased by teaching film as literature. He established that utilizing film was more successful as compared to literature as a catalyst for the critical ability to think and reading and writing skills for students who have problems in such areas.

According to Monaco and Lindroth (2009), knowing the language of a film enables viewers to make a number of elucidations and meanings of the moving picture. Also, according to Eken (2002), training learners the way to peruse and understand film enabled them to improve their basic and top-level reasoning capacities. Reacting to being educated on the ability to interpret film, the learners were provided with a "third eye" and were able to see what others could not see.

2.8 Critical Literacy and Media Literacy

Being able to critically analyze visual representations is among the basic abilities to interpret visuals. According to Slavin (2012), having the capacity to differentiate facts from claims, identifying unfairness and finding out the authenticity of a source is an act of critical thinking. The verbs utilized as part of the proficient goal of the Norwegian English subject educational programmes shows the degree of basic reasoning that is a basic requirement at the distinctive standard ranks. At the lower grade levels verb phrases like *identify, recognize* and *give examples* are dominant. The requirement for analytical reasoning expands with grade level and competence goals for English in High school employs verbs like *discuss, justify* and *evaluate*. To achieve these goals, learners are expected to see the subject matter from an alternative point of view, give their own viewpoints, and have the capacity to give purposes behind their points of view. The progress of the programme of study comes after a comparable example to the Bloom's

taxonomy of instructive goals. This is a requesting of learning targets on various levels of comprehension. The underlying levels incorporate retention and comprehension of information and make headway across six phases where the last ranks include analysis and evaluation (Slavin, 2012).

Media literacy and critical literacy are frequently put together and regarded as critical media literacy. A pioneer of Media Literacy Movement in the United States, Elizabeth Thoman says media literacy is not solely having knowledge of the statistics or facts concerning the media. Instead, we are expected to investigate whatever we are viewing, listening to or reading. Additionally, Thoman and Jolls, (2004) argue that we are expected to be sensitive about what is happening around us – and not be lukewarm. Therefore, the control of media is never possible. In this way, it is essential to train students how to basically assess and handle their own particular understanding of the immeasurable amount of information they get day by day from different media.

Furthermore, Thoman depicts five fundamental ideas of media literacy according to the Center for Media Literacy:

(1) All media messages are created.
(2) Media messages are created utilizing a creative language with its own principles
(3) Different individuals encounter similar media message in a different way.
(4) Media have fixed qualities and perspectives.
(5) Media are composed and accrues power or profit.

These ideas draw close by questions that learners ought to put themselves to and are intended to give a system to translating and comprehending media messages. He recommends that teachers ought to be acquainted with the five ideas all together to encourage media proficiency learning at various ages and capacity levels. By so doing, most subjects can be integrated with media.

Kellner and Share (2005) state five basic ideas of media literacy and how educators should take care of them, keeping in mind the end goal to encourage their students to study media literacy. The principal idea of being able to interpret media has to do with the foundation and the making of a media message. This is the establishment of media literacy (Kellner & Share, 2005). This aspect of media literacy underscores the thought that media do not generally introduce facts as straightforward windows, since media

messages are created through a procedure where choices are made on what to incorporate and what to avoid. An analytical enquiry concerning the development procedure of a media message is, as indicated by Kellner *et al.* (2006) a vital beginning point for media literacy. The second idea, "Media messages are created utilizing a creative language with its own principles," concerns how the distinctive media utilize their own language so as to accomplish an intended impact upon its audience. This idea deals with how the media utilize meanings cooperatively and socially and indicate literal meanings as one in the same. This impact is quite a bit of how representations of class, sex and race are seen. Having the capacity to investigate these codes is a vital aspect of critical media literacy (Kellner et al., 2006).

Furthermore, Kellner and Share (2005) examined some other part of media literacy: staying alert that individuals encounter similar media messages in a different way. The interpretation of media messages from various viewpoints can add to multi-cultural education and can advance an individual's perception of media messages (Kellner et al., 2006). The final two ideas center around the installed messages in the media and its emphasis on picking up benefits. Belief systems and money related motivating forces impact the manner by which distinctive media outlets work; it figures out who and what are represented. Also, numerous students do not perceive that the media's part is not simply to engage and inform. They deliver Rupert Murdoch's Fox TV for instance as a media-agent that seeks after a political motivation, to be specific conservative, in light of a legitimate concern for the corporate administration (Kellner et al., 2006).

The functions of the monetary and principal potential formation of media channels are hence essential variables to point out as a major aspect of analyzing media. As expressed by Thoman, the critical media proficiency can be integrated into any curriculum. According to Cooper (2002), not a single thing gives an understandable window into our way of life aside the media. News bulletin, films and television programmes are significant priceless materials that give learners a more profound comprehension of the US way of life. Utilizing media literacy methodologies will make better students and speakers of English. To make media programming in an alternate language clear for learners is sometimes a troublesome undertaken.

2.9 How Video affects the Brain

There are a few intellectual and emotional meanings to utilizing short videos for classroom instruction. Berk (2009), a solid supporter for utilizing short recordings for classroom instruction, traces different parts of the human brain and clarifies a few procedures it experiences so as to empower learning when a video is being viewed. Initially, he recounts the part of the idea of Gardner's different intelligences on the learning result of video utilization for instruction in classroom. This assumption expresses that human intelligence cannot be seen as one entity because it comprises of quite a number of abilities (Gardner, 1983).

The Gardner's different intelligences comprise of logical mathematical, linguistic, bodily kinesthetic, spatial, musical, existential competences, naturalistic, intrapersonal and interpersonal. In an educational situation, the different intelligences viewpoint commonly comes full circle in the utilization of a wide range of learning techniques and strategies so as to consider the varying interests, qualities and shortcomings of a particular group of students. According to Berk (2009) the three most important of the multiple intelligences when it comes to using videos to teach include; Verbal or Linguistic, Visual or Spatial and Musical or Rhythmic. Persons with solid semantic capabilities can comprehend the utilization of both spoken and written communication, whiles those with noticeable visual/spatial intelligence can arrange and control three-dimensional space. Also, Rapp (2009) states that students visual/spatial intelligence need to picture facts as symbols, photos or videos so as to understand it. People with musical/rhythmic intelligence according to Moran, Moran, Kornhaber and Gardner (2006) can comprehend and utilize ideas, for example, pitch melody, rhythm and harmony. Therefore, the audio content in a video according to Berk (2009) can also "inspire passionate responses of liking or disliking and excitement."

Moreover, Berk trusts that video can take advantage of the viewers' passionate intelligence and advance a more profound stage of understanding. This is identified with Gardner's intrapersonal and interpersonal intelligences. These two intelligences according to Moran, Kornhaber and Gardner (2006) incorporate having the capacity to comprehend one's thoughts, emotions and interests, and in addition having the capacity to collaborate well with other individuals.

Furthermore, Berk makes it clear about how the different systematic traits of the human brain make learning possible when an individual watches video. When watching videos, the two halves of the brain are both made active, therefore utilizing both the verbal and nonverbal portions of the brain. The right part is the nonverbal, intuitive and creative side, where as the left part is the verbal, analytical and logical half (Berk, 2009). Also, some specific brain wave frequencies are activated when viewing videos.

Accordingly, video clips full of activity stimulate Beta waves in the brain that capture the learners' notice and enhance the multiple task approach for the computer age students. The alpha waves are also stimulated when a person views a reflective and thought-provoking video clip. According to Berk (2009), the brain is relaxed by these waves and helps to review the message and helps it to go into the long-term memory. Also, Paivio's dual-coding theory has its bearing on the concept that facts are deposited in the image and the verbal systems of the brain, where an activity in one can start an action in the next (Paivio & Desrochers, 1980).

According to Berk (2009), the information that is indicated above through the usage of the verbal and visual stimulants improves retention, comprehension and extensive learning than the stimulant in itself. Also, Paivio, Smythe and Yuille (1968) state that complementing learning with images has a high level task higher than learning by way of only verbal means, as images are more helpfully kept in and recovered from both the long-term and the short-term memories. As a result of the different style of giving out facts, the dual coding theory supports the use of video in the classroom.

2.10 Using Short Videos as Authentic Materials for Education

According to Sherman (2003), video as a present day's medium is being promoted by scholars as a way of using digital technologies to enhance learning. Today's students being born into a technological era makes it necessary for technologies such as videos to be included into classroom instruction and this is a recurring theme for research in education. The ability to interpret visual presentations critically are increasingly turning into vital abilities as the improvement in giving and getting information are advancing. However, teachers who are digital immigrants are expecting that the approach that they

succeeded with when they were students are as yet appropriate for students in the present times (Marc Prensky, 2012).

Some teachers according to Rackaway (2012) decide to dodge multimedia integration in their classroom instruction because of their dedication to the conventional book way of teaching. In examining the solid position of reading materials in English teaching in Norway, Lund (2007) draws attention to the reality that a more helpful purpose of the textbook in English education is the part it has as a guide; it gives both teachers and students a mutual understanding of the content and the objective of a subject. Nevertheless, she argues that to learn a language is a complicated task and it doesn't seem achievable to anticipate a textbook to lead the way and deal with the entire procedure. Thus, there is the need for the integration of multimedia in teaching.

She proposes that teachers ought to know about the conceivable functions and the particular hindrance of the textbook and utilize it as an introductory point instead of a definite domination that impairs their preparation and ability as teachers of language (Lund, 2007). In the development of communicative teaching of language, there has been a delight in the outcomes of utilizing significant material in English Language Teaching. The communicative teaching of language makes it necessary for credible language usage and also the utilization of significant materials. Accordingly, there are contrasting kinds of videos that are not really made with the goal of being utilized for educational reasons. Authentic medium contains genuinely unmodified language.

2.11 Benefits of using Short Videos

Jean Sherman is one researcher who recognized the benefit of utilizing authentic video. She explains the numerous potential outcomes of authentic video in language teaching in a book she wrote *"Using Authentic Video in the Language Classroom".* She mentions Accessibility and motivation as the fundamental purposes behind utilizing authentic videos for classroom instruction. The Web according to Sherman (2003) has a wide assortment of good, affordable and rich videos promptly available at the click of a button and as such she demands this is an asset that neither teachers nor students can overlook. YouTube as one of the internet sites gives instructors relatively boundless exhibits of authentic materials containing target-language sample and in addition topic-specific information. According to Sherman, the capacity to comprehend authentic

materials coupled with encountering the powerful impacts of video is, as indicated by Sherman, extremely inspiring for learners (Sherman, 2003). According to her, authentic video is a significant component of learning language these days and also suggests it can be a replacement for the knowledge that a student gets for staying in an English speaking nation (Sherman, 2003).

Furthermore, Sherman traces few potential uses of authentic videos in language education. First of all, she presents a situation for utilizing authentic videos "for its sole purpose". She indicates being capable of accessing and understanding English-language media is regularly an objective for English language students, and being presented to audio-visual kinds in the classroom will enable students to accomplish it. Secondly, language comprehension and listening skills can be improved by viewing authentic videos as it merges language with a visual measurement. Also, it can work as an example for language and a good asset for the ability to hear accents, lexicon and sentence structure in its original usage. Additionally, the immediate purposes of a language behind authentic videos are important for cultural education and that a little amount of demonstrating is worth long periods of telling from an instructor or a course book (Sherman, 2003). Also, authentic videos have the ability to act as a strong platform for discussions, projects and assignments and when studying literature, the video version of the book is helpful.

Berk (2009) gives several methodologies and advantages to utilizing short videos for classroom instruction. Among these methodologies are utilizing videos to furnish learners with alternate perspectives, to outline ideas, to utilize content to the real world, and essentially for the purpose of getting learners' awareness. He gives a broad rundown of what he accepts to be conceivable learning outcomes of utilizing video clips. Berk's potential results of videos involve expanding the ability to remember and comprehension, empowering the stream of thoughts, producing enthusiasm for the classroom, rousing and inspiring learners, and diminishing tension and pressure from troublesome subjects.

Rackaway (2012) puts forward a defense for utilizing video clips as complements to the written matter to reinforce student learning. A study was done by Rackaway to explore the impacts of utilizing videos clips in a school's political science classroom. It was realized that the urgency of a multimedia complement connects with the learning

style convenience to give a learning experience that learners will both appreciate and gain from (Rackaway, 2012). The results from the research indicated that learners who first found it difficult studying the course benefited from utilizing multimedia complements in the form of higher engagement leads to top scores on written assessments.

Not prescribing video as a swap for written materials, Rackaway in his study proposes that the concurrence of multimedia devices and the reading material enhances student learning (Lund, 2007). Furthermore, the content of the course reading materials does not help the learners' advancement of intercultural awareness, and there is by all accounts an indiscriminate choice of writings and topics, which prompts a vague thought of the motivation behind the cultural items (Lund, 2007). She revealed that few texts appear to have been chosen just for their excitement use, in this manner looking down upon the usefulness of different cultural items. The investigation may then help the reasoning of Rackaway by proposing that educators utilize extra means in addition the course book when covering goals of an educational program in the classroom.

YouTube as a video-sharing website has been studied by several researchers as a media for educational material and as such, it is absurd to overlook the video medium as a ground-breaking learning instrument for the present youth (Marc Prensky, 2012). Learners may benefit as a result of the utilization of video for many different courses. The worth of video as he expresses allows students to "see, hear, and learn from specialists in all fields and view the enormous and developing amount of main source of authentic videos accessible".

Jones and Cuthrell (2011) affirm that YouTube can be utilized as a device to educate and exhibit and also as a gathering for basic investigation and analysis. Also, they express that the comfort of rapidly downloading videos from YouTube spares time because instructors will not need to save recordings from any place and it provides additional space for immediacy amid classroom instruction (Jones & Cuthrell, 2011). Additionally, YouTube's remarking component is a very helpful support for English language learners according to Jones and Cuthrell. According to Jones et. al (2011), with YouTube videos, English language learners will be able demonstrate their writing accuracy and precision while relating with native speakers. The capacity to make an

individual narrate and remark on videos renders YouTube much of a virtual video library and it turns into a social means with two-way interaction.

According to Bloom and Johnston (2010), the YouTube is one of the applications often referred to as Web 2.0 technologies, that refer to a wide assortment of social networking sites with communitarian content and popularly known as participatory culture. They argue that despite the fact that there are a few video sites that are particularly designed for classroom use e.g. the TeacherTube, these sites may deny learners of YouTube's "open to instruction moment," where they can recognize and clarify the nature and validity of the content they experience (Blossom et al., 2010).

The benefits of using short videos as part of the teaching and learning process cannot be overemphasized as the various scholars lay down the numerous benefits that comes with it. It therefore makes it necessary to include it in the instructional process.

2.12 Selection of videos for Classroom Usage

Among the keys to successful utilization of videos is the capacity to choose the suitable medium. Berk (2009) traces three arrangements of indicators that he accepts are important to note while choosing videos. They include

(i) students' traits
(ii) video's offensiveness, and
(iii) structure of the video.

The first set of indicators ought to be deliberately assessed when choosing a video material, and gives thought to areas such as sexual orientation, level of study, language and ethnicity. These components are imperative both with respect to the quantum (length) and level of difficulty of such videos. The second list of indicators deal with the characteristics of the content of the video and language. Berk (2009) calls attention to the fact that, teachers should endeavour to stay away from utilizing videos with offensive content or language for classroom instruction. Videos containing racial problems and more sensitive subjects frequently consist of language and substance which are hostile to the learners.

This stands out from Thoman's opinion about restriction, where she assumes that as long as the learners can evaluate the substance of the facts they get, they do not really need to be protected from conceivably derogatory content. That notwithstanding, Berk trusts that special cases can be created when the abusiveness of the video is a piece of the message or reason for utilizing the video. For this situation, students ought to be mentally prepared before time and made mindful that the offensiveness of the content is for the purpose of education (Berk, 2009). Ultimately, the composition of the video should be suitable for its purpose and educational goal. With these indications, Berk demands that the video ought to be sufficiently long enough to clarify the point; any activity that is not specifically applicable to the purpose ought to be discarded to prevent any misunderstanding. Contextually, authentic, regular language is good except if the language is a piece of the purpose.

Jones and Cuthrell (2011) take a specific view about YouTube as a repository for choosing video medium and how the instructor has a duty regarding guaranteeing the authenticity of the media they utilize. Viewing YouTube as a valuable resource for teachers, they argued that it can be a tremendous "no man's land" of rubbish and comedy that adds not a single thing to the learning procedure". In this way, they push the significance of fundamentally choosing videos by assessing the credibility of the maker of the video, and they ask instructors to see how extensive and intact the facts contained in a video are before using it in teaching their learners.

From the insights by various scholars in this section, videos should be carefully chosen for use in any classroom situation. In light of this, selecting videos requires a careful analysis of its content and the effect that it can have on the students who are going to watch it. This is to ensure that the appropriate video is chosen for appropriate audience.

2.13 Reasons for integrating videos into teaching

As a teacher, regardless of whether you are currently flipping your classroom, investigating blended-learning or doing the traditional teaching, video as part of your lesson has some incredible advantages for your students' learning and memorization. It includes pictorial and sound component to your teaching and helps to capture attention, connects with your students and enhances retention. Also, according to the achievement of YouTube and other video services, it is something that individuals extremely like.

Therefore, the reasons for integrating videos in teaching include but are not limited to the following.

2.13.1 Two out of the five senses are stimulated through videos

In view of the Cognitive theory and proven by research, learning courses particularly in eLearning ought to incorporate words and images, as opposed to using words alone. Students will comprehend the material and remember it easily and better when they are taking part in dynamic learning, and video does just that. It urges students to represent the material in words (narrated or written) and pictures and makes the bond between the pictorial and verbal representation. This essentially enhances retention of the heard and seen and furthermore fosters creative thinking.

2.13.2 Difficult concepts are easily grasped by students.

Video can mix comfortably into micro-learning, so instead of connecting with your students' visual sense by enhancements, utilize explanative videos. This implies utilizing short videos to clarify or demonstrate the knowledge in a show and tell technique that would be hard to speak to something else, and along these lines fusing these videos into bits of information for your students. This is a demonstrated technique for encouraging further cognitive process in students, empowering them to really understand the material.

2.13.3. Video is there for reference in the future

Students can revisit videos when and if it is necessary for them to see and hear a statement or sound again. You only have to explain it once to them.

2.13.4. Learning is made more personalized with Videos

Videos can be watched by students at their own pace. A few students definitely know what you are clarifying and can skip those parts, and a few students may need to watch things more than once in order to understand. This occasionally makes classroom

teaching unexciting for a few and too quick for others. With students having the video made available for them to work through by themselves, it helps them.

2.14 Instructional Design

Instructional design according to Berger and Kam (1996) is a well-organized event of instructional specification that employs instructional theories to secure the standardization of any instruction. In this process, a critical analysis of the needs and goals of learning and the development of delivery systems to address those needs is vital. This comprises the planning of both the activities and the instructional materials. According to Reiser and Dempsey, (2002), the Association for Educational Communications and Technology (AECT) regards an instructional design as a theory and practice of design, development, utilization, management, and evaluation of procedures and resources for learning. It involves creating instructional curriculum that is tailored towards the construction of specific learning results, based not only on pedagogical study, but also on present day instructional procedures.

