

**LEVERAGING INSTRUCTIONAL AUDIO-VISUAL RESOURCES TO
IMPROVE ORAL KISWAHILI PROFICIENCY IN SECONDARY
SCHOOLS: IMPLICATIONS FOR LANGUAGE PEDAGOGY
IN NORTH RIFT REGION, KENYA**

BY

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DECLARATION

Declaration by the Candidate

This research is my own original work It has never been submitted to any other institution of learning for the award of degree. Further, I declare that all materials cited in this thesis which are not my own work, have been duly acknowledged.

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DEDICATION

My parents always my heroes, Daniel and Rechael Sigei, thank you for instilling in me the values of hard work, determination, and faith. My husband, Eliazer Kipsang and my kids have been there for me through thick and thin, always encouraging me to chase my dreams and never giving up on me.

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ABSTRACT

The primary goal of education is to enhance the learning experience by incorporating innovation and student-centered methods. Different techniques are currently being utilized in the process of teaching and learning Kiswahili yet the performance is still poor. Performance in Kiswahili is poor. Empirical research revealed that the retention of information is significantly improved when using audio-visual aids in teaching. The purpose of this study was to assess how oral Kiswahili proficiency is enhanced through instructional audio-visual resources in Secondary Schools in North rift. The study was guided by the following objectives: To determine the Oral ability of the learners prior to the use of Audio-visual in teaching and learning of Oral Skills in Kiswahili in public secondary schools in north rift region, Kenya, to examine the difference between the Kiswahili performances of students taught using Audio-visual and those taught using conventional technique in public secondary schools in north rift region, Kenya and to assess the difference between the Kiswahili performances of the male students taught using Audio-visual and their female counterparts in public secondary schools in north rift region in Kenya. The population of this research comprised of 571 form two students. The study was guided by Cognitive Theory of Multimedia Learning by Richard Mayer. This research was Quantitative research thus positivism philosophical paradigm. It utilized a quasi-experimental research design; instruments used were Pre-test and the Post-test of both the control group and the experimental group and content validity was used. Null hypothesis was tested at $P \leq 0.05$ Spearman Rank Co-relation was used to determine the degree to which each student's rank in one set of scores tends to be correlated with a rank on another set of scores. Two-tailed tests were used to measure the significant difference in means between the groups. The researcher used simple random sampling to determine which class were the experimental group and the control group. Based on the findings of the study, it was evident that the mean scores in Control group was 41.7 (SD = 15.8), whereas the mean in Experimental group was 54.1 (SD = 16.3). A Welch two-sample t-test results showed that the observed difference was statistically significant, $t(1138.5) = -13.013$, $p < 2.2e-1616$. Therefore the results of the first independent t test for Kiswahili scores indicated that indeed there is a significance difference between the mean of those students who used the conventional means and those students who used the Audio-visual. The mean score for the male students was 46.2 (SD=17.9), while the female students had a mean score of 60.8 (SD=10.1). The t-test results $t(312.19) = p < 0.0001$ and a 95% confidence level shows that the difference lies in the interval of [11.77187 – 17.44789].The Spearman's rank correlation $\rho = 0.5521$, with a p-value $< 2.2e-16$.It was therefore, concluded that the provision of Educational Audio-visual for teaching in schools has a positive impact on the student's performance hence oral Kiswahili proficiency is enhanced therefore should be accorded top priority by stakeholders in the education sector. It was recommended that curriculum planners should encourage the utilization of Audio-visual materials in teaching/learning in schools by ensuring the inclusion of their usage in the Kiswahili curriculum at all levels.

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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.0 Introduction

This chapter presents background to the study, Statement of the problem, Hypothesis, Limitation, Assumptions of the study, Scope of the study, Justification of the study, Significance of the study, Theoretical framework, Conceptual framework, and Operational terms.

1.1 Background of the Study

Kiswahili consists of four essential skills: listening, speaking, writing, and reading. All of these skills hold equal significance, as it is evident that those who possess knowledge of Kiswahili are commonly known as "speakers" of the language. As such, it is crucial for a Kiswahili educator to inspire their students to excel in the language, particularly in terms of oral proficiency. The skill of effectively communicating in a secondary language plays a significant role in a student's academic achievements and future success, as stated by (Brame, 2015). It is a dynamic form of expression that allows individuals to connect and share their perspectives, beliefs, and experiences with others. The power of speaking lies not only in the words we choose, but also in the tone, body language, and facial expressions that accompany them. It is a fundamental aspect of human interaction, allowing us to build relationships, convey emotions, and convey complex ideas as highlighted by (Lauri et.al 2022.)