2.14.1 The ADDIE model

Although several instructional design models exist, they all contain five generic stages. These are:

1. Analyse
2. Design
3. Develop
4. Implement
5. Evaluate

According to McGriff (2001), the stages give dynamic and adaptable directions for effective and efficient instruction. It is referred to as the ADDIE Model. However, this order does not make it compulsory to follow the linear progression through the steps. As such, instructors and instructional designers see this procedure as very helpful because having stages understandably defined makes the implementation of instruction effective (Kurt, 2017).

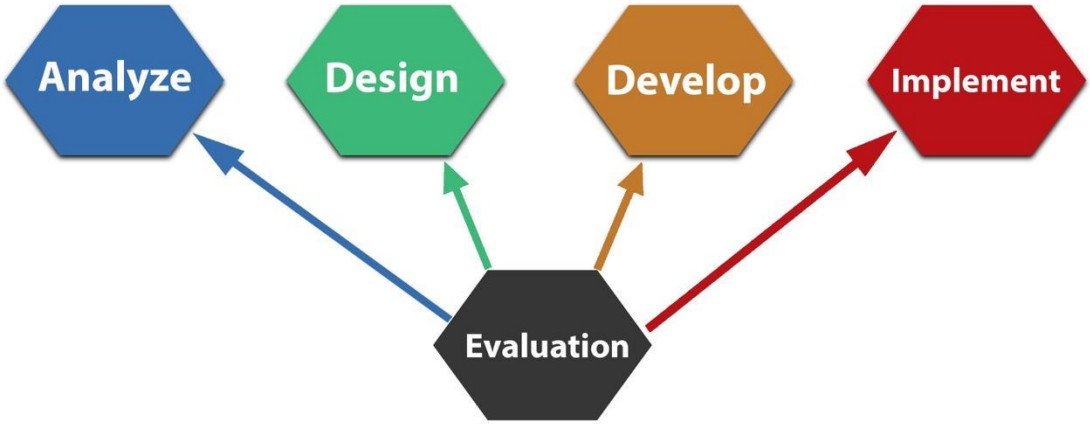

Figure 2.3 The ADDIE model

Source: Netnet.org. (2018)

2.14.1.1 Analysis Phase

The Analysis stage is regarded as the "Goal-Setting phase." The focus of the instructor in this stage is geared towards the target audience. He decides between what the students already know and what they should know after completing the course. Also, the following are determined; the background of the students, E.g. age, skills, attitudes, behaviour, and interests should be determined.

2.14.1.2 Design Phase

The focus in the design phase dwells on learning objectives, content, subject matter analysis, exercise, lesson preparation, assessment, instruments utilized and media selection. The technique in this stage should be structured with a logical, orderly procedure of identifying, developing and evaluating the scheme of plan of action that aims at the achievement of the goals of the project. Also, this stage should find out: the type of media e.g. Audios, Videos, Graphics and the diverse appropriate resources that are needed for the instructional process.

2.14.1.3 Development Phase

It is at this stage that the methodology is produced and tested before being utilized in the instructional process. At this level, the instructor uses data obtained from the first

two stages and utilizes this to create a course that will programme what participants have to learn. This phase involves three activities, called drafting, production and evaluation.

2.14.1.4 Implementation Phase

There is a continual alteration of the program to ensure highest effectiveness and good outcomes are realized. At this stage, instructional designers try to redesign, update and improve the course in order to ensure that it can be carried out successfully. The key aspect here is the procedure. Major part of the actual work is carried out here as instructors and students work together to study new tools, so that they can continually evaluate design for further upgrade.

2.14.1.5 Evaluation Phase

Evaluation is the last stage of the ADDIE model. It is at this stage that the course is subjected to rigorous final check to find out the what, how and whether things were carried out successfully throughout the whole process. This phase is usually divided into two parts: Formative and Summative. The first part really takes place at the development phase while the second part takes place at the end of the programme. The objective of the evaluation phase is to decide if the goals have been achieved. It also helps to find out what may be needed to improve the rate of the efficiency and effectiveness of the programme.

2.14.2. The Dick and Carey Model

At its best, the Dick and Carey Model deals with the connection that exists between educational content, context, learning behavior, and instructional approach. Dick and Carey indicate that elements like the instructor, learners, materials, instructional activities, delivery system, and learning and performance environments work with each other to achieve expected learning results. Burgess (2013) opines that the Model is in sequence and aids in delivering educational contents and it is one of the channels of conducting learning by putting the learner's preference into account. This includes looking for feedbacks at each stage of the model to help make the teaching process effective. The model consists of nine interconnected components that depends on one

other in achieving desired goals (Dick, Carey, & Carey, 2005). Also, the model is based on the principle that learning is constructed when prior knowledge joins together a new set of knowledge under favourable learning situations. The various stages in the Dick and Carey model include:

1. Identifying instructional goals
2. Conducting instructional analysis
3. Analyzing learners and content
4. Writing performance objectives
5. Developing assessment instruments
6. Developing instructional strategy
7. Developing and selecting instructional materials
8. Designing and conducting formative evaluation of instruction
9. Designing and conducting summative evaluation

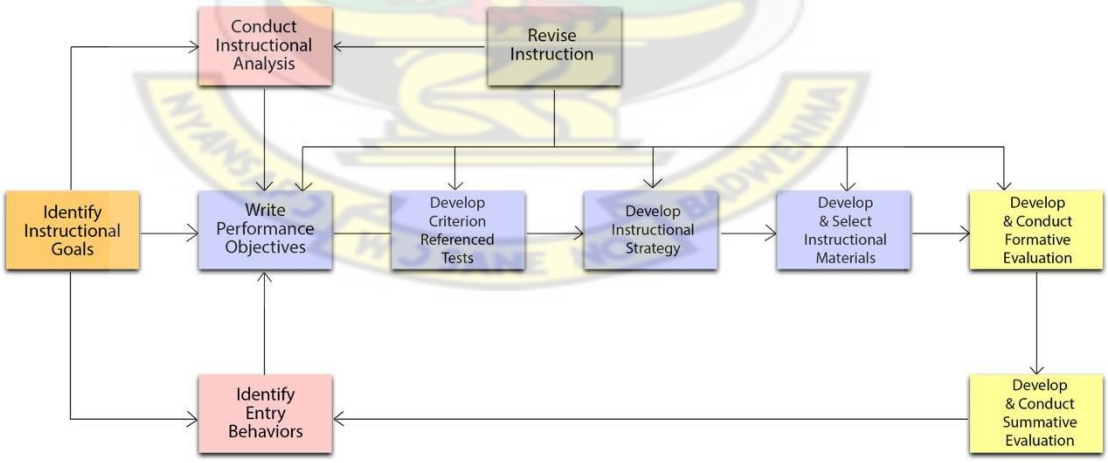

Figure 2.4 The Dick and Carey Model of ISD

Source: Dick, Carey and Carey (2005)

2.14.2.1 Instructional Goals

The first stage is to identify clearly the instructional goals and objectives. This implies that you should indicate what learners ought to learn in order to make them aware. They should know what they will be able to do after taking a course, taking into consideration the knowledge and the skills they will obtain. The instructor should ensure that content taught should be linked up with the real-life situations to help learner relate well with the environment.

2.14.2.2 Instructional Analysis

The second stage of the model is doing an instructional analysis. Here, you determine what learners' prior skills are and that what they will need to learn and how you intend to take them through. If any gap is identified between these two, you look at how to bridge that learning gap before they will be willing to learn whatever lies before them. Also, if there is any skill required by the learner to gain, then you fuse it in the instruction. Others may simply need these skills to master a task on the lesson material at their own pace.

2.15.2.3 Entry Behaviours and Learner Characteristics

The third stage assesses the skill students possess out of the predetermined one needed for this lesson. Organize a search to decide your students' behavourial traits, personal preferences and factors that motivated them to pursue the course they are studying. Here, their characteristics should have direct link with the goals and objectives for the course. This helps you to point out all the knowledge that learners have acquired and that which should be included to give thorough and individualized learning experience.

2.14.2.4 Performance Objectives

At the fourth stage of the Dick and Carey Model, figuring out specific goals and developing performance objectives for the lesson is very prudent. The objectives ought to be detailed ensure that what you are teaching learners what is most important in the lesson. This includes the particular conditions necessary for an activity or skill is executed under supervision from the instructor. However, as far as this model is

concerned, the actual teaching takes off at the eighth stage. This section only gives out a general outline on how to carry out effective teaching.

2.14.2.5 Criterion-Referenced Test Items

At the fifth stage of the model, learners are examined in relation with the performance objectives. This examination reflects what you intend teaching your learners and giving reference to your notes will aid you to fish out what to really test your students on. This is a checkpoint where instructors determine what their students have or have not learnt as far as the goals and objectives are concerned. If they were made to watch a video in order to take notes, the information you wanted them to acquire from the video could also be included it items on the test.

2.14.2.6 Instructional Strategy

After all researches are done and objectives developed, you commence to outline your lesson plan. It is important to take into consideration the various theories of learning that are applicable to the subject matter and the learner characteristics identified during the third stage of the model. This will help the instructor to determine what they want their students to learn and decide how each section will be carried out. This is the appropriate time to determine when and what material will be needed for the activity.

2.14.2.7 Develop and Select Instructional Materials

At the seventh stage, you make sure you have the learning materials and tools that will be needed. This includes the creation of content and any other thing that you know will work in the instructional process. Learner preferences is taken into consideration when selecting instructional materials. However, it is not only limited to the materials for the lesson but a variety of activities that will interest learners. If you plan conducting a test, ensure that you have all the tests materials ready.

2.14.2.8 Formative Evaluation

During this stage, the lesson is evaluated to see how it went. This can be done in focus groups or one-on-one basis only if the class size is small enough. By so doing, identify any weak areas that occurred during the instruction and ensure that they are accurately

fixed for the effectiveness of the instruction. Find out also if students were not stimulated by working in groups or did not work well as some students sat back while their colleagues did all the work. If so, you may need to restructure the content used.

2.14.2.9 Summative Evaluation

The last stage demands a revision. It is at this stage that you do the final assessment to find out if the course really achieved the stated goals and objectives. This can be realized through a post-assessment using tests at the end of the lesson. If there were any activities that did not help in achieving the goals and objectives, such should be cut off in subsequent lessons and vice-versa.

2.14.3. The ASSURE Model

This model as an ISD (Instructional Systems Design) is a process that was adapted to be utilized by teachers in the regular classroom setting. It can be used in writing lesson plans in order to improve teaching and learning. The model has six steps. The steps are as follows:

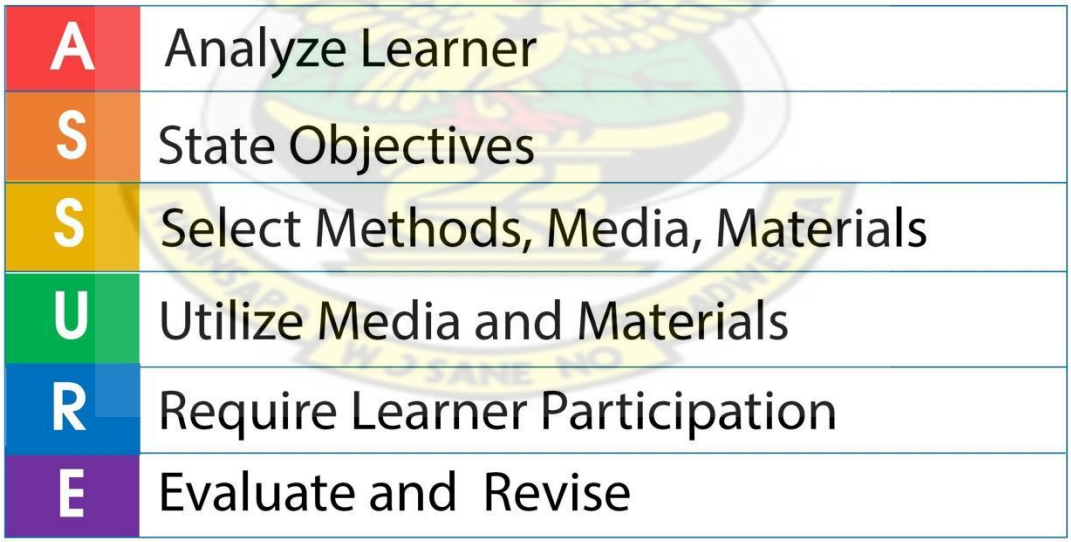

Figure 2.5 The ASSURE model

Source: www.google.com.gh (2018)

2.14.3.1 Analyze Learner

The first step in the ASSURE model process is analyzing the characteristics of the learners. Looking at the learner in detail cannot be overemphasized because nothing can be planned effectively without taking time to understand the learners. There should be a focus on those learner characteristics which have connections with the learning outcomes required. This information will assist in the decisions that you make with respect to the other steps in the process. When you find out the characteristics of the learners, choosing appropriate strategies and materials for the learning procedure will be easy.

2.14.3.2 State Objectives

When the analysis of the learners' characteristics is accomplished, accurate objectives must be set for the learning process. This is to let the learners know what is required of them at the end of the process because it is inappropriate to begin a process without knowing what you seek to achieve. This statement of objectives usually comprises of what learners will be able to acquire after the instruction process and are mostly included in the test items perhaps for grading.

2.14.3.3 Select Methods, Media and Materials

During the third step, appropriate instructional strategies, media and materials that will help in achieving the stated objectives should be carefully selected. Instructors are to determine which instructional method will be most appropriate for the instruction. One could go by lecturing, demonstrating or showing a video. Also, group discussions may be considered. Once an appropriate instructional strategy is determined, appropriate materials that will suit the method is selected.

2.14.3.4 Utilize Media and Materials

This is the step where all plans are made as to how to use selected media and materials. Under this step, the following should be considered.

a. Preview the method, media and materials before actual teaching is done.
b. Prepare the method, media and materials.
c. Prepare the environment. E.g. enough desks, noise level, etc.

d. Prepare the Learners
e. Provide the Learning experience.

2.14.3.5 Require Learner Participation

This step demands that you plan how you are going to get the learners actively involved in the teaching and learning process. The plan must be more specified. Note-taking, discussions and other learning strategies can be employed to get learners to participate throughout the period.

2.14.3.6 Evaluate and Revise

The sixth step marks the last stage in the ASSURE process. It is as important as all the preceding steps. Here, you do an evaluation of the impact of the instructional process on the learners. This involves evaluating the methods, media and materials used and how they affected your lesson. Further, the evaluation should also focus on the learning outcomes of the learners in connection with the stated objectives to see if they have been achieved satisfactorily.

The literature review has provided a vivid understanding of related issues regarding teaching and learning with and through videos and the need to use this visual resource. It has also given an overview of the effects of video on the human brain and how it influences learning. With all this information at hand, it is believed that the study is will consequently influence the usage of educational videos in teaching and learning.

2.15 The Technology Acceptance Model

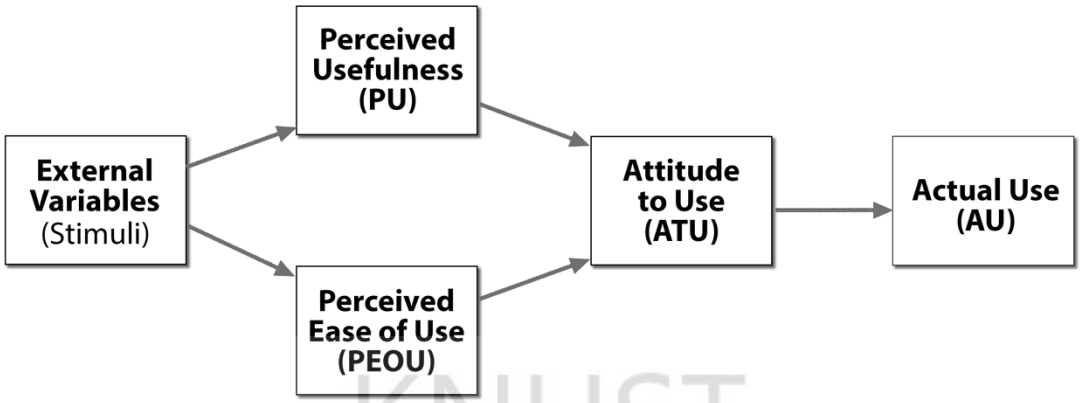

Figure 2.6 The Technology Acceptance Model (TAM)

Source: (Davis, 1986)

This framework proposes that being satisfied with technology is influenced by two major elements: *perceived usefulness* and *perceived ease of use* (Davis, 1986). On the part of the user, the framework presumes that the actual usage of a technology is influenced by both the user's attitude and perception regarding the use of its utility (Davis, 1986). Therefore, an individual's attitude is not the only factor that determines his or her use of a system but also the impact it has on his or her performance. It is for these reasons that the study sought to access the attitude, perceptions and the impact of educational videos on teaching and learning as stated in objectives one and two of the study. Findings from the two objectives provided reasons for the need of using educational videos to enhance classroom instructions in the Faculty of Art, KNUST.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter presents the roadmap of how the study was conducted. It talks about the research design and how it informed the study. Also, it gives a detailed information on the population and how it was obtained for the study. It discussed how data for the study was collected and analysed for the study and the ethical consideration as well.

3.2 Research Design

Research design is the outline or blueprint that serves as a strategy of enquiry conceived so as to get answers to the research questions; it is the core of any study (Kothari, 2004). It provides a framework for the planning, collection and analyzation of data which subsequently indicates the appropriate research methods (Kuranchie, 2016). Also, it is the design that is used to organize the research, to indicate how the main parts of the research project (i.e. the sample selection, treatment of research questions and methods of data collection) work together to address the central research questions (Trochim, 2006). In this study, the survey design was employed.

3.2.1 Survey Design

This study adopted the survey research method, employing quantitative analysis using questionnaires. A survey according to Fowler (2009) provides a numeric description of the trends, the attitudes, or the opinions of a population by studying a sample of it. It implies cross-sectional and longitudinal studies using questionnaires for data collection with the intent of generalizing from a sample of a population.

Christensen, Johnson and Turner (2015) state that survey research is a widely used type of non-experimental research. This research design supports the aims and objectives of the study, that is, objectives 1 and 2 on the use of educational videos in teaching and learning in higher education. Using this design, the researcher collected quantitative or

numbered data using questionnaires (e.g., electronic questionnaires) or structured interviews (e.g., one-on-one interviews using interview protocols).

3.3 Population for the Study

By definition, a research population is a well-defined collection of individuals or objects known to have similar characteristics. For this situation, every one of the people inside a specific populace more often than not have a typical quality. Yount (2006) opines that population comprises of all the conceivable cases (people, objects, occasions) that constitute a known entirety. Be that as it may, with the end goal of this examination, the appropriate definition for population is a group of individuals possessing the same characteristics (Creswell, 2012).

3.3.1 Target Population

A target population according to Explorable.com. (2018) refers to the entire group of individuals or objects to which the researcher is interested in generalizing the conclusions. The target population usually have varying characteristics and it is also known as a theoretical population. The target population in this study, are students and lecturers of Kwame Nkrumah University of Science and Technology (KNUST). KNUST is located in Kumasi, in the Ashanti region of Ghana. It is a Science and Technology University which offers both full-time, part-time, distance learning, undergraduate and postgraduate courses. KNUST as an academic institution has six (6) colleges which include: College of Science, College of Humanities and Social Sciences, College of Art and Built Environment, College of Engineering, College of Agriculture and College of Health Sciences. The study focused on the Faculty of Art under the College of Art and Built Environment.

3.3.2 Accessible Population

The accessible population denotes the population in research to which the researcher applies his/her conclusions. This population is a subset of the target population and is otherwise called the study population. Out of this accessible population, the researcher draws his or her samples. The accessible population for the study includes all first to fourth year students and lecturers in the Faculty of Art, KNUST, Kumasi. On Table 3.1 is a breakdown of the number of students in the faculty.

Table 3.1 The Accessible Population

Departments	Level 100	Level 200	Level 300	Level 400	Total
Communication Design	195	210	161	163	729
Painting and Sculpture	114	41	57	64	276
IRAI	125	78	70	65	338
Publishing Studies	109	254	98	69	530
Industrial Art	120	125	72	91	408
Total	663	708	458	452	2,281

Source: The office of the Dean, Faculty of Art (Field Work 2017)

3.3.3 Sample

A sample according to Creswell (2012) is a subgroup of the target population that researchers plan to study for making generalization about the target population. Several scholars have proposed ways for obtaining samples for a study. According to Barton Essel, (2010; 2011), the bigger the sample, the better it is for the study. This scholar therefore proposes the following as standards for selecting a sample size:

a. For a fewer population less than 100, survey the entire population.
b. If a population size is around 500, 50% should be sampled.
c. If the population size is around 1500, 20% should be sampled.

Also, Annku (2006) suggests that the minimum percentage for the sampling of any significant study is 30%. Furthermore, Krejcie and Morgan (1970) has developed a table for selecting sample size for any study. In all, a sample size of 327 students made up of first to fourth year students from the five departments under the Faculty of Art, KNUST was used for the study. This number was obtained from a total population of 2,281 students as indicated in Table 3.1 using Krejcie and Morgan Sample Size Table (Appendix E).

The departments include: Integrated Rural Art and Industry, Communication Design, Painting and Sculpture, Industrial Art, General Art Studies and Publishing Studies. The Stratified Random Sampling Technique was employed to select the sample because the study is targeted at a large group of persons with the same characteristics which is relevant to the study. In the sampling process, the population (Students under Faculty of Art, KNUST) was divided into groups (departments) called strata as follows:

a. Stratum A (Communication Design)
b. Stratum B (Painting and Sculpture)
c. Stratum C (IRAI)
d. Stratum D (Publishing Studies)
e. Stratum E (Industrial Art)

Each of these Strata (departments) also yielded four sub-strata (Level 100 to 400) each. Then a sample was randomly selected from each of the levels in the departments at the randomization level.

3.3.4 Reasons for Stratification.

a. To find out the estimations of exact precision for certain subdivisions of the population by classifying each subdivision as a stratum.
b. It may also result in a gain in precision of the estimates of features of the entire population.

To minimize the possibility of sampling errors, the following criteria were taken into consideration;

- Sampling was conducted in an objective manner irrespective of the respondents' level of study, gender and age.
- Sampling was done without the influence of any authority.
- Sample was selected across the selected departments to reflect a true representation of the Faculty of Art.

3.3.5 Proportional stratification level

In getting representative sample from each strata of the population sample of 327, the researcher divided the number of students in each department (*d*) by the overall number of students in the faculty (*n* = 2,281) and multiplies the outcome by the total number of required sample size of students for the study (*s* = 327).

Hence the formula; for obtaining the strata was;

$$\text{Strata} = (d \div n) \times s$$

Where *d* is the total number of the students in the department, *n* is the total population in the Faculty and *s* is the sample size.

Therefore;

Stratum A: (729 ÷ 2,281) × 327 = 104.5 = 105

Stratum B: (276 ÷ 2,281) × 327 = 39.6 = 40

Stratum C: (338 ÷ 2,281) × 327 = 48.5 = 49

Stratum D: (530 ÷ 2,281) × 327 = 75.9 = 76

Stratum E: (408 ÷ 2,281) × 327 = 58.5 = 59

3.3.6 Randomization Level

Now, under each of the strata (A-D) above, there are four sub-strata (Levels). In getting representative sample from each sub-strata for the various levels in the various departments, the researcher divides the number of students in each level (l) by the total number of students in that department (d) and multiplies the outcome by the total stratified sample of each department (s). Hence the formula for obtaining the sub-strata was familiar to the first one but with different denotations as follows;

$$\text{Sub-Strata} = (l \div d) \times s$$

Where *l* is the total number of students in each level, *d* is the total number of students in each department and *s* is the total stratified sample of each department. Find diagram in Appendix F.

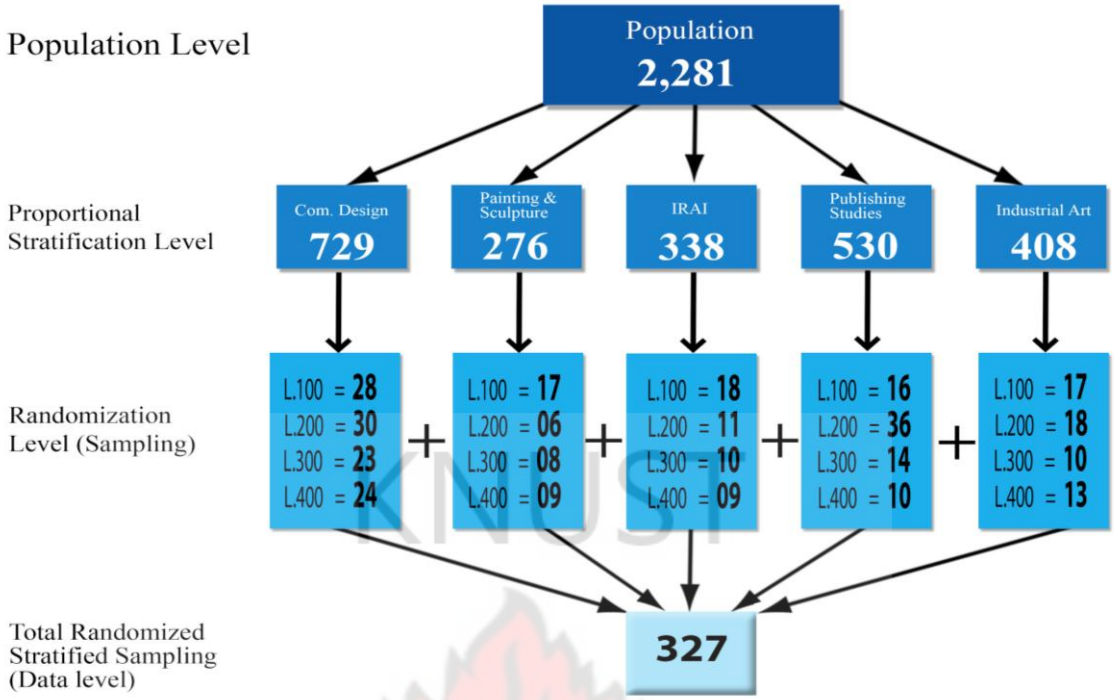

Figure 3.1 Stratification of accessible population for students

Source: Researcher's Construct (2018)

3.4 Data collection instruments

An instrument is a tool used for measuring, observing, or documenting quantitative data (Creswell, 2012). Among the several data collection instruments, the study employed a set of questionnaires and structured interview protocols to collect data from students and lecturers respectively.

3.4.1 Questionnaire

According to Christensen et. al (2015) a questionnaire is a self-report data collection instrument that is filled out by research participants. Questionnaires measure participants' opinions and perceptions and provide self-reported demographic information. A questionnaire consists of a number of questions printed or typed in a definite order on a form or set of forms (Kothari, 2004). The items in the questionnaire were mostly close-ended with a few open-ended items. With the help of the Google Forms software application, the questionnaire was electronically generated and the

URL was shared with participants through the WhatsApp messenger platform. With the help of their digital devices, the questionnaire was easily accessible and answerable.

One set of questionnaires was used for soliciting the views of the respondents (students) concerning the use of educational videos to assist learning. The questionnaire of eight (8) sections that is Section A to H. The first part of the questionnaire Section A, collected a demographical data on the respondents. The items in the demographic section of the questionnaire are Department, Level, Age and Gender. The second, Section B contains items that seek to collect data on digital devices owned by students. Among these items were Smart Phone, Laptop, iPad, etc. The next section which is Section C contains items that sought to find out about the skill level of students in the use of digital devices to access and manipulate videos. A five-point Likert scale was used where points 1 and 2 were the figures that denoted *Not Skilled* with number 4 and 5 on the other side (right) denoting *Skilled.* In between these two sides; *Not Skilled* and *Skilled* is figure 3 which denotes neutral per the interpretation of this study. Section D contained multiple-choice items that sought to obtain information about how students access the videos they employ in their studies. The fifth section; Section E contains multiple-choice items which seek to find out about the preferred video length and the type of videos students mostly used to assist them in their studies. Now, the next two sections, F and G employed a five-point Likert scale to solicit the attitude, perceptions and the impact of educational videos on students' learning. The items on the Likert scale are Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. Finally, the last section of the questionnaire which is section H contained three items which sought to gather information about the importance and usefulness of educational videos. It consisted of three different types of questions which are Likert scale (ten-point), a multiple-choice question (Yes and No) and an open-ended question (Appendix A).

3.4.2 Interviews

According to Brinkmann (2018), interview is a conversational practice where knowledge is produced through interaction between the interviewer and the interviewee. It likewise infers a circumstance where the interviewer solicits information from the interviewee through a series of questions in face-to-face situations or over the telephone Christensen et. al (2015). Interviews conducted for the study were formal

with a structured interview guide. They were conducted with lecturers on one-on-one basis. The interviews which were conducted personally by the researcher primarily sought to find out the views of lecturers concerning video usage in teaching, how they integrate it in their teaching and its implications on teaching. Also, it sought to find out if there was any perceived conflict between video usage in teaching and the traditional method of teaching. The interview guide used consisted of twelve open-ended questions (Appendix B).

3.4.3 Validity and Reliability of research instrument (questionnaire)

Reliability tests of items used to measure the perceptions and the impact educational videos on students' learning were performed using Cronbach's Alpha (α)**.** Cronbach's alpha provides a simple way to determine whether or not a score is reliable. It is utilized under the expectation that you have several items determining an identical basic construct: so, for the measuring the impact, there were 8 questions all asking different things, but when combined, could be said to measure overall impact. Also, there were 10 different items all seeking to determine the perception and attitudes.

In a theoretical perspective, the Cronbach's alpha outcome should give you a number ranging from 0 to 1, but you can get negative numbers in some instances. A negative number implies that there is something wrong with your data. For all you know, you might have forgotten to reverse score some items. The established rule is that a Cronbach's alpha of .70 and above is good, .80 and above is better, and .90 and above is best.

Using the SPSS software in calculating the Cronbach's Alpha (α) to determine if the items truly measures the impact of videos on students' learning and attitudes and perception towards video use in learning, high reliability scores of .900 and .883 were recorded respectively. This indicates that items used are indeed reliable and capable in measuring the impact of educational videos on students' learning.

3.5 Data Collection procedure

Both qualitative and quantitative data were cross-sectionally obtained. For the quantitative component of the study, data collection was done through a web-based survey using an electronic questionnaire (eQuestionnaire). The questionnaire was designed to determine how the students perceive, experience, value videos in their studies and what the impact on their academic performance is. According to Check and Schutt (2012), collecting data over the internet is very beneficial for the procedure involved in the data analysis. This is because the responses are directly piled up in the researcher's database making the probability of data entry flaws very limited. Also, lots of web-based survey instruments gives programmed formatted quantitative data and makes the handling of the data less involving and demanding less mathematical proficiency from the researcher. WhatsApp as a smartphone application aids in the sharing of information instantly through mobile phones and other digital devices. Since its establishment in 2009, its development has regularly increased, and as of April 2016, it recorded over a billion active subscribers monthly. In the midst of other social media chat rooms like Telegram, WeChat, and BBM Line Messenger, WhatsApp is the most popular messaging application with the greatest user base and the powerful corporate backing since its acquisition by Facebook in 2014. Dwelling on its prominence, the study used this platform in collecting quantitative data from respondents. Web Links were sent to respondents over the internet which gave them access to the questionnaire. The researcher moved from department to department and level to level, seeking for permission from lecturers before interacting with students. In all, it took the researcher a period of about eight weeks to collect data from students.

Through students in the faculty, the researcher was able to purposefully sample five lecturers and interviews were conducted. They were identified for their involvement in the utilization of educational videos in their lessons. First of all, an introductory letter from the Head of Department for Educational Innovations in Science and Technology, KNUST was sent to the participants (Lecturers) and different dates were set to meet them for the interviews. During the interviews, the research sought permission from participants in order to record the conversations. The recordings were done with the researcher's mobile phone (Samsung Galaxy A8). Four out of the five participants agreed whiles one of them disagreed to be recorded. In that case, the researcher listened keenly to the conversation whiles writing down the responses. A session with each

participant lasted for about twenty minutes. This exercise also took a period of about four weeks.

3.6 Response Rate

The researcher administered the research instrument (eQuestionnaire) to the 327 respondents and the response retrieved was 301, representing 92% out of the total number of subjects. The response rate is shown in Table 3.2. Therefore, all statistical analysis done in chapter four of this study were based on the total number of the responses received which is 301 (100%).

Table 3.2 Overall response Rate

Number of questionnaires administered	Number of responses retrieved	Percentage (%)
327	301	92

Source: Field Work (2018)

3.6.1 Response Rate according to Departments

Table 3.3 indicates the frequencies and percentages of response of students that make up the 301 (100%) responses retrieved according to departments.

Table 3.3 Response rate according to departments

Departments	**Frequency**	**Percentage**
Communication Design	96	31.9
Painting and Sculpture	36	12
Publishing Studies	72	23.9
Industrial Art	53	17.6
IRAI	44	14.6
Total	**301**	**100**

Source: Field Work 2018

3.6.2 Response Rate according to Gender

Data in table 3.4 is a breakdown of the response rate according to gender. The gender classification that make up this study include; Male, Female and Prefer not to say. The third classification is made up of persons who for reasons best known to them would not want to disclose whether they are males or females. This group forms a minor part of the table which was dominated by males followed by females who covered a significant proportion of the study.

Table 3.4. Response rate according to Gender

Gender	Level 100	Level 200	Level 300	Level 400
Male	55 (58.5%)	59 (66.3%)	31 (54.4%)	33 (54.1)
Female	38 (40.4%)	27 (30.3%)	23 (40.4)	28 (45.9%)
Prefer not to say	1 (1.1%)	3 (3.4%)	3 (5.3%)	0
Total	**94 (100%)**	**89 (100%)**	**57 (100%)**	**61 (100%)**

Source: Field Work (2018)

3.7 Data Analysis Plan

The data was analysed using IBM SPSS Statistics version 25 for Mac (iOS). After data was collected with the Google forms via WhatsApp, it was generated into Microsoft excel spreadsheet and later transferred into the IBM SPSS software for analysis. Descriptive statistics was applied to describe and summarize the data collected from the respondents by using contingency tables and graphs to illustrate data. According to Zimmer (2013), a contingency table is an exceptional kind of frequency distribution table, where two variables are displayed at the same time. Contingency tables (also known as crosstabs or two-way tables) are utilized in statistics to summarize the connection between various variables. Analysis largely depended on statistical measures of frequency and percentage to assess the attitudes and perceptions of students towards the use of educational videos to support learning. Most of the quantitative data collected from students were measured with respect to the demographic variables; gender, age and levels of study.

Also, qualitative data obtained from lecturers was analysed according to themes. Each theme consisted of responses from the five respondents (lecturers) interviewed. Discussions were done under each theme summarizing the responses given by the respondents based on their perceptions towards the use of educational videos to support their lessons in the classroom.

3.8 Ethical Considerations

All participants were assured of their confidentiality and that their identity will not be made known in any part of the study whatsoever during and after the study. An introductory letter (Appendix D) was acquired from the Department of Educational Innovations in Science and Technology, KNUST. Several copies were made and attached to the interview guides. This was shown to the interviewees to make the identity of the researcher known before the interviews were done with the respondents.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Overview

In this chapter of the study, there is a presentation of an in-depth analysis of the main findings of the study. Descriptive statistics and frequencies are also presented. This chapter is in four sections. The first section (4.2) gives information about the demographic details of the respondents. The second section (4.3) discusses findings relating to students' Attitudes and Perceptions towards Video usage in Learning. This is accompanied by the views of lecturers towards the use of educational videos in their classroom instructions. The third section (4.4) discusses the impact of educational videos on students' academic life. Finally, the fourth section (4.5) presents and discusses a proposed video-integration model that seeks to provide directions for the use of educational videos in teaching and learning in the Faculty of Art, KNUST.

4.2 Demographic Data of Respondents

The demographic details obtained from respondents give information about the composition of the population structure and helps to create a mental picture of the sub-groups that constitute the overall population. According to Kirton (2000) demographics information is obtained to understand the sample characteristics and to determine if the sample is representative of the population of interest. The study looked at the respondents' characteristics by identifying their gender, age and level in order to generalize.

4.2.1 Gender Distribution

With gender being a sensitive issue in today's world, respondents were made to indicate their gender type but were also given the opportunity to prefer not to say which of the gender they belonged to. Table 4.1 is a frequency of responses regarding gender. Both males and females were given equal chance of being selected. There was no measure used in selecting the respondents regarding gender.

Table 4.1 Gender Distribution of Students

Gender	Frequency	Percentage
Male	178	59.1
Female	116	38.6
Prefer not to say	7	2.3
Total	**301**	**100**

Source: Field Work (2018)

According to the overall gender of the population, it was recorded that 178 (59.1%) of the total respondents were males, 166 (38.6%) were females and 7 (2.3%) of the respondents preferred not to state their gender classification. It can therefore be concluded from the findings that all students in the study population were given equal chance of being a respondent irrespective of their gender classification. Figure 4.1 illustrates the findings for the gender distribution.