Kiswahili, also known as Swahili, is a language that holds great significance in the African continent. With over 100 million speakers, it is one of the most widely spoken languages in Africa and is recognized as the lingua franca of the East African community. Its origins can be traced back to the coastal regions of East Africa, where

it was heavily influenced by Arabic, Persian, and Bantu languages as stated by (Daniel 2016).

According to (Achola, 2016), what make Kiswahili unique are its rich cultural heritage and its ability to adapt and evolve over time. It has absorbed elements from various languages and cultures, making it a truly diverse language. Beyond its linguistic value, Kiswahili is also a symbol of unity and pride for many African communities. It is a language that has withstood the test of time and continues to thrive in the modern world.

In today's globalized society, speaking Kiswahili opens doors to new opportunities and connections. It is a language that is gaining popularity in the business world, as well as in academia and the arts. With its widespread usage, Kiswahili is the official language of several East African countries such as Kenya, Tanzania, and Uganda. With such a widespread use, it is evident that Kiswahili is a crucial language to learn, and its four skills play a vital role in mastering it (Debora, 2017). The first skill, listening, is the ability to understand and interpret spoken language. It is an essential skill in learning Kiswahili as it allows students to comprehend what is being said and respond accordingly. A good listener can pick up on nuances and subtleties in the language, which is crucial in effective communication. Speaking is the next skill, and it is the ability to express oneself orally. As mentioned earlier, those who can speak Kiswahili are referred to as "speakers" of the language. Furthermore, (Brame, 2015) highlighted the crucial role of a Kiswahili teacher in instilling motivation in their students to master this language, particularly in the realm of oral communication. Language that is widely spoken in various parts of Africa, being able to effectively communicate in Kiswahili opens up opportunities for personal and professional growth. (Castrol, 2021) said that the proficiency in oral communication goes beyond the classroom setting and extends

into real-life situations, such as traveling to Kiswahili-speaking countries or interacting with Kiswahili-speaking individuals in a multicultural environment.

Achola (2016) emphasized the significance of oral skill in learning Kiswahili. It is an essential skill that enables students to express their thoughts and ideas through the speaking. It not only enhances their language proficiency but also fosters critical thinking and creativity. As students learn to speak in Kiswahili, they are able to develop a deeper understanding of the language's grammar, vocabulary, and structure which allows them to effectively communicate their ideas in both oral and written forms, making them well-rounded individuals equipped with valuable skills for their personal and professional growth. This skill is crucial in formal settings, such as academic or professional environments. It requires an understanding of grammar, vocabulary, and sentence structure to effectively convey one's thoughts and ideas.

Having a toolbox full of words and knowing how to use them effectively when speaking or communicating is essential to successful communication. (Ghilay, 2018). Pronunciation, or the way we form and articulate sounds in words and phrases, is an integral part of speaking, as proper pronunciation is necessary for clear and understandable communication. According to (Kirana, 2016) Grammar is also a key component of speaking, as it ensures that the words used are correct and appropriate for the situation. Knowing which words to use, how to form them correctly, and when to use them is essential for effective communication. Moreover, having a deep understanding of language goes beyond simply knowing the definitions of words. It involves recognizing the subtle hints and implications that certain words carry, allowing one to communicate with precision and finesse. (Hwang, 2022) emphasized that, this level of proficiency not only guarantees clarity in the message, but also avoids any potential misunderstandings or misinterpretations. The word "stubborn" may have

negative connotations, but it can also be used to describe someone who is determined and resilient, by being aware of such nuances, one can choose the most appropriate words to effectively convey their intended meaning.