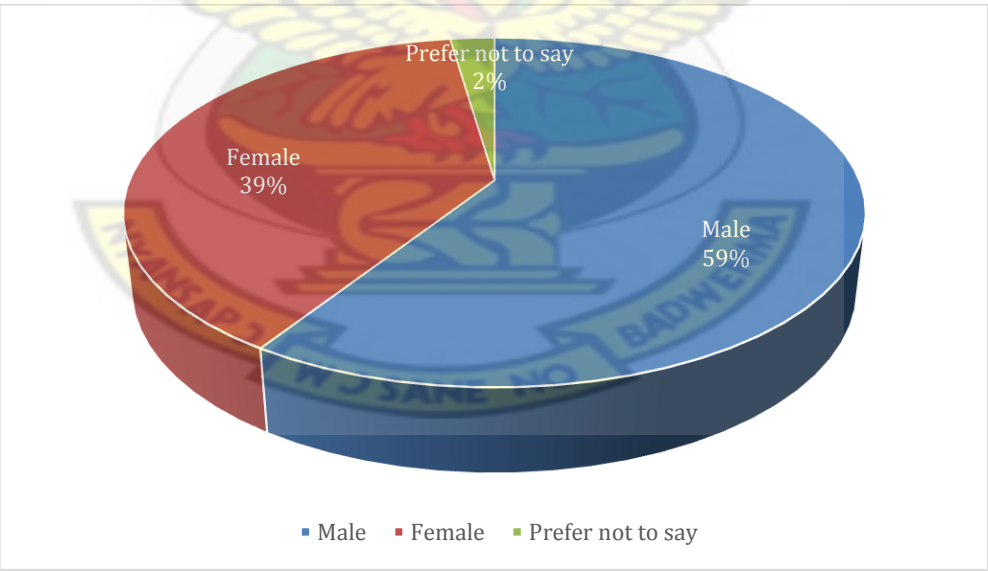

Figure 4.1 Students' Gender Distribution

4.2.2 Age Distribution of Students

Data on Table 4.2 gives information according to student age intervals.

Table 4.2 Distribution of Age of students

Level	Age (years)				Total
	15 – 20	21 – 25	26 - 30	31 and above	
100	70 (74.5%)	22 (23.4%)	1 (1.1%)	1 (1.1%)	94 (100%)
200	36(40.5%)	46 (51.7%)	7 (7.7%)	0	89 (100%)
300	9 (15.8%)	39 (68.4%)	9 (15.8%)	0	57 (100%)
400	18 (29.5%)	33 (54.1%)	10 (16.4%)	0	61 (100%)

Source: Field Work (2018)

According to Adu-Gyamfi *et al.* (2016) the current educational structure in Ghana, which starts at the age of six years, is a six-three-three-four (6-3-3-4) structure representing six years of primary education, three years of Junior High, three years Secondary School and four years of University education. This implies that, before an individual enters the tertiary institution she will be at the age of at least 17 to 18 years or above by then because children start the primary education at the age of 6 to 7 years. However, there are exceptions to both the time when one begins primary education and tertiary education. For instance, during the 2017/2018 academic year, KNUST admitted a thirteen-year-old girl (John, 2018). Findings from data gathered as shown in table 3.6 indicate that all respondents are within the standard for university education as majority, 140 (46.5%) of the students were between the ages of 21-25 years. Also, the second major group numbering 133 (44.2%) of students were those who fell between 15 and 20 years and the third group is made up of 27 (9%) students who fall within the ages of 26 and 30 years with only 1 (0.3%) person is within the age range of thirty-one (31) and above at the time of the study. Therefore, it is concluded that all the respondents are within the standard age for university education. Figure 4.2 is a bar graph illustrating the information as shown in Table 4.2.

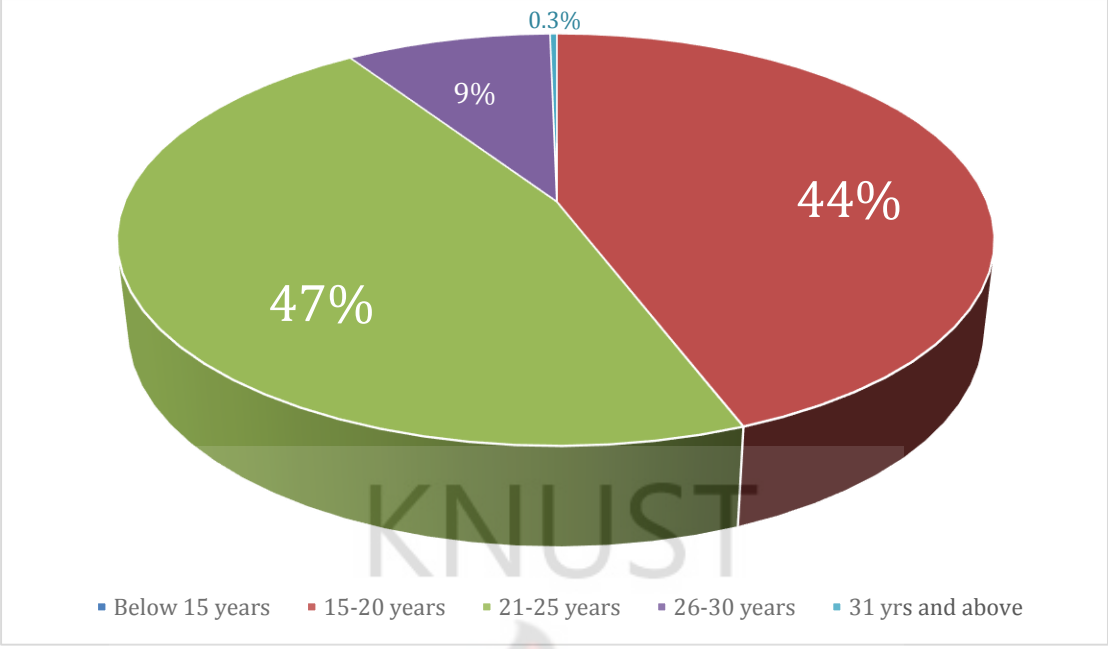

Figure 4.2 Distribution of students' Age interval

4.2.3 Students' Level of Study

Data in table 4.3 gives information about the number of respondents from each academic level who participated in the study.

Table 4.3 Distribution of students' Level of Study

Level	Frequency	Percentage
100	94	31.2
200	89	29.6
300	57	18.9
400	61	20.3
Total	**301**	**100**

Source: Field Work (2018)

The data displayed in table 4.3 indicates that, out of the 301 responses retrieved, 94 (31.2%) were level 100s, 89 (29.6%) were in level 200 and 57 (18.9%) were in level

300 whiles 61 (20.3%) were in level 400. This implies that, the various levels were represented accordingly. Figure 4.3 illustrates the data in table 4.3.

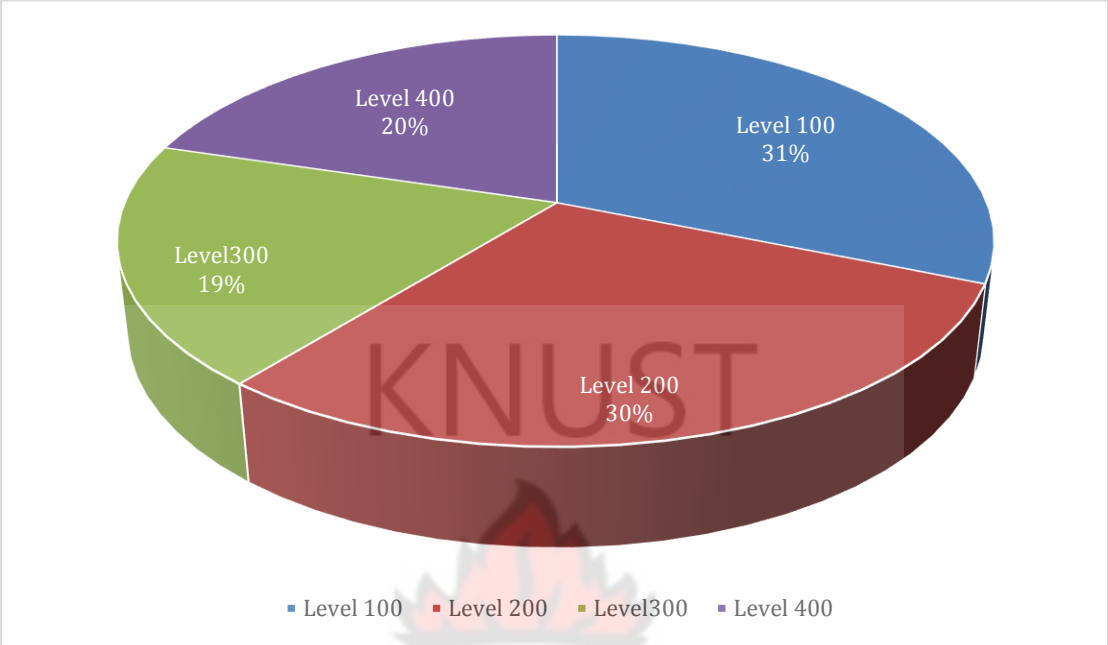

Figure 4.3 Distribution of Students' Level of Study

4.3 Attitudes and Perceptions of Students towards the Video usage in Learning

The Technology Acceptance Model shows that positive attitudes and perceptions are necessary conditions required to effectively use any technology. This section captures students' attitudes and perceptions towards the use of videos in learning. These attitudes and perceptions were based on themes such as students' ownership of digital devices, preferred video-types, preferred video-length, skill level in accessing and manipulating videos and how often they use videos to help them learn. The study also looked at students' desire to use videos to help them learn and whether it is important for lecturers to integrate videos into their teachings or not. Results are discussed below.

4.3.1 Students' Ownership of Digital devices

The study sought to establish whether respondents own digital devices which they can use to access educational videos to help them learn. Table 4.4 presents information pertaining to the respondents' ownership to digital devices.

Table 4.4 Digital devices owned by students used to access videos

Digital device	Frequency	Percentage
Smart phone	291	96.7
Tablet / iPad	55	18.3
Laptop computer	224	81.1
Desktop computer	57	18.9

Source: Field Work (2018)

Data displayed in Table 4.5 indicates that 291 (96.7%) out of the 301 students own or have access to smartphones, whiles only 55 (18.3%) of the respondents own a Tablet/iPad. Also, 244 (81.1%) of the students own a Laptop computer and 57 (18.9%) of them own or have access to a Desktop computer. Therefore, it is concluded that almost all the students have access to one or more of the digital devices that can be used to access educational videos to help them in their studies. Figure 4.4 illustrates the data in table 4.4.

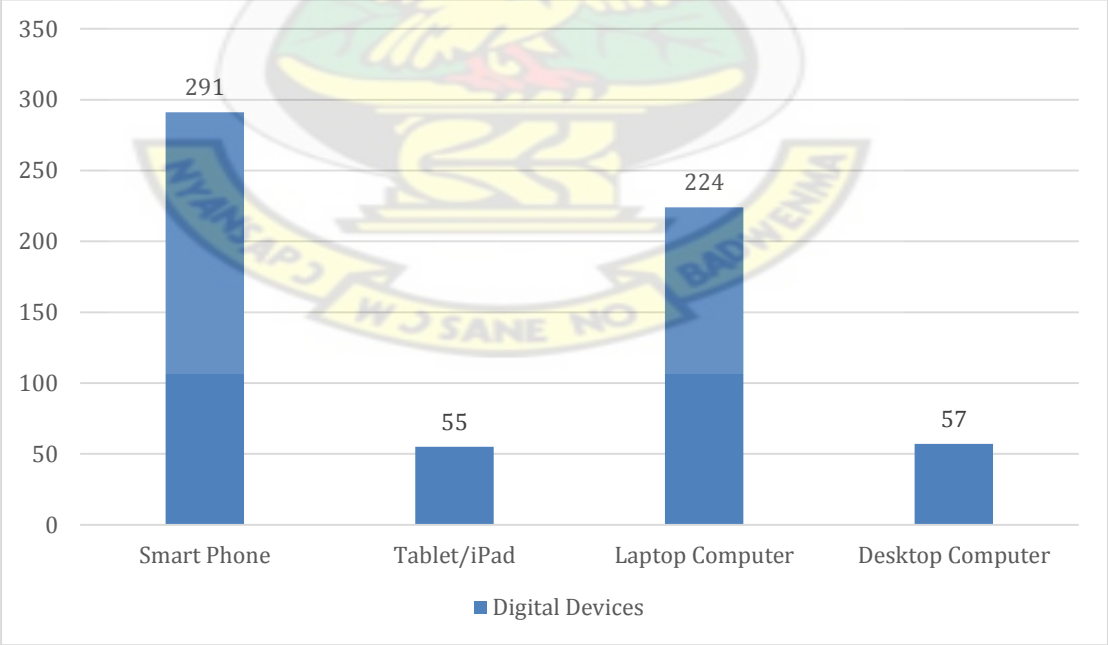

Figure 4.4 Students' Ownership of Digital Devices

4.3.2 Frequency of Video usage by students to support Learning

The study sought to establish how frequent students use educational videos to help them learn. Data in Tables 4.5 and 4.6 present information pertaining to the frequency of video usage by respondents to assist them in their learning based on their gender classification and level of study.

Table 4.5 How frequent students use videos to support their learning according to gender

How frequent	Male	Female	Prefer not to say	Total
Several times a day	44 (24.7%)	21 (18.1%)	2 (28.6%)	67
Once a day	20 (11.2%)	18 (15.5%)	0	38
Several times a week	51 (28.7%)	34 (29.3%)	0	85
Once a week	10 (5.6%)	4 (5.3%)	0	14
Several times a month	8 (4.5%)	7 (6.0%)	0	15
Once a month	11 (6.2%)	4 (5.3%)	0	15
Once a while	28 (15.7%)	26 (22.4%)	5 (71.4%)	59
Not used	6 (3.4%)	2 (1.7%)	0	8
Total	**178 (100%)**	**116 (100%)**	**7 (100%)**	**301**

Source: Field Work (2018)

Per the data in table 4.5, there are various degrees of frequent usage of educational videos to support learning based on gender. With regards to using educational videos to support learning, it was realized that at all times, males more frequently used educational videos to support learning than females did. This is empirically displayed on table 4.5 giving a breakdown of the various times with their respective frequencies.

Table 4.6 How frequent students use videos to support their learning according to level of study

How frequent	Level 100	Level 200	Level 300	Level 400
Several times a day	20 (21.3%)	25 (28.1%)	10 (28.6%)	12 (19.7%)
Once a day	18 (19.1%)	10 (11.2%)	4 (7.0%)	6 (9.8%)
Several times a week	25 (26.6%)	20 (22.5%)	18 (31.6%)	22 (36.1%)
Once a week	6 (6.4%)	3 (3.4%)	4 (7.0%)	1 (1.6%)
Several times a month	3 (3.2%)	6 (6.7%)	4 (7.0%)	2 (3.3%)
Once a month	1 (1.1%)	8 (9.0%)	1 (1.8%)	5 (8.2%)
Once a while	18 (19.1%)	15 (16.9%)	14 (24.6%)	12 (19.7%)
Not used	3 (3.2%)	2 (2.2%)	2 (3.5%)	1 (1.6%)
Total	**94 (100%)**	**89 (100%)**	**57 (100%)**	**61 (100%)**

Source: Field Work (2018)

Data in table 4.6 presents information about various degrees of frequent usage of educational videos to support learning according to the level of study of respondents. Per the information it was realized that on daily basis level 100s lead with 40.4% in the use of educational videos to support learning followed by level 200 (39.3%), 300 (35.6%) and 400 (29.5%) in that order. On weekly basis, level 300 lead with 38.6% followed by level 400 (37.7%), level 100 (33%) and level 200 (25.9%) respectively. On monthly basis, the results indicated that level 200 lead, followed by level 400, level 300 and level 100 recording 15.7%, 11.5%, 8.8% and 4.3% respectively. This information has really given a clear picture of the rate of video usage among the various levels. It is evident that at all the various times, a good number of students use

educational videos to support learning. Figure 4.5 illustrates the overall frequent usage of educational videos to support learning.

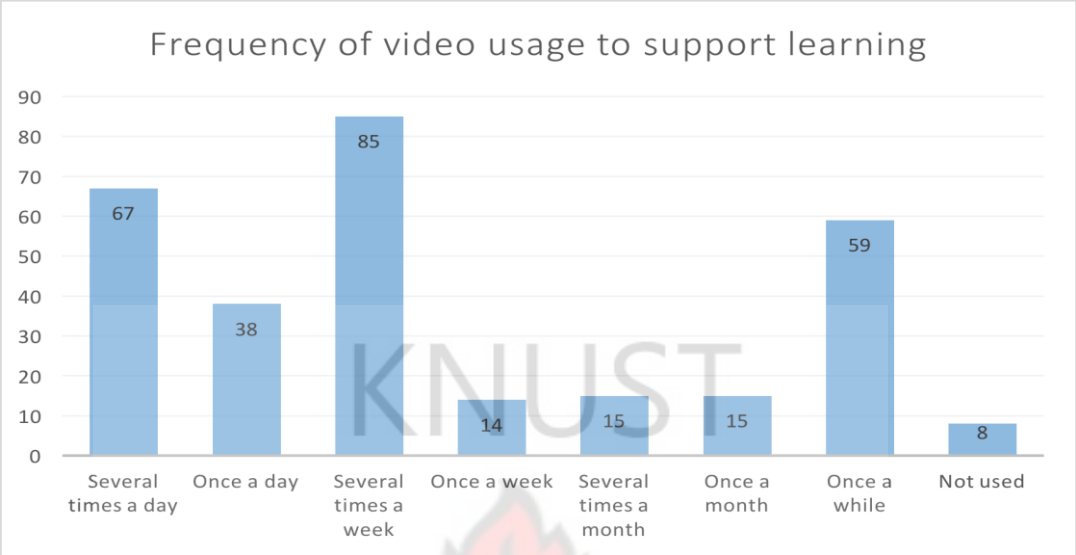

Figure 4.5 Overall frequent usage of educational videos to support learning

The study again sampled the views of students on how often their lecturers use educational videos in their lessons. Results on table confirmed that lecturers use this visual resource in their lessons. Majority (81) of the respondents were of the view that, they encounter this experience once a while. However, 69 of them indicated that several times in a week, lecturers use videos to teach. All these confirm that educational videos are used by lecturers in teaching but not frequently. 43 of the respondents said that, on daily basis lecturers use educational videos in their lessons. Data in table 3.11 shows how often lecturers use educational videos in their lessons.

Table 4.7 Students' views on how often lecturers use educational videos in their lessons.

How often	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Several times a day	24	8.0	8.0	8.0
Once a day	43	17.6	17.6	25.6

Several times a week	69	22.9	22.9	48.5
Once a week	24	8.0	8.0	56.5
Several times a month	13	4.3	4.3	60.8
Once a month	16	5.3	5.3	66.1
Once a while	81	26.9	26.9	93.0
Not used	21	7.0	7.0	100.0
Total	301	100.0	100.0	

Figure 4.6 illustrates students' views on how often lecturers use educational videos in their lessons.

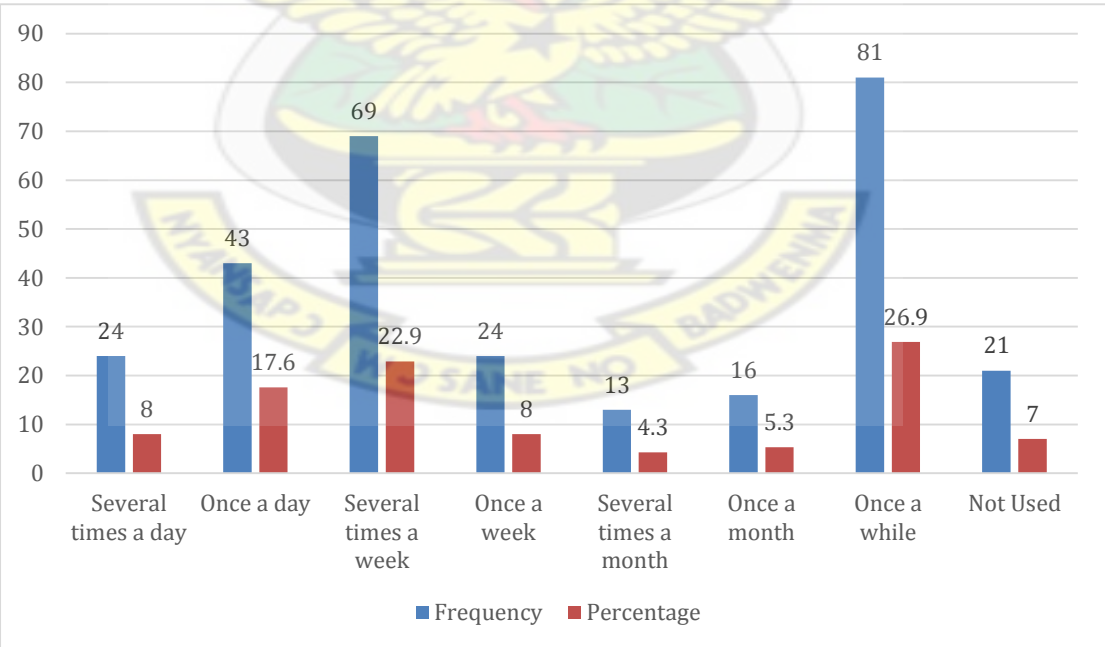

Figure 4.6 Usage of videos in teaching

4.3.3 Students' Skill levels in the Use of Digital devices to *access* and *manipulate* videos

The study again sought to establish how skilled respondents are in the use of digital tools to access videos to help them learn. Data in Tables 4.8 and 4.9 present information pertaining to students' skill levels in using digital devices to access (download, copy, etc.) videos according to gender and level of study respectively. Also, tables 4.10 and 4.11 gives the overall average skill and overall frequency distribution of the skill levels of respondents in using digital devices to access educational videos respectively.

Table 4.8 Students' skill level according to gender

Skill Level		Male	Female
Not Skilled	1	6 (3.4%)	9 (5.1%)
	2	9 (5.1%)	5 (2.8%)
	3	34 (19.1%)	28 (15.7%)
	4	61 (34.3%)	45 (25.3%)
Skilled	5	68 (38.2%)	29 (16.3%)
Total		**178 (100%)**	**116(100%)**

The data in table 4.8 indicates that males are more skilled than females when it comes to using digital devices to access (download, copy, sharing) videos to assist learning. It was recorded that 72.5% of the male population (178) are skilled whiles 41.6% of the female population (116) are skilled.

Table 4.9 Students' skill levels according to levels of study

Skill Level		Level 100	Level 200	Level 300	Level 400
Not Skilled	1	7 (7.4%)	5 (5.6%)	1 (1.8%)	2 (3.3%)
	2	7 (7.4%)	4 (4.5%)	1 (1.8%)	4 (6.6%)
	3	27 (28.7%)	13 (14.6%)	10 (17.5%)	12 (19.7%)
	4	28 (29.8%)	31 (34.8%)	26 (45.6%)	26 (42.6%)
Skilled	5	25 (26.6%)	36 (40.4%)	19 (33.3%)	17 (27.9%)
Total		**94 (100%)**	**89 (100%)**	**57 (100%)**	**61(100%)**

Per the data on table 4.9, 56.4% of level 100 students are skilled in using digital devices to access whiles 75.2% of the level 200 students are skilled. Also, 87.9% and 70.5% of the level 300 and level 400 students are skilled respectively. Consequently, the study establishes that level 300 students are the most skilled in terms of using digital devices to access (download, copy, etc.) videos to assist in learning. This is followed by level 200s and 400s respectively. Level 100 students recorded the least percentage in using digital devices to access (download, copy, etc.) videos.

Table 4.10 Overall average of students' skill level in using digital devices to access videos

How skilled are you in using digital devices to access educational videos	**Mean**	**Median**	**Mode**
	3.8605	4.0	4.0

The data in table 4.10 displays the average skill level of the respondents in using digital devices in accessing educational videos to support learning. With an average score of 3.8605 on a scale of 1 to 5, it is deduced that the respondents are highly skilled and can access educational videos without much difficulty.

Table 4.11 Overall frequency distribution of students' skills in using digital devices to access videos

Skill Level		Frequency	Percentage (%)
Not Skilled	1	15	5
	2	16	5.3
	3	62	20.6
	4	111	36.9
Skilled	5	97	32.2
Total		**301**	**100**

Source: Field Work (2018)

The results shown in table 4.11 gives definite trends regarding the levels of digital skill of respondents. The study established the skill level of respondents with regards to the use of digital devices at their disposal to access (download, copy, etc.) videos to help them learn. The responses indicate that 208 (69.1%) are above average whereas 31 (10.3%) are below average with 62 students representing 20.6% who are within the average score when it comes to the use of digital devices in accessing videos to assist learning. Therefore, 89.7% of the students are skilled in using digital devices to access (download, copy, etc.) videos to help them in their studies. This also implies that students can comfortably use their digital devices to access educational videos to help them learn without stress. Figure 4.7 illustrates the information in Table 4.11.

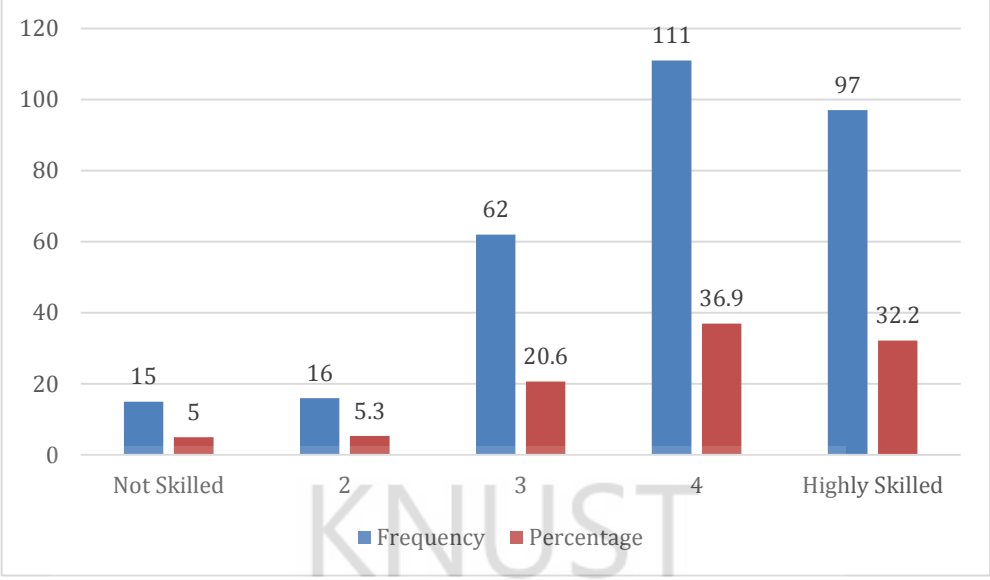

Figure 4.7 Overall Students' Skills level in using digital devices to access video.

Also, the study sought to establish how skilled respondents are in the use of digital tools and how they are able to manipulate videos to help them learn. Data in Tables 4.12 and 4.13 present information pertaining to the respondents' skill levels in using digital devices to manipulate (play, pause, transfer, etc.) videos according to gender and level of study respectively. Table 4.14 gives the overall average skill and overall frequency distribution of the skill level of respondents in using digital devices to manipulate (play, pause, transfer, etc.) educational videos respectively.

Table 4.12 Students' skill level in manipulating videos according to gender

Manipulative Skill Level		Male	Female	Prefer not to say
Not Skilled	1	6 (3.4%)	8 (6.9%)	0
	2	9 (5.1%)	10 (8.6%)	2
	3	25 (14%)	25 (21.6%)	0
	4	63 (35.4%)	34 (29.3%)	2
Skilled	5	75 (42.1%)	39 (33.6%)	3
Total		**178(100%)**	**116(100%)**	**7 (100%)**

Pertaining to the ability to manipulate (play, pause, transfer, etc.) videos to assist learning according to gender, it was recorded that 77.5% of the male population (178) are skilled whiles 62.9% of the female population (116) are skilled. The study therefore establishes that the male students are more skilled in terms of using digital devices to manipulate videos to assist in learning than their female counterparts.

Table 4.13 Students' manipulative skill level according to levels of study

Manipulative Skill Level		**Level 100**	**Level 200**	**Level 300**	**Level 400**
Not Skilled	1	7 (7.4%)	5 (5.6%)	1 (1.8%)	2 (3.3%)
	2	8 (8.5%)	4 (4.5%)	1 (1.8%)	4 (6.6%)
	3	19 (20.2%)	13 (14.6%)	10 (17.5%)	12 (19.7%)
	4	23 (24.5%)	31 (34.8%)	26 (45.6%)	26 (42.6%)
Skilled	5	37 (39.4%)	36 (40.4%)	19 (33.3%)	17 (27.9%)
Total		**94 (100%)**	**89 (100%)**	**57 (100%)**	**(100%)**

When it comes to the ability to manipulate (play, pause, transfer, etc.) videos to assists learning according to the levels of study, it was recorded that 70.5% of level 400 students are skilled whiles 78.9% of the level 300 students are skilled. Also, 75.2% and 63.9% of the level 200 and level 100 students are skilled respectively. Therefore, the study again establishes that level 300 students are the most skilled in terms of using digital devices to manipulate videos to assist in learning. This is followed by level 200s and 400s. Level 100 students recorded the least percentage in using digital devices to manipulate videos.

Table 4.14 Overall average of students' skill level in using digital devices to manipulate videos

How skilled are you in using digital devices in manipulating educational videos?	**Mean**	**Median**	**Mode**
	3.9435	4.0	5.0

The data in table 4.14 displays the average skill level of the respondents in using digital devices in accessing and manipulating educational videos to support learning. With an average score of 3.9435 on a scale of 1 to 5, it is deduced that the respondents are highly skilled and can manipulate educational videos with their digital devices without much difficulty.

Table 4.15 Overall distribution of students' skill in using digital devices to manipulate videos

Manipulative Skill Level		**Frequency**	**Percentage (%)**
Not Skilled	1	14	4.7
	2	21	7.0
	3	50	16.6
	4	99	32.9
Skilled	5	117	38.9
Total		**301**	**100**

Source: Field Work 2018

In respect of the students' ability to use digital device to manipulate (play, pause, transfer, etc.) videos to help them learn, 216 (71.8%) students scored themselves above the average score whiles 35 (11.7%) scored themselves below the average mark and 50 (16.6%) fall within the average mark. It can therefore be concluded that, majority of the respondents (88.4%) are able to use the digital devices they possess to manipulate

videos to help them in their studies. Figure 4.8 illustrates the overall skill level of students in using digital devices to manipulate videos.

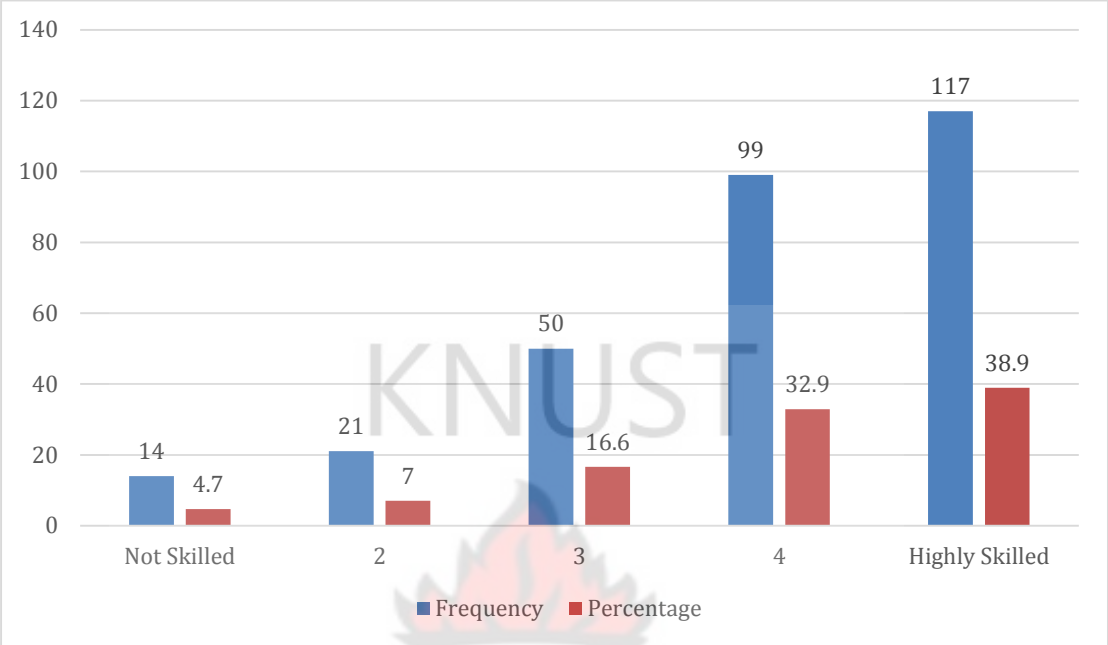

Figure 4.8 Overall Students' Skills level in using digital devices to manipulate videos

In all, results under this section of the study indicate that, students do not find it much difficult in using digital devices to access and manipulate educational videos to assist them in their studies. Per the Technology Acceptance Model, perceived ease of use largely influences the user's attitude positively toward the use of a technology. Therefore, if educational videos are effectively fused into the whole teaching and learning process in the Faculty, students will embrace it without hesitation.

4.3.4 Students' Desire (readiness) to use videos to help them in learning.

As part of analyzing the perceptions and attitudes of students regarding the use of educational videos to complement their learning, the study sought to show the intention and desire of respondents towards the use of educational videos to complement their learning. Data in Table 4.16 presents information pertaining to the respondents' willingness to use educational videos to assist them learn. To solicit this information from respondents, they were made to choose from among the following options of

statements of intention to indicate their willingness and desire to complement their learning with educational videos; *Yes*, *No* and *Maybe*.

Table 4.16 Students' desire and readiness to use educational videos to assist them learn better.

Students' readiness	Yes	No	Maybe	Total
I intend to use videos in my studies whenever possible	296 (98.3%)	-	5 (1.7%)	301 (100%)
I intend to increase the use of videos in the future for learning	197 (65.4%)	15 (5.0%)	89 (29.6%)	301 (100%)
I would adopt videos to help me learn better in future	261 (86.7%)	-	40 (13.3%)	301 (100%)

Source: Field Work (2018)

Results in table 4.16 indicates that, students are willing to use educational videos in their studies whenever possible and to increase its usage in future. This implies that, lecturers should also be willing and prepared to use educational videos to complement their teaching if necessary to help their students learn better. Figure 4.9 illustrates the results presented in table 4.16.

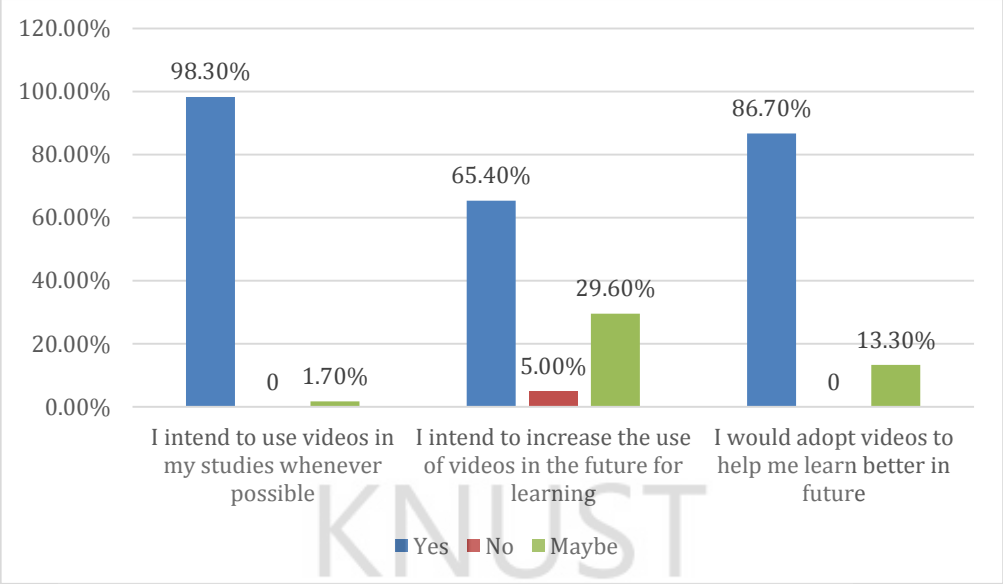

Figure 4.9 Frequency of respondents' desire and readiness to use educational videos to assist them to learn.

4.3.5 Preferred video-type used by students according to gender

The study sought to find out the video-type students preferred watching. Figure 4.10 presents information concerning the type of videos students use to assist them in their studies according to Gender. However, students had the opportunity to select more that one of the types of videos, provided they use more than one of them.