The understanding of the nuances of language can greatly enhance the flow of a conversation. Kathirve (2020) it allows for a more natural and effortless exchange of ideas, as each word is carefully selected to fit in with the overall tone and context. This attention to detail can make all the difference in building a strong rapport with the listener and creating a sense of mutual understanding. In fact, skilled communicators often use subtle variations in language to build rapport and establish a comfortable and engaging atmosphere in their conversations Shneps (2023)

In addition, being able to pick up on the nuances of language can also help in navigating sensitive or delicate topics. Noetel (2021) it allows one to choose their words carefully and avoid unintentionally causing offense or discomfort. This is especially important in today's diverse and multicultural society, where language can hold different meanings and implications for different individuals. By being aware of these nuances, one can communicate with sensitivity and respect, fostering a deeper level of understanding and empathy in their. It involves the rules and structures that govern how words are organized in a sentence to convey meaning. As Shneps (2023) puts it clear that using correct grammar helps us form coherent and understandable sentences.

Fluency is also an important aspect of speaking. As per Mtitu (2014) it refers to the ability to speak smoothly and effortlessly without hesitations or pauses. Fluency allows for better flow and natural communication. And lastly, we have Intonation. This refers to the rise and fall of the voice when speaking which according to Yunus (2018) adds emotion, emphasis, and meaning to our words, helping to convey our intended message.

Remember, all these components work together to help us express ourselves effectively and be understood by others. Is there anything else you'd like to know involves the rules and structures that govern how words are organized in a sentence to convey the meaning? Arman (2021) states that using correct grammar helps us form coherent and understandable sentences. Fluency is also an important aspect of speaking. It refers to the ability to speak smoothly and effortlessly without hesitations or pauses, Called (2021).

Mateu (2021) emphasized that fluency allows for better flow and natural communication. And lastly, we have Intonation. This refers to the rise and fall of the voice when speaking. It adds emotion, emphasis, and meaning to our words, helping to convey our intended message.

Limited vocabulary learners face additional difficulties in learning a language

Syahril, (2019) explain grammar as the study of morphology—the forms and patterns of words—as well as syntax—the way words are often arranged in phrases and sentences as well as the system of word arrangements and structures in a language at a particular moment, also collection of rules for speaking and writing in a particular language together with reservation that complies with these guidelines and a person's writing or speaking style. Speech should be taught with an understanding of the structural pattern because speech can be transmitted in a variety of ways.

Pronunciation, According to Ferdig (2020) is essential while speaking since mispronouncing a word can alter its meaning. The articulation of words is known as pronunciation, and it is important since a mispronounced word will make it difficult for the other person to understand what is being said. Students utilize pronunciation in conversation to create language that is more understandable. The ideas and parts of the

phonological process explain how sounds change and organize within a language as accentuated by Syahril, (2011)

Proper pronunciation is essential while speaking since mispronouncing a word can alter its meaning. Pronunciation is defined as the manner in which a language is spoken, a word is pronounced, and a person speaks language words. Afraz (2018) asserts that the articulation of words is known as pronunciation, and it is important since a mispronounced word will make it difficult for the other person to understand what is being said. Students utilize pronunciation in conversation to create language that is more understandable. The ideas and parts of the phonological process explain how sounds change and organize within a language. Amosa (2015) says speaking is more about the process than it is about the final product, so how media is used during the process will influence the final product. Students should be motivated and stimulated to speak during the speaking process, and using Audio-visual in the speaking activity helps with this. Therefore, it is thought that using Audio-visual in the speaking class will improve students' speaking abilities. This is why the researcher selected audio-visual as an efficient medium to support students in improving their speaking abilities (Goh & Burns 2021),

People decide to learn a language for various reasons, past studies have shown that the ability to speak the language is a priority for most of them according to (Bimpong, 2019). The majority of language learners use their proficiency in speech as a gauge of their success. Students rely on their teachers to help them reach their speaking objective; particularly in situations involving foreign languages where students are rarely exposed to the language outside of the classroom. Conversely, (LittleWood, 2016) clarified that the classroom turns into a manufactured setting for education. Therefore, as stressed by

(Goh & Burns 2021), instructors create and involve students in a range of classroom activities to support the development of their speaking skills.

The late 20th Century saw the rapid development of learning technologies, which led to significant changes in the educational system. This is because technology can offer an environment for teaching and learning that is proactive, accessible, and all-encompassing as stated by Kirana (2016) that in order to improve the use of cutting-edge technologies in their respective nations' teaching and learning processes, Ministries of Education around the globe have recently offered a wealth of resources and training. A substantial budget has been set aside to give teachers the tools they need to enhance the educational process. Despite their best efforts, the majority of nations are dealing with issues related to teachers' underutilization of the technology they have access to Albirini (2020).