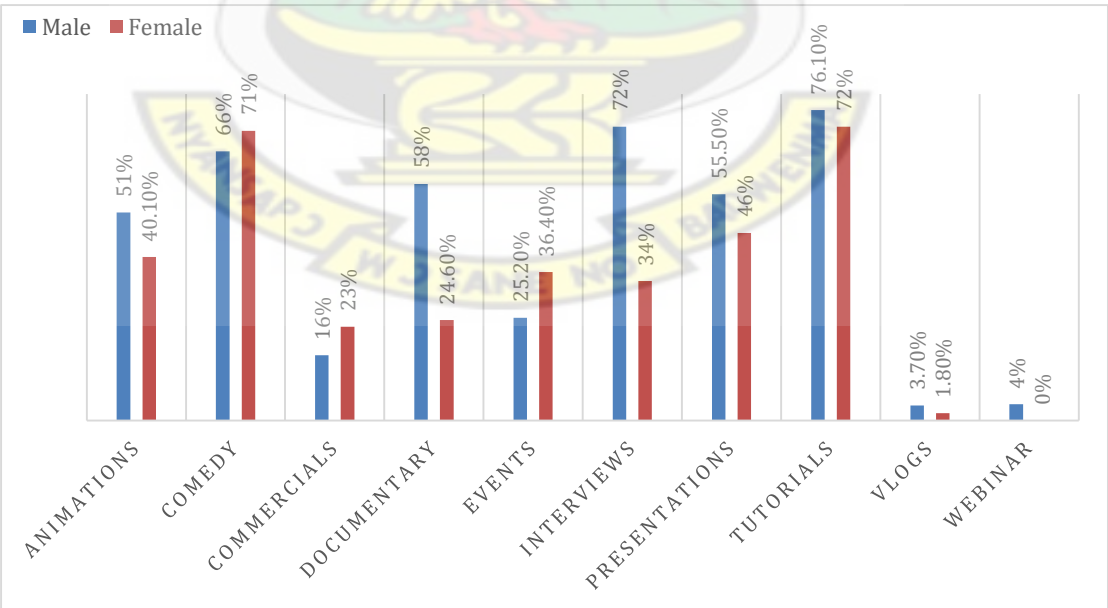

Figure 4.10 Distribution of preferred Video-type used by students to support learning according to Gender.

Pertaining to the type of videos preferred by students, most of the respondents indicated that they prefer more than one video-type. However, a few of them chose only one video-type. The statistic shows information about preferred video-type among students in the in the Faculty of Art, KNUST, sorted by gender. According to the information, tutorials among other video-types was the most preferred as it recorded the highest percentages of 76.1 and 72 for males and females respectively. In all, the favourite video-type among males was tutorials (76.1%), whiles females preferred comedy (71%).

4.3.6 Preferred Video-length

As part of analyzing the perceptions of students towards the use of educational videos in their studies, the study sought to find out from students the preferred video-length. The results obtained are presented in table 4.17.

Table 4.17 Preferred video-length used by learners to complement their studies

Video-Lengths	Frequency	Percentage (%)
1 – 20 minutes	153	50.8
21 – 40 minutes	71	23.6
41 – 60 minutes	49	16.3
61 – 80 minutes	14	4.9
81 – 100 minutes	9	3.0
101 minutes and above	5	1.6
Total	**301**	**100**

Per the results presented in table 4.17, students prefer to use short videos that is within the time range of 1-20 minutes to support their studies. Guo, Kim and Rubin (2014) reported in their study that shorter videos were more engaging than longer ones and that the preferable length of a video was less than 6 minutes. However, long videos should be put in segments, ideally less than 6 minutes when it is being used to augment

the traditional method of teaching. That notwithstanding, Berk trusts that special cases can be created when the abuse shown in the video is a piece of the message or reason for utilizing the video. For this situation, students ought to be mentally prepared before time and made mindful that the offensiveness of the content is for the purpose of education (Berk, 2009).

Ultimately, the composition of the video should be suitable for its purpose and educational goal. With these indications, Berk demands the video ought to be sufficiently long enough to clarify the point; any activity that is not specifically applicable to the purpose ought to be discarded to prevent any misunderstanding. Therefore, it is concluded that lecturers who intend to use videos in their lesson should keep it as short as possible. The results from the study is further presented graphically in figure 4.11 indicating the various video-lengths with their respective percentages per respondents' choice.

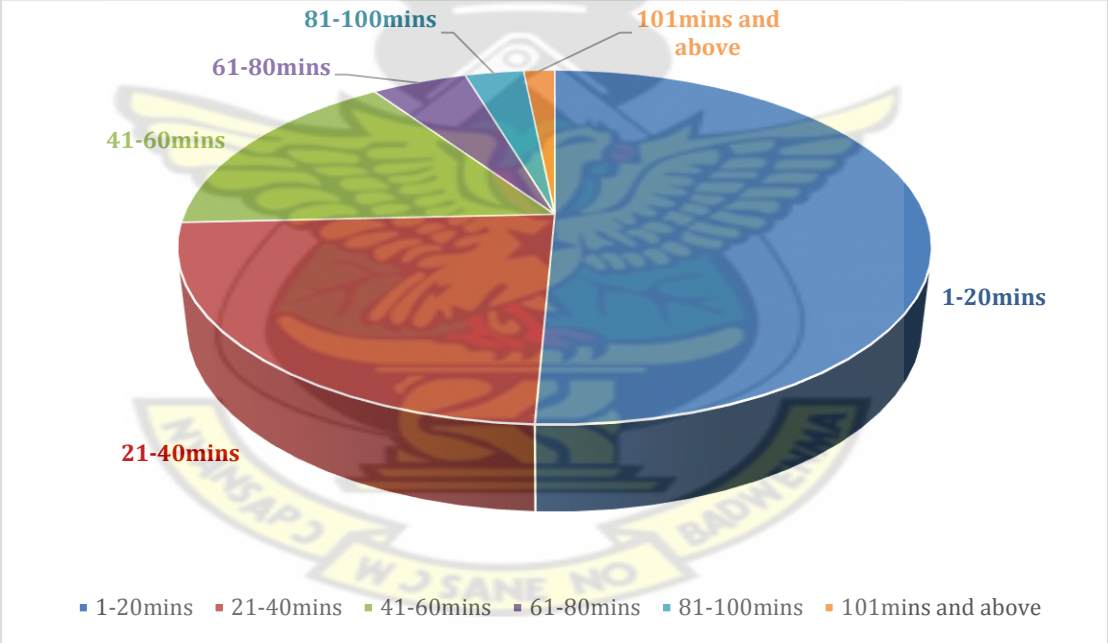

Figure 4.11 Overall preferred Video-length used by students to support learning.

Tables 4.18 and 4.19 presents preferred video-lengths used by students to support their studies according to gender and age respectively.

Table 4.18 Preferred video-length by students according to Gender.

Video-Lengths	Male	Female	Prefer not to say
1 – 20 minutes	91 (51.1%)	60 (51.7%)	1 (14.3%)
21 – 40 minutes	34 (19.1%)	33 (28.4%)	4 (57.1%)
41 – 60 minutes	33 (18.5%)	17 (14.7%)	1 (14.3%)
61 – 80 minutes	11 (6.2%)	2 (1.7%)	-
81 – 100 minutes	6 (3.4%)	3 (2.6%)	-
101 minutes and above	3 (1.7%)	1 (0.9%)	1 (14.3%)
Total	178 (100%)	116 (100%)	7 (100%)

Table 4.19 Preferred video-length by students according to Age

Video-Lengths	15–20 years	21–25 years	26–30 years	31 and above
1 – 20 minutes	76 (57.1%)	58 (41.4%)	17 (62.9%)	1(100%)
21 – 40 minutes	25 (18.8%)	42 (30%)	4 (14.8%)	-
41 – 60 minutes	21 (15.8%)	26 (18.6%)	4 (14.8%)	-
61 – 80 minutes	3 (2.3%)	8 (5.7%)	2 (7.4%)	-
81 – 100 minutes	5 (3.8%)	4 (2.9%)	-	-
101 minutes and above	3 (2.3%)	2 (1.4%)	-	-
Total	**133 (100%)**	**140 (100%)**	**27 (100%)**	**1(100%)**

Table 4.20 Students Attitudes and Perceptions towards video usage in learning in the Faculty of Art, KNUST.

Statements of Attitudes and Perceptions	SA	A	U	D	SD
Using educational videos to help me learn will be a good idea for me.	197 (65.4%)	95 (31.6%)	8 (2.7%)	1 (0.3%)	-
It is very desirable for me to use educational videos as complements to my learning for better understanding	171 (56.8)	114 (40.2%)	13 (4.3%)	3 (1.0%)	-
It would be much better for me to use videos in addition to the print media to help me learn	166 (55.1%)	121 (40.2%)	11 (3.7%)	3 (1.0%)	-
I enjoy learning with and through educational videos	184 (61.1%)	108 (35.9%)	6 (2.0%)	3 (1.0%)	-
I learn better through educational videos than using textbooks only	155 (51.5%)	117 (38.9%)	25 (8.3%)	4 (1.3%)	-
Educational videos make course contents livelier	195 (64.8%)	95 (31.6%)	8 (2.7%)	3 (1.0%)	-
I hardly remember what I learn through educational videos	6 (2.0%)	13 (4.3%)	37 (12.3%)	92 (30.5%)	153 (50.8%)
It takes me a longer period of time to understand a concept I learn through educational videos	1 (0.3%)	6 (1.9%)	23 (7.6%)	113 (37.5%)	158 (52.4%)
I get motivated any time a lecturer uses educational videos in a lesson	241 (80%)	53 (17.6%)	7 (2.3%)	-	-
As compared with a regular lesson, a video lesson is more exciting	208 (69.1%)	80 (26.5%)	9 (2.9%)	1 (0.3%)	3 (1.0%)

Key: SA = Strongly Agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly Disagree

Data in table 4.21 indicates that majority (65.4%) of the respondents agree that it will be a good idea for them to use educational videos to help them learn. As high as 94.7% of the respondents have the perception that it is very desirable for them to use educational videos as complements to their studies for better understanding.

Also, 95.3% of the respondents perceive that it would be much better for them to use educational videos in addition to the print media (books) to help me learn. For instance, an investigation of 147 psychology student announced that video was a more compelling method of teaching than textual content for displaying real-life circumstances with a specific intention to upgrade the student's understanding, retention and fulfilment (Choi and Johnson, 2007).

In response to the fourth statement in table 4.21, majority (97%) of the respondents perceive that it is very thrilling to learn through educational videos. To find out whether learning is more effective through educational videos than using textbooks only, 90.4% of the respondents are positive. This indicates that they perceive learning through educational videos as more effective than using textbooks only. Furthermore, 96.4% of the respondents perceive that course content becomes livelier when they learn through educational videos.

On a statement about whether it takes a longer period of time to understand a concept they learn through educational videos, results obtained from respondents indicate that 113 (37.5%) and 158 (52.4%) of them disagreed and strongly disagreed respectively. This rather suggests that it takes respondents a shorter period of time to understand concepts they learn through educational videos in their studies. Therefore, 81.3% of the respondents also indicated that they disagreed that they find it difficult to remember what they learn through educational videos. This implies that, majority of respondents perceive that it is easy to remember what is learnt through educational videos.

It was also recorded that, as high as 97.6 % of the students perceived that they are motivated anytime a lecturer uses educational videos in teaching a lesson. As such, 95.6% of the them perceive that a lesson with educational video is more effective as compared to a regular lesson because the audio content in a video according to (Berk, 2009) can also "inspire passionate responses of liking or disliking and excitement".

Further, 89.9% of the respondent disagree that learning with video takes a longer period of time to understand content.

4.3.7 Importance of integrating videos into teaching and learning

According to the Technology Acceptance Model (TAM) people will use a technology if they realize that such is important to them. Therefore, the study sought to find out from students if it is important to integrate educational videos into teaching and learning. Data in Table 4.21 is an information pertaining to the students' responses to the importance of integrating videos into teaching and learning.

Table 4.21 Students' view on the importance of including educational videos into Teaching and Learning

Do you think it is important to integrate videos into teaching and learning in Faculty?	Male	Female	Prefer not to say	Overall Total
Yes	168 (94.4%)	108 (93.1%)	5 (1.7%)	282 (93.7%)
No	2 (1.1%)	0	89 (29.6%)	2 (0.7%)
Undecided	8 (4.5%)	8 (6.9%)	1 (14%)	17 (5.6%)
Total by Gender	178 (100%)	116 (100%)	7 (100%)	301 (100%)

Source: Field Work (2018)

The data in Table 4.22 show that out of the 301 students, 282 (93.7%) support the view that educational videos are important and should be included in the teaching and learning process. These 282 respondents comprise 168 males and 108 females with 7 of them who failed to disclose their gender type. Based on this information, it is concluded that majority of students have positive attitude towards the integration of educational videos into teaching and learning. This makes it necessary for creating tools

that will enable students to learn according to their habits, time and at their own pace (Bagarukayo, van der Weide, & Mbarika, 2011). Moreover, most students have digital devices which they can use to access videos to help them learn as established earlier in this study. Figure 4.12 illustrates the general responses towards the importance of educational videos in teaching and learning.

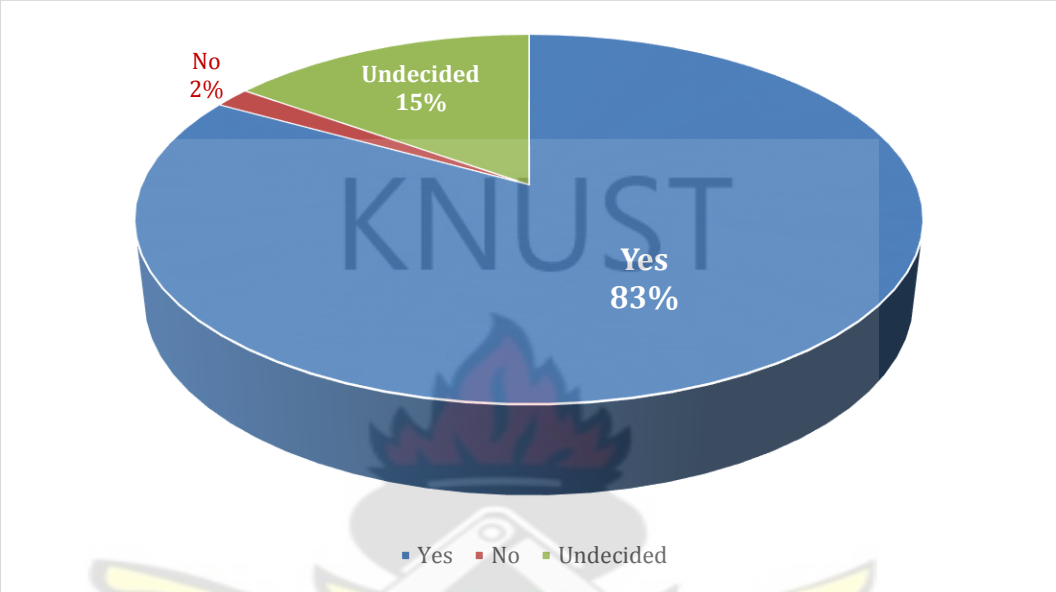

Figure 4.12 Importance of videos in education

Tables 4.23 and 4.24 presents information on respondents' views about the importance of integrating educational videos according to levels of study and age respectively.

Table 4.22 Importance of videos according to Levels of study

Do you think it is important to integrate videos into teaching and learning in Faculty?	**Level 100**		**Level 200**		**Level 300**		**Level 400**	
	Yes	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*
	90	0	85	1	53	1	54	0

Table 4.23 Importance of videos according to Age

Do you think it is important to integrate videos into teaching and learning in Faculty?	**15 – 20 years**		**21 – 25 years**		**26 – 30 years**		**31 and above**	
	Yes	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*
	126	1	129	1	26	0	1	0

Students perceived that, integrating videos into the traditional method of teaching and learning is very important as it will go a long way to help them in their studies. The Technology Acceptance Model, perceived that the usefulness of a technology largely influences the user's attitude toward its usage. With this, they gave various reasons to this effect. For instance, a student commented that;

"Videos help me have visual feel about what I learn. Since I might have not seen what I'm being taught or learning" (Student A).

Another student also wrote;

> *"Some of the things we are learning are practical and if we can't have demonstrations on them, we can see others do it through videos"* (Student B).

Some of them expressed that, when they are exposed to the visual content of what they are taught in class, it becomes very difficult for them to forget such content.

> *"Sometimes we need to visualize things, and when we do that we capture a picture of what we see in our mind. This is difficult to forget since we have the image in the mind rather than the theory having all what was said in the mind without a visual assistance or presentation. Therefore, integrating videos into learning in the university will definitely aid we the students a lot"* (Student C).

Some of them also believed that, videos can help keep students be active in class during instructional hours. For example, a respondent (student) said,

"It will help students to be active and attentive in class when teaching by watching the videos" (Student D).

It was also established by some students that their studio works have improved through the use of educational videos to assist them in their academics. For instance, a student responded that;

"My practical works have improved because I learn from watching videos" (Student E).

These and many others were how students expressed how important it is for lecturers to introduce educational videos in their lessons whenever necessary.

On the other hand, some students raised concerns that in spite of the fact that videos help them in their studies, they find it difficult to see from afar when showed in class. For instance, one student indicated that:

"I struggle to see from afar, so when the video is shown in class, I may encounter difficulties. If the videos would be made available for students on their devices. Then I'm fine with it." (Student F).

Therefore, as much as possible, sitting arrangements should be given attention and also, if lecturers show or use a video during his or her lesson, the content could be made available to students so that they can view it on their own after the instructional hour.

4.3.8 Lecturers' perceptions of videos usage in teaching

The essence of this part of section 4.2 of the study is to help in addressing the research question one. It is a thematic discussion with sought to identify the general perceptions of lecturers towards the utilization of videos for educational activities in general. These lecturers are those who sometimes use videos to assist in their teaching depending on the topic being taught. In general, they regard video usage in teaching as relevant. Below are the findings from the interviews conducted concerning lecturers' perceptions towards video usage in teaching.

4.3.8.1 What is a video?

Varied views were expressed by respondents giving various definitions about video. It was realized that the respondents gave operational definitions for a video based on the perceptions each one holds about a video. Predominantly, video was seen by respondents as one of the means of learning; as audio-visual materials that have moving images for the purpose of screening therefore making it possible for viewing by its users to satisfy their needs.

4.3.8.2 How and When do you introduce videos into your teaching?

Responses obtained from respondents indicates that each one has a way of using videos in their lesson. Whiles Respondent A stated that he uses the video at the beginning of the lesson and afterwards tells his students to go watch it on YouTube, Respondent B either shows it at the beginning of the lesson or at the latter part of it. Like Respondent A, respondent B only shows the video at the beginning of the lesson and afterwards explains in detail to students. Respondent C indicated that he does not have any format for using videos in his lessons. He further stated that the video content is used when it becomes necessary. This denotes that there is a deliberate planning for Respondent E who shows the video at the beginning of his lesson just as respondents A and B do but repeats the action several times. This shows that, video usage in the faculty for teaching has no format. Therefore, the study seeks and proposes a framework which will provide guidelines for integrating videos into classroom instruction.

4.3.8.3 Why do you introduce videos into your classroom instructions?

This part shows the various reasons why lecturers use educational videos in their lessons. Berk gives several reasons and advantages to utilizing short videos for classroom instruction. Among these methodologies are utilizing videos to furnish learners with alternate perspectives, to outline ideas, to utilize content to the real world, and essentially for the purpose of getting learners' awareness. In addition to this, respondents B and E stated that using videos in their lessons enhances the teaching process and helps students to relate with the content of what is being taught in class. Respondent B thinks that using videos in his lesson saves him a lot of time coupled with the fact that it is not everything that you can get for your teaching from the environment, making it necessary as a visual resource.