This has grown to be significant issue since numerous earlier studies have demonstrated that integrating ICT into the teaching and learning process can raise student achievement Nakayima (2011). Several studies have attempted to examine the variables that influence teachers' acceptance of ICT use in the classroom, as Capan (2016) point out. It demonstrates that the teachers' conviction that they are the ones who carry out the changes in their teaching and learning process was the main obstacle to implementation. Furthermore, earlier research (Cassim (2017) demonstrates a strong correlation between teachers' beliefs and ICT use. The importance of teachers is growing, particularly when it comes to using ICT.

Video is a versatile form of electronic media that enables the transmission, recording, duplication, playback, and showcasing of dynamic image Syahril (2011) Originally developed for mechanical television systems, it was soon replaced by cathode-ray tube

(CRT) systems, which in turn were succeeded by a variety of flat panel displays (Capan, 2016). The resolution, aspect ratio, refresh rate, color capabilities, and other characteristics of video systems can vary. Both analog and digital versions can be distributed through means such as radio waves, magnetic tapes, optical discs, computer files, and network streaming (Jamieson et al., 2018).

The film, which captures a series of tiny images visible when the film is physically examined, was created decades before the video. In contrast, images in video are encoded using electromagnetic waves (Chien, 2014). Video technology was initially created for mechanical television sets, which cathode-ray tube (CRT) television sets quickly supplanted. At first, the video was only available in real time. One of the first usable video tape recorders (VTRs) was created by a research team at Ampex under the direction of Charles Ginsburg. Dudeney (2018). In 1956, video recorders were priced at US\$50,000, while videotapes were sold for US\$300 for a one-hour reel. But costs gradually decreased over time; Sony started selling videocassette recorders (VCRs) in 1971. In the early 2020s, streaming video went global. Video-streaming technology drove this revolution, which resulted in doctor's appointments, business meetings, and fitness classes becoming fully virtual due to pandemic-mandated social distancing. (Chien, 2014).

Online video make up to 80% of all internet traffic worldwide, it has become an integral part of daily life. We sweat to fitness routines on connected gym equipment, scream at porch pirates through our doorbell cams, and hold business meetings over Zoom. Smartwatches, medical equipment, and robotic vacuums all have built-in streaming capabilities. Moreover, (Chien, 2014) study revealed that since the new generation is born and raised in a technologically advanced environment, they have

high expectations for the use of ICT in the classroom. This phenomenon is known as the "digital native phenomenon."

The findings from earlier studies Marshall (2017) demonstrate that when teaching ICT in the classroom, teachers only need to use a traditional-centered approach. Although the types of ICT used in the classroom are not representative of the teachers' level of confidence and competency, they nonetheless use it effectively. This is due to their belief that ICT can be a useful tool in the learning process, particularly when it comes to making connections with real-world practices Chien (2014), this element has changed the way that ICT is taught in order to help students create and construct knowledge. According to the research, the relationship between confidence and competency in ICT professional development may be a reflection of how well training and pedagogically focused approaches are balanced. Using this, the administration of the school could ensure that there is enough support. Here are five ways video can have a powerful impact on teaching and learning according to (Deal, 2017) who stated that the days of standing in front of the classroom and "lecturing" are long gone. By using video, teachers can keep students engaged in new and innovative ways Chien (2014),

Studies have shown that video learning has positive outcomes on multiple levels, including increased motivation and deeper learning, and can specifically impact students' ability to facilitate discussions and identify problems. Effectiveness: Video learning is effective on both sides of the classroom; educators can use it to create time and space for active learning. Once a video is created, it can be reused and updated as needed, leaving more time in the classroom for live discussions and engagement with students (Capan, 2016). Authenticity: Despite never meeting in person, the video fosters a one-on-one relationship between the teacher and the student. According to a fascinating 2016 study by the Online Learning Consortium, video aided teachers in

creating and fostering genuine connections with their students. Inspired Thinking: Understanding and remembering new information is greatly aided by the combination of auditory and visual cues. According to analyst James M.C. Quivey of Forrester Research, a minute of video is equivalent to about 1.8 million written words. Students are therefore compelled to exercise critical thought when exposed to complex material when videos are used in the classroom (Deal et al., 2017).