Respondent C thinks that teaching students with only printed matter sometimes causes boredom to students especially during lessons that last for long hours. Not prescribing video as a swap for written materials. Rackaway in his study proposes that the concurrence of multi-media devices and the reading material enhances student learning (Lund, 2007). For this reason, he uses videos in his teaching. However, he stated that some of his colleagues avoid this visual resource in spite of the numerous opportunities it offers. Some teachers, according to Rackaway (2012) decide to exclude multi-media integration in their classroom instruction because of their dedication to the conventional book way of teaching. Respondent C bemoaned that this attitude really undermines educational videos and their importance to teaching.

Respondents D stated that, he has different students with different learning abilities. As such he tries to make sure he meets their needs during his lessons. He indicated that in his attempt to meet these needs, using videos in his lessons becomes very essential. For instance, visual/spatial students need to picture facts as symbols, photos or videos so as to internalize it (Rapp, 2009).

4.3.8.4 Does a video in a lesson help in any way?

Respondents expressed various degrees of how videos help them in their teaching. In a whole they have positive attitudes towards video usage in teaching and learning. They gave reasons such as its ability to explain abstract contents and it excites students leading to encouraging outcomes. For example, an investigation of 147 psychology students announced that video was a more compelling method of teaching than textual content for displaying real-life circumstances with a specific intention to upgrade the student's understanding, retention and fulfilment (Choi & Johnson, 2007).

4.3.8.5 How lecturers access educational videos for use in their lessons.

Mostly, respondents acquire the videos they use in their lessons from online sources such as YouTube. This internet site gives instructors relatively boundless exhibits of authentic materials containing target-language sample and in addition topic-specific information (Sherman, 2003). Other equally important sources mentioned by respondents include Slideshare and Scribd. Also, some of them said they sometimes make videos by themselves.

4.3.8.6 Conflict between video-integrated lesson and the traditional method of teaching

In all, respondents believe that there is no conflict between the traditional way of teaching and video integration in teaching. They rather stated that videos are very important in the teaching and learning process. However, a respondent indicated that it is unprofessional to replace oneself as an instructor with the video content. Instead, the video should be seen as a tool that is held in one's hand to execute the task (teaching). Additionally, a respondent indicated that the textbook way of teaching is "very basic" and that some lecturers are not acquainted with technology and that is what makes it difficult for integrating videos in lessons (Respondent C).

4.3.8.7 Do you think it is important to integrate videos in your teaching?

All the respondents believe that videos are of much importance in the teaching and learning process and that students will benefit a lot as a result the utilization of video for many different courses. Also, they gave reasons for their views such as;

a. with videos, the handling of the diversity of student needs in class is less demanding.
b. It helps to communicate well with a good number of students who are visual learners (Respondent D).

4.3.8.8 How do your students feel whenever video is introduced in a lesson?

The general feelings of students towards videos in a lesson according to lecturers are very positive. Whiles others (Respondents A, C and D) said their students are excited whenever a video is introduced in their lessons, one of them (Respondent E) said his students get engaged and show much interest in what he is teaching at that particular moment. However, respondent B according to his personal experience believes that to this new generation of students, a video is a normal thing though it was very innovative and exciting in time past.

4.3.8.9 Educational benefits experienced by lecturers in using videos for classroom instruction.

This theme captures the educational benefits that respondents have experienced from the use of educational videos in their lessons. It was recorded that videos are sometimes used in the lecture hall to make concept relatable. According to some of the respondents

it serves as a motivation to the students. Other times, videos serve as teaching aids or a complement to the teaching process in order to bridge the gap between the lecture hall and the outside world. It was also indicated that, for lecturers handling courses that has to do with machinery which is often not available for students to see it as part of their learning process. Therefore, videos on such equipment become the alternate. In some cases, the video is introduced into the lesson to engage students' attention and at the end, they understand what they were taught.

Also, videos are seen as forms of motivational tools which they use in motivating students in class. It eliminates boredom in class. It is also a way of meeting the needs of students with varied learning needs. As Prensky (2010) puts it, using videos in learning matches many but are not limited to most students' preference. Some students learn better through images (still / animated), others through words (spoken / written) and majority of them learn better through both. Further, this visual resource serves as a good source of reference and a teaching aid.

4.3.8.10 Challenges lecturers encounter in their quest to introduce videos in their lessons.

In spite of the many benefits associated with the use of educational videos in teaching and learning, lecturers outlined some few challenges associated with their quest to reap some of the numerous benefits. They are poor internet connection for downloading and playing of videos; faulty sockets; inadequate equipment like projectors and smartboards, etc. at the lecture halls in the Faculty of Art.

4.3.8.11 Lecturers views on the need for a video-integration model

There is a positive perception in general by lecturers when it comes to putting in place a form of guide to help in integrating educational videos in teaching and learning in the Faculty. This initiative is seen by lecturers as something that will enhance the effectiveness of teaching and learning.

4.4 Impact of Educational Videos on students' academic life.

This section of the study sought to find out the impact of educational videos on students' academic life. Findings are presented in table 4.24 and are discussed afterwards.

Table 4.24 Impact of videos on students' learning

Statements impacts of videos on learning	SA	A	U	D	SD
Learning through videos has improved my studies effectively	173 (57.5%)	118 (39.2%)	9 (3.0%)	0	1 (0.3%)
Videos help me to understand concepts better than using textbooks only	175 (58.1%)	119 (39.5%)	6 (2.0%)	0	1 (0.3%)
With the help of videos in my studies I learn easily without much difficulty	68 (22.6%)	123 (40.9%)	77 (25.6%)	26 (8.6%)	7 (2.3%)
Videos support critical aspects of my learning	141 (46.8%)	128 (42.5%)	28 (9.3%)	3 (1.0%)	1 (0.3%)
Learning through videos help me to construct ideas about concepts learned	143 (47.5%)	138 (45.8%)	14 (4.7%)	4 (1.3%)	2 (0.7%)
With the help of educational videos in my studies, I am able to learn concepts fast	151 (50.2%)	123 (40.9%)	19 (6.3%)	7 (2.3%)	1 (0.3%)
Using videos to help me learn has increased my academic performance	114 (37.9%)	139 (46.2%)	38 (12.6%)	9 (3.0%)	1 (0.3%)
I learn better with videos without much difficulties	132 (43.9%)	130 (43.2%)	31 (10.3%)	5 (1.7%)	3 (1.0%)

Key: SA = Strongly Agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly Disagree

Source: Field Work (2018)

The results in Table 4.22 indicate the impact of educational videos on students' learning. As reflected in the table, majority learn effectively through and with videos. Out of the 301 respondents, 137 students representing 57.5% and 118 of them representing 39.2% of the respondents strongly agree and agree respectively that learning is effective when it is done with and through videos. However, 9 of them representing 3.0% neither agree nor disagree that educational videos help them to learn effectively. However, just 1 (0.3%) person strongly disagreed with the statement.

The study again sought to find out whether educational videos help them to understand concepts better in their studies. According to the results in table 26, 175 (58.1%) and 119 (39.5%) strongly agree and agree respectively that videos when used to augment textbooks in their studies help them to understand concepts better. While 6 (2.0%) remain undecided, 1 (0.3%) of the respondents strongly disagreed that videos help to understand concept better.

Also, the study found out if with video usage to support learning is without any difficulty at all then the user develops a positive attitude towards it because the TAM model postulates that if a system is not difficult to use and enhances performance, then the user develops a positive attitude towards using it. Per the results in table 4.22, 191 (63.5%) of the respondents are positive (agree) and 77 (25.6%) of them are neutral about the statement. However, 7 (2.3%) of the respondents disagree that with videos, learning is without much difficulty.

When it comes to the issue of videos supporting critical aspects of learning, 141 (46.8%) and 128 (42.5%) representing majority of the respondents are positive (strongly agree and agree) that videos support critical aspects of learning. However, 28 (9.3%) of the respondents were undecided while 3 (1.0%) and 1 (0.3%) respondents disagreed and strongly disagreed respectively.

In respect of videos helping students in constructing their own ideas about concepts learned, majority 143 (47.5%) and 138 (45.8%) of the respondents agreed strongly and agreed respectively that they are able to construct new ideas on their own if they learn through educational videos. 14 (4.7%) of the respondents appeared undecided whereas only 4 (1.3%) and 2 (0.7%) of the respondents disagreed and strongly disagreed respectively.

With regards to whether videos helped them to learn fast, more than half of the respondents being 151 (50.2%) strongly agreed with 123 (40.9%) saying they agree that videos help them to learn fast and 19 (6.3%) of the respondents were undecided. As few as 7 (2.3%) and 1 (0.3%) of the respondents disagreed or strongly disagreed respectively to the assertion.

The study further established that most students learn with videos without much difficulties. This is evident as the result in table 26 above indicates that 132 (43.9%) and 130 (43.2%) of the respondents strongly agreed and agreed respectively that, with videos to assist them in their studies, they learn without difficulties. Nonetheless, 31 (10.3%) of the respondents neither agreed nor disagreed whiles 5 (1.7%) and 3 (1.0%) disagreed and strongly disagreed to the assertion.

Finally, the study sought to enquire if using videos in their learning situations has helped improve students' academic performance. It was revealed that 114 (37.9%) of the respondents strongly agreed with 139 (46.2%) saying they agree that learning with videos has helped improve their academic performance. However, 38 (12.6%) of the respondents were undecided whiles 9 (3.0%) and 1 (0.3%) of them disagreed and strongly disagreed respectively that their academic performance has increased because they complemented their studies with educational videos.

In conclusion, from the preceding discussions, it is empirically clear that respondents have demonstrated positive perceptions and attitudes towards the use of educational videos to assist them in their studies. Also, from the students' perspective, video can be a more effective medium than text because it enhances their satisfaction and motivation during the learning process (Choi & Johnson, 2007; Shyu, 2000). However, there is no guide adopted or adapted by the faculty to aid in effectively integrating educational videos into teaching. Therefore, implementing a video integration model will help students in their academic work.

4.5 A Proposed Model for using Educational Videos in Teaching

4.5.1 Preamble

In an attempt to achieve the third research objective, a five-step model has been designed to aid in the use of educational videos to complement the traditional way of

teaching. The findings discussed in this study clearly indicate that both students and lecturers have positive attitudes and perceptions toward the use of educational videos in teaching and learning. As such, any initiative that will promote the inclusion of educational videos is essential in the promotion of an ever-refreshing teaching and learning experience. Making learning more meaningful and helping students to construct new knowledge from lessons on their own, the use of a video content to complement class activities is necessary.

The Purpose

The purpose of the model is to enhance teaching and learning through educational videos. It seeks to serve as a guide to aid lecturers in the faculty who intend to use educational videos in their lessons whenever necessary.

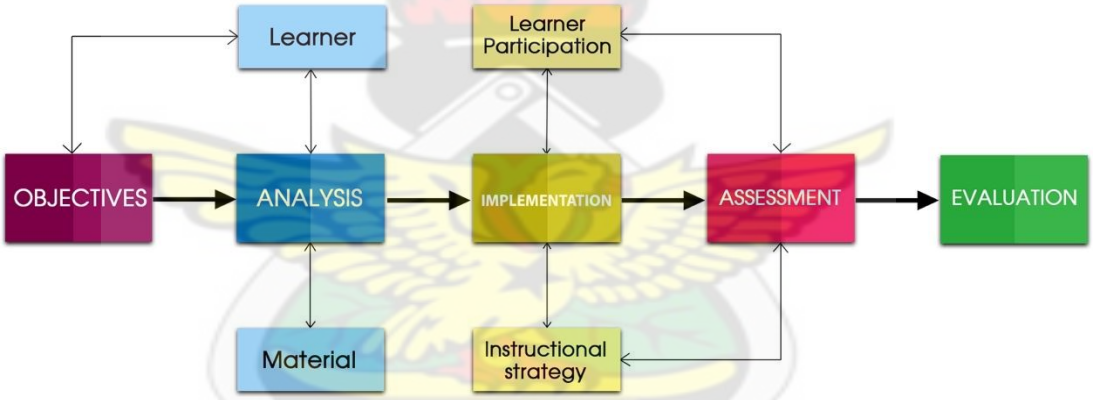

Figure 4.13 Model for using Educational Videos in Teaching

Adapted from the ASSURE (1999) and the Dick Carey (1996) models

The study adapted the ASSURE and DICK and CAREY models in coming out with a model for using educational videos in teaching because of their clear and simple examples of each of the steps and excerpts from cases they provided for readers. Unlike the ASSURE and the Dick and Carey models, this model has five steps. They include Objectives, Analysis, Implementation, Assessment and Evaluation. These steps are discussed below. The discussions provide directions about how to apply this model in a teaching and learning situation that involves the use of an educational video.

Step 1. Objectives

The process in this model begins with setting out specific objectives. Like the Dick and Carey model, set out the objectives of the lesson with the goals of the course in mind. Your objectives should decide what knowledge/process/skill you expect the learner to be able to demonstrate and or what the learners will be able to do by the time they finish the lesson. The statements of objectives should be clearly stated and learners be made aware of them. In the end of the instruction, these objectives should be included in the test items that will be used to assess students. This will help you to determine the success of the lesson.

Step 2. Analysis

The analysis phase of this model is the second step as shown in the diagram above. It is broad in nature and under it, both Learner and Material analysis are done. This should be done to ensure that appropriate course materials are presented to the appropriate audience (learners).

a. Learner analysis

In the learner analysis, find out the prior knowledge and skills that your students possess. The analysis should extend to the general characteristics of the learner such as age, gender, interests, attitudes, perceptions, learning styles (e.g. Visual, auditory, etc.) and academic backgrounds as well. These information will help you in selecting appropriate instructional strategies and materials for an effective learning process.

b. Material analysis

On the other hand, material analysis covers the tools and materials required for the lesson. These tools and materials include but are not limited to projectors, whiteboards, extension boards and digital devices such as desktop computer, laptop computer, iPad, smartphones etc. Also, make sure the is a reliable flow of electrical current and a strong internet connection only if the video is going to be played directly from online to avoid any inconveniences. At this point, decide where and how to obtain an appropriate video material to be used for the lesson. The video could be a self-made type or a downloaded

one. Berk (2009) traces three arrangements of indicators that he accepts are important to note while choosing videos. They include (i) students' traits, (ii) video's offensiveness, and (iii) structure of the video." Also, decide the on an appropriate video-type e.g. tutorial, animation, documentary etc. The first set of indicators in the learner analysis ought to be deliberately assessed when choosing a video material. Give thought to areas such as sexual orientation (male or female), level of study and language. Again, it is important to consider the video-length. Preferably, use a short video of about 1 – 20 mins long.

Step 3. Implementation

After the learner and material analysis have been done, decide how and when the video content will be used to complement the traditional method in teaching. An effective implementation will help achieve the stated objectives. In order to achieve the effective implementation, pay critical attention to learner participation and the appropriate instructional strategy.

a. Learner participation

Get learners actively involved in the teaching and learning process. One way of doing that is charging them to jot vital information in their notepads or any available media they have at their disposal. These notes will be used as their contributions when they are put in groups. The instructor should pause at some points in time and ask questions or let students ask questions so as to keep the process very active. At the end of the lesson, ask students to reflect and write down what they have learned.

b. Instructional strategy

After all research is done and objectives developed, outline the lesson plan that will guide. Prepare the learning space (lecture room), making sure that the views of students are not blocked by their colleagues. Show video to students. Add your voice to whatever is being shown in order not to let the video replace you as the instructor. Lay emphasis on critical aspects of the content. Further, try as much as possible to prevent any form of instruction e.g. noise during the show. At the end of the video, create smaller groups of 5-7 students. Through a class discussion method, let each group discuss the content they watch in relation to the stated objectives. The class discussion method is

appropriate because it is effective after a presentation, film or experience that needs to be analyzed. Also, it allows everyone to participate in an active process.

Step 4. Assessment

At this stage, it is time to find out from students if they have learned what they are supposed to learn. The assessment should be an ongoing process. In an attempt to get this feedback, write down open-ended questions and let each group discuss. For instance, let each group discuss how they would apply the skill or concept they have learned in a practical setting. Give each group about 3 to 5 minutes to present briefly before the class what they have come out with. Each member of the group should be given a chance to say at least a word or two. Also, assess students individually to get a feedback at the end of the process. This should be done on a one-on-one basis using test instruments like quizzes, short tests or assignments to be submitted individually. Remember to include the objectives in the test items. Feedbacks from these activities will determine if things were rightly done.

Step 5. Evaluation

Finally, evaluate the impact of the video in the teaching and learning process in connection with objectives as stated earlier on. As the instructor (lecturer), find out if:

- you were able to follow your lesson plan from the beginning to the end. This could be done using a check list.
- the lesson met the learning objectives that were stated based on the performance of the students during the assessment process. E.g. Let students orally tell you in summary about important concepts and lessons learned.
- the way of assessing the students is in line with the objectives. This is determined by their performance during the assessment stage.
- the lesson can be improved.
- the choice of materials was a good one and if other video-types and materials would have been more effective for the lesson.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

5.1 Summary

The study aimed at identifying the attitudes and perceptions of students and lecturers towards the usage of educational videos in their studies and teaching respectively in the Faculty of Art, KNUST. The objectives that guided the research were: to identify the attitudes and perceptions of students and lecturers towards the usage of educational videos in teaching and learning in the Faculty of Art, KNUST, to assess the impact of educational videos on students learning in the Faculty; and lastly to propose a model for integrating educational videos in teaching in the Faculty.

An eQuestionnaire and a set of interviews were employed to collect data for the study from both the students and the selected lecturers respectively. This research involved a stratified random sample of three-hundred and one (301) students from the five (5) departments under the Faculty of Art and five lecturers who were purposefully selected for using videos in their lessons. The literature and data collected through this study confirm that educational videos enhance both teaching and learning. It was also discovered that;

- Students have access to basic digital devices which they use to access various educational videos to assist them in their studies.
- Both students and lecturers agreed on the integration of educational videos into teaching and learning because as a multimedia, videos helps students to understand concepts easily. Also, lecturers are able to explain complex concepts to students easily.
- Some lecturers complement their teaching with videos as learning aids and a motivational factor for their students.
- Students agreed that learning with videos have impacted their studies positively as their academic performance has improved as a result of video usage in their studies.
- However, Lecturers indicated inadequate projectors and smartboards, weak internet connectivity and faulty sockets in the lecture halls as some of the challenges in their quest to make lessons livelier.

5.2 Conclusion

In this study, video as a very vital resource for teaching and learning to lecturers and student respectively is seen as relevant. The findings in the fourth chapter of this study suggest that the benefits of using educational videos as teaching materials for lecturers is enhancing students' learning and that and some lecturers at the Faculty of Art use educational videos for academic purposes (teaching). However, it must be emphasized that the effective usage of videos in teaching requires more effort and planning on the lecturers' part. When planning lessons, lecturers should take into consideration how they can fuse videos in some topics.

By understanding the needs of learners and addressing them accurately during lessons, there is no doubt that teaching and learning is going to be enhanced. Therefore, if a policy is formulated and implemented by the Faculty of Art, KNUST to adopt such strategies to use videos, it will undoubtedly make lessons taught at the faculty livelier. Also, students will be able to understand concepts better and apply knowledge acquired appropriately in real life situations.

5.3 Recommendations

It is highly recommended that the model should be adopted or adapted by the Faculty of Art, KNUST to be used by lecturers who intend to use videos in their lessons. However, for smooth implementation, the following recommendations should be given attention:

a. More importantly, the dean of Faculty of Art should liaise with the management of the University to ensure that the internet connectivity and access is upgraded at lecture halls within the University. This will make it possible for lecturers to play or show educational videos from online sources during lessons.

b. Heads of departments in the Faculty, should ensure that electrical sockets in the various lecture halls are fully functioning to make it possible for uninterrupted flow of power. This will make it possible for the use of computers and projectors at all times in the lecture halls.

d. As a matter of policy, lecturers in the various departments in the Faculty must be charged to implement instructional strategies that are more engaging through the use of educational videos to augment the traditional way of teaching. By so doing, this will make learning lively. Also, it will increase learner motivation and engagement and yield better results in the long round.

e. Finally, the Dean of Faculty (Faculty of Art) in collaboration with the heads of the various departments should organize at least a seminar in each academic year for lecturers in the faculty in order to educate them about the importance of educational videos in teaching and learning. This will go a long way to motivate those already doing that and at the same time encourage others to also adopt such strategies in their profession as lecturers.

5.2.1 Recommendation for further Studies

The study was precisely carried out in the Faculty of Art, KNUST. However, there are other faculties in the University where the same study can be replicated. It may also be done in a different University within the country and all over the world. Further, future researchers may implement the model proposed by this study to test its effectiveness in teaching and learning.

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APPENDICES

Appendix A

QUESTIONNAIRE FOR STUDENTS

This questionnaire is designed to solicit the views of the Students based on their attitudes and perceptions in relation to the use of educational videos and it impact on their learning at the Faculty of Art, Kwame Nkrumah University of Science and Technology, Kumasi.

A. DEMOGRAPHICS

1. Department

   b) Communication Design [ ]

   c) Painting and Sculpture [ ]

   d) Publishing Studies [ ]

   e) Industrial Art [ ]

   f) Integrated Rural Art & Industry [ ]

2. Level: 100 [ ] 200 [ ] 300 [ ] 400 [ ]
3. Age: Below 15years [ ] 15-20years [ ] 21-25years [ ] 26-30years [ ] 31years and above [ ]
4. Gender: Male [ ] Female [ ] Other [ ]

B. ACCESS TO DIGITAL DEVICE(S)

1. *Indicate which of the Digital Devices do you personally own?*

No.	Digital Device	Yes	No
a	Smart Phone		
b	iPad/Tablet		

c	Laptop		
d	Desktop Computer		

e. List other digital devices you own aside those listed above if any……..

C. SKILLS IN USING DIGITAL DEVICES

a) 2a. How skilled are you in using digital devices to access videos?
   Not skilled 1 2 3 4 5 Skilled
b) 2b. How skilled are you in using digital devices to manipulate videos?
   Not skilled 1 2 3 4 5 Skilled

D. ACCESSING VIDEOS

a) How do you access videos to help you learn?
   (i) from friends (ii) from the internet (iii) from lecturers (iv) other
b) Which of the following video-sharing applications do you access videos to assist you in learning?
   [ ] YouTube
   [ ] Vimeo
   [ ] Facebook Video
   [ ] Daily motion
   [ ] Instagram Video

E. VIDEO PREFERENCE

1. What is your preferred video length you engage to assist you in learning?
   a. 1-5 minutes
   b. 6 - 10 minutes
   c. 11 – 15 minutes
   d. 16 – 20 minutes
   e. 21 minutes and above

2. Which of the following types of video do you prefer to use to assist you in your learning?

[ ] Webinar
[ ] Vlogs
[ ] Animations
[ ] Interviews
[ ] Tutorials
[ ] Documentaries
[ ] Presentations
[ ] Events
[ ] Commercials
[ ] Comedy
Other……

F. ATTITUDES AND PERCEPTIONS

1. Attitude towards video usage	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree
Using videos for learning would be a very good idea.					
It would be very desirable for me to use Videos in learning.					
It would be much better for me to use videos in learning.					
I like the idea of using videos for learning.					

I learn better through videos					
Videos make course contents livelier.					

2. Behavioural intention to use videos	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree
I intend to use videos in my studies whenever possible.					
I intend to increase my use of videos in the future for learning.					
I would adopt videos to help me learn better in the future.					

3. Actual video usage to support learning	Once a day	Several times a day	Several times a week	Twice a week	Once a week
How frequent do you use videos to support your learning?					
How often do your lecturers introduce videos in their lessons?					

G. THE IMPACTS OF VIDEO ON STUDENTS LEARNING

1. Impact of video on students	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree
Learning through videos enhance my learning effectiveness.					
Videos help me to understand concepts better					
My learning would be difficult without videos					
Video supports critical aspects of my learning.					
Learning through videos helps me to construct my own ideas about concepts.					
With the help of videos, I learn fast.					
Using videos to learn has increased my academic performance					
I learn better with videos					

H. THE IMPORTANCE AND USEFULNESS OF VIDEO USAGE IN LEARNING

9. On a scale of 1-10 how useful is video in your learning experience?

Less Useful 1 2 3 4 5 6 7 8 9 10 Most Useful

10. Do you think it is important to integrate videos into teaching and learning in the University? (a)Yes (b) No

11. State at least two reasons in support of your answer above……...

Appendix B

INTERVIEW GUIDE FOR LECTURERS

This interview guide is designed to solicit the views of the Lecturers based on their attitudes and perceptions in relation to the use of educational videos in teaching at the Faculty of Art, Kwame Nkrumah University of Science and Technology, Kumasi.

1. What is your understanding of video?
2. How and when do you introduce videos into your teaching?
3. Why do you introduce videos in your teaching?
4. Does it help in anyway?
5. How would do you assess videos to be used in your teaching?
6. What is your take on current study on video integration into the teaching and learning?
7. Do you perceive any form of conflict between the traditional way of teaching and video integration in teaching and learning?
8. Do you think it is important to integrate videos in your teaching?
9. What educational benefits have you experienced with using videos in the classroom?
10. In your opinion, what role(s) can videos play in your teaching and learning?
11. Would you tell me some of the challenges you are facing as lecturer in your effort towards the use of videos in your teaching?
12. How do students feel whenever you introduce video in your lesson?

Appendix C

Responses of lecturers to the questions in the interview guide in appendix B.

1. What is your understanding of video?

Respondent A: *A video has to do with the recording of series of events for a playback. And a playback, I mean you can watch it several times and at anywhere as you wish.*

Respondent B: *A video is the visual portion of a presentation. It can be in the form of a recording, reproduction or broadcasting of moving-visual images. Originally referred to as visuals alone but now has come to be popularly referred to as both visuals and sound.*

Respondent C: *It is an audio-visual or it could be a recording of a motion picture. An audio-visual material that you see movement. Sometimes, it shows pictures in motion that we usually play through television. It comes with sounds and pictures. That is what I mean by audio-visual. The pictures are not static. They move and that is why I used the word "motion pictures"*

Respondent D: *I see video as one of the means by which learning is done. Therefore, I will say that a video is a combination of sounds and images for the purposes of screening.*

Respondent E: *To me, a video is a moving visual image purposefully for viewing.*

2. How and When do you introduce videos into your teaching?

Respondent A: *I first have to introduce them to whatever it is before I bring in video. Other times, I show them the video and follow up with what I want to teach. Sometimes too, I tell them to go on YouTube to watch it after class.*

Respondent B: *Its either I show it in the beginning of the lesson or at the end but it depends on that particular topic I am teaching*

Respondent C: *Actually, I don't have a format. I use it as at when I need it in my lesson. Sometimes I can be teaching and it comes to mind that I should use a video to explain a concept. When it happens that way, I quickly go online and search for one and use it.*

Respondent D: *First of all, after getting the video, I watch it to make sure it does not contain any unacceptable choice of words. When I am ok with everything I send it to class, they watch it and I explain afterwards. I add my voice to what has been discussed in the video.*

Respondent E: *I show them (students) the video in the beginning. Then I play it for the second time. This time around, I tell them to pay attention to certain portions of the videos.*

3. Why do you introduce videos in teaching?

Respondent A: *It depends on the subject for discussion. Sometimes, I have to play the videos for them to get better understanding of what they are learning. It sometimes cut off the time I spend talking. It is not everything that they can get from the classroom.*

Respondent B: *It tremendously enhances the teaching process. Emphasis on the saying; 'a picture speaks a thousand words.'*

Respondent C: *As you know, we are having challenges in the 21st century in terms of materials and how students are able to get the understanding in our lectures. Now we have devising so many methods (teaching aids) in order to foster understanding among students. People have introduced visual materials which are not audio-visuals but you realize that seeing and not hearing sometimes makes explanation of some concepts become somewhat difficult, but when you hear the sound and also see, you get a better understanding of certain topics. I realized that we live in a situation where our industries especially textiles are on the verge of collapsing and when you go the factory, we don't have much to show. The machines over there are all obsolete and we don't also have them in this institution, so the best way is using videos in your lessons as teaching aids to explain how some of those machines work because students have not*

seen them before. If you explain it in abstract to students, understanding will be difficult. Sometimes too, it is very difficult sending students to the factory to observe how such machines operate. I thought it wise to get a video version of such stuff, bring it to the lecture hall to help explain concepts to students and it is really yielding better results as students are able to understand what is being taught easily. That is why I have been using videos in my lessons.

Respondent D: *I have different students with different ways of learning so I try to identify possible ways and means that can help all students to learn. Hence, the reason for using videos in my lessons.*

Respondent E: *The reason is that, when I use videos in my lesson, it makes students relate with the content of what is being taught.*

4. Does videos in a lesson help in any way?

Respondent A: *Already they (students) are using it themselves in their studies so they have interest in it and when used in class it helps.*

Respondent B: *Yes, it does.*

Respondent C: *Oh yes it does. If not, I will not be using it. Students enjoy it and that alone is enough.*

Respondent D: *Yes, because the feedback from students is often encouraging.*

Respondent E: *It does a lot. There are certain things that sometimes you can't explain verbally except through videos.*

5. How educational videos are being accessed by lecturers to be used in the classroom.

Respondent A: *Often, I get them from YouTube and use it to teach or I tell my students to go and watch it there.*

Respondent B: *I sometimes make my own videos and use them to teach. Other times, I download online. Also, students are sometimes tasked to make their own videos for use in teaching and learning.*

Respondent C: *I get them from the internet. On few occasions, I get some from certain industries. For instance, there was a time I obtained a video from the Akosombo Textiles Limited.*

Respondent D: *I download them online but sometimes I make my own videos. However, those I make are not as many as those I get from online.*

Respondent E: *Online; YouTube or online educational resources like Scribd and Slideshare.*

6. Do you perceive any form of conflict between the traditional way of teaching and video integration in teaching and learning?

Respondent A: *A conflict is created when a lecturer does not explain the concepts but leaves students to watch it on their own. It is not good. Videos should add to what you teach. It augments whatever that goes on in class.*

Respondent B: *No conflict. Video integration enhances the traditional way of teaching.*

Respondent C: *For me, using only textbooks and reading them to students all the time is "very basic". You don't go to a lecture where you have mature students and try to read from books to them. But I have realized that some of the lecturers are not IT literate. There are old lecturers who are not so acquainted with technology so that is the only issue I have. But I think using audio-visuals in teaching is what the world is heading towards and so we have to understand it that way and accept it.*

Respondent D: *Personally, I watch the video before I take it to class. I see the videos as reinforcement because even when I have shown the video to students, I still go back and explain why certain things were said in the video and how certain things are done, so I do not see any conflict here.*

Respondent E; *No. I see it as a complement rather.*

7. Do you think it is important to integrate videos in your teaching?

Respondent A: *Oh yes. Because some of the students don't even pay attention in class, so if such a person watches videos and those things, then videos in teaching is a good platform. It will also help those who have some learning challenges.*

Respondent B: Very *important.*

Respondent C: *Yes, it is important. I will say very important to me.*

Respondent D: *Why not? Especially with the diversity of students and the way they learn, you need to have an inventory of your students to know what helps them learn better. You will identify that a good number of them learn by visuals. Therefore, there's the need for audio-visuals (videos)*

Respondent E: *Yes because it helps explain certain mechanisms to students with ease.*

8. How students feel whenever video is introduced in a lesson.

Respondent A: *They are happy anytime I want to show a video in class as part of my teaching.*

Respondent B: *The new generation just see it as normal. Old generation from my personal experience saw it as an innovation and it was very exciting to them, that was 1999 to 2005 thereabout.*

Respondent C: *Always excited. They always want to watch. They sit up anytime I want to show them videos. In fact, they exhibit interesting reactions towards videos in the classroom. It is something they enjoy.*

Respondent D: *Most of the time, they are happy so I will say it gets them motivated. Because when you talk all the time, they sometimes get fed up.*

Respondent E: *They get engaged with what you are teaching them.*

9. Educational benefits experienced by lecturers in using videos for classroom instruction.

Respondent A: *It helps to clarify some concepts that are quite difficult for students. Even with some students, what happens is that when you teach them for the first time, they try or seem not to understand but when they watch the video, they understand. Especially those who are slow learners, it helps them to understand what is being taught in class.*

Respondent B: *It makes teaching easier and gives students better understanding.*

Respondent C: *It makes teaching easier. It helps students to get better understanding and they can demonstrate or repeat what they learn. They are able to perform when they get to the factory because they have seen it. Even if they should be given an in-service training, they do not struggle that much.*

Students are bored when you are giving them books to read or reading books to them all the time in class. Sometimes, they even sleep but when you show videos, they are active. The mind is activated and they ask questions. Do you know that you can teach for close to 2 hours without a video and when you ask students; any question or if they understand, there is no reply/feedback? When it happens this way, it is either they have gotten the concept or they did not get what you taught them at all. But with the videos, they will start referring you to certain portions of the content they viewed. Simply, it makes teaching interactive.

Respondent D: *I teach a practical course so the practicality the students see in the video tells them that, what they are learning is not beyond their capability. It also serves as a good source of reference to me as a lecturer and a good teaching and learning aid for me.*

Respondent E: *Normally, I use it to engage students' attention in class.*

9. Challenges lecturers face in their quest to introduce videos in their lessons.

Respondent A: *Access to the internet is sometimes not good and it is not all the lecture rooms that have the facilities like projectors.*

Respondent B: *Inadequate number of projectors in the faculty and of the few quite a number are faulty.*

Respondent C: *Our classrooms are not fully equipped for such initiatives. For instance, most of the sockets in the classrooms are not functioning well.*

Respondent D*: On few occasions, some of the students complain about the accent of the maker of the video which makes it difficult for them to decipher when they listen.*

Respondent E: *The videos online may not cover all topics. Sometimes, you may not get a video that matches with what you want to teach. Also, commercials sometimes keep interrupting videos especially when you are playing it directly from online. One thing too is that the internet connection is not the best in the various lecture halls.*

10. What is your take on the current study of developing a model for video integration into the teaching and learning?

Respondent A: *I think it is a good idea. We are dealing with students and if it will help them, why not? Because, nowadays students are not performing well so if there is an innovation like this, I think it is good.*

Respondent B: *I see it to be a good idea provided it is not going to be confusing. I mean if things are made clear, why not? It is good.*

Respondent C: *If there is a guide for us to go by in using videos in lessons, I think it will save time and make things easier.*

Respondent D: *Well, I don't have any problem with that. Even if we (Faculty of Art) can adopt something like that, it will be cool. At least we (lecturers) will have something to look at anytime we intend to use videos in our lessons. It doesn't necessarily have to be a general but something that we in the faculty can make our own.*

Respondent E: *I don't know how it's going to be like. I mean the model. That notwithstanding, I think it is going to help.*

Appendix D

Introductory Letter from the Head of Department (Educational Innovations in Science and Technology) to the participating lecturers.

DEPARTMENT OF EDUCATIONAL INNOVATIONS IN SCIENCE AND TECHNOLOGY

FACULTY OF ART, COLLEGE OF ART & BUILT ENVIRONMENT

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Ref: GAS/S/3

Date: 27th November, 2017

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF INTRODUCTION – MACHARIOUS NABANG

Mr. Macharious Nabang is an MPhil Art Education student in the above Department of KNUST with a student number PG 5637916.

He is conducting a research on ***"Impact of Educational Videos on Teaching and Learning at Higher Education" (A Case Study: on population census of all students at the Faculty).***

I would be very grateful if you could provide him with any information he may need.

Yours faithfully,

Dr. Patrick Osei-Poku
HEAD OF DEPARTMENT

Appendix E

Krejcie and Morgan table for determining sample size.

Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

Key: N is Population Size and S is Sample Size

Source: Krejcie and Morgan (1970)

Appendix F

Breakdown of the five strata that constitute the sample population.

Stratum A (Communication Design) = 105

Breakdown

Level 100 = (195 ÷ 729) × 105 = 28.

Level 200 = (210 ÷ 729) × 105 = 30.

Level 300 = (161 ÷ 729) × 105 = 23.

Level 400 = (195 ÷ 729) × 105 = 23.5 = 24.

Stratum B (Painting and Sculpture) = 40

Breakdown

Level 100 = (114 ÷ 276) × 40 = 16.5 = 17.

Level 200 = (41 ÷ 276) × 40 = 6.

Level 300 = (57 ÷ 276) × 40 = 8.

Level 400 = (64 ÷ 276) × 40 = 9.

Stratum C (IRAI) = 49

Breakdown

Level 100 = (125 ÷ 338) × 49 = 18.

Level 200 = (78 ÷ 338) × 49 = 11.

Level 300 = (70 ÷ 338) × 49 = 10.

Level 400 = (65 ÷ 338) × 49 = 9.

Stratum D (Publishing Studies) = 76

Breakdown

Level 100 = (109 ÷ 530) × 76 = 16.

Level 200 = (254 ÷ 530) × 76 = 36.

Level 300 = (98 ÷ 530) × 76 = 14.

Level 400 = (69 ÷ 530) × 76 = 10.

Stratum E (Industrial Art) = 59

Breakdown

Level 100 = (120 ÷ 408) × 59 = 17.

Level 200 = (125 ÷ 408) × 59 = 18.

Level 300 = (72 ÷ 408) × 59 = 10.

Level 400 = (91 ÷ 408) × 59 = 13.