Video for All: By enabling general and special education teachers to instruct students at their own pace, video can help close this training gap. Students can view it again. It's important to have at least basic editing software on your work/school device. Some tools allow you to edit video from your mobile device, however, most people find it easier to edit on a larger screen, such as a desktop monitor. To assist you in producing top-notch instructional materials, some video editing software is as follows: (Cox & Marshall, 2017) Adobe Premiere Rush: This tool simplifies the process of creating high-quality video and audio edits. Adobe Premiere Pro: This program is excellent for editing, ranging from basic to more complex. To draw in students with different learning styles, you can use text, audio, and video clips. (Deal et al., 2017)

Adobe Animate can easily incorporate animated elements into your videos. It works best when used in conjunction with a more all-purpose editor like Premiere for character and flash animation. Adobe effects is an excellent program for creating motion graphics and other special effects (Cox & Marshall, 2017). If you want to post your videos online or utilize them for purposes other than teaching background and form of screen-time operation may affect the relation between display time and Total Physical Activity (TPA). A previous study (Deal et al., 2017) of the children in Pause and Play, for instance, found that the policies and procedures of the childcare centers in terms of

minimizing supervision are linked to higher PA and fewer SB when children visit the Centre. (MacHardy & Pardos 2015) have created a model that links the features of instructional videos to the way students perform on tests later on. One finding from their examination of Khan Academy videos was that the most beneficial videos for students were closely related to related exercises. Results from a Vanderbilt University "teaching-as-research" project (Staiano et al., 2018) specifically took part in the BOLD Fellows program, where graduate students create online educational resources to be used in a course taught by a faculty mentor and then analyzes their effects in teaching-as-research projects. (MacHardy & Pardos 2015) He discovered that the students enjoyed the videos and that Media like all other teaching techniques should be used judiciously in the learning process. Media can be used to motivate discussions or lock in concepts. However, there are a number of important considerations for faculty before they integrate media or ask their students to use or develop media in their courses. This section explores tips for effectively using media, notes a number of common mistakes to be avoided and describes how to involve students in creating media on their own (Kavanagh et al., 2017). The dramatic growth of social media creates new opportunities for engaging students. These include social networking sites such as Facebook, MySpace, LinkedIn, and Twitter along with blogs and wikis. New teaching and learning experiences become possible with 360° videos. While the use of videos in teacher education is already well-established, the further development of video technology allows immersive and interactive applications in education which have a positive impact on motivation in learning processes (Kavanagh et al., 2017). In the past, financial costs and time-consuming systems limited the implementation of high-quality virtual reality and augmented reality applications in education.

These barriers can now be overcome thanks to increasingly affordable technology providers Jensen (2018) and new video technologies Kavanagh et al., (2017). 360° videos, in particular, offer a low-cost option for video-based teaching Roche et al., (2021), building on the benefits of traditional videos through immersion and multi-perspective reflection. Immersive experiences can now be implemented in the classroom in a sustainable way by combining 360° videos with desktop computers, smartphones, or even smartphones with low-cost head-mounted displays like cardboard.

In their scoping review, Snelson and Hsu (2020) address in their scoping review, they address the confusion and lack of differentiation between the terms 360° videos and virtual reality. Similarly, Roche et al. (2021) argue for a clear conceptual separation, citing the design processes of both applications. They used a SWOT analysis to determine the strengths of 360° videos in teacher education. (Ranieri et al. 2022) conducted a scoping review to investigate the uses and potentials of clearly defined 360° videos in education. They used only different spellings of the term 360° video in their search term. As a result, it cannot be ruled out that due to the lack of a conceptual distinction between 360° videos and virtual realities in the literature, thematically relevant contributions were not recorded.). In their systematic literature review of video-based learning (n = 76), Yousef et al. (2014) were able to identify video benefits in process learning, specifically the ability to present and visualize content in an appealing and realistic manner. They were able to determine no difference in learning success when teaching with videos versus other methods. Gaudin and Chaliès (2015), on the other hand, identified high motivational potential and authentic presentation possibilities through videos, as well as the benefits they provide in enhancing the perception of teaching situations through reflexive learning processes.

Kavanagh et al., (2016) In a systematic literature review on the use of video in teacher education, researchers found that videos have advantages in problem-oriented presentations and provide multi-perspectivity to illustrate theoretical and practical content, despite its potential as a learning tool, VR applications have yet to be widely implemented due to the technical challenges involved. These challenges include the need for programming and computer science knowledge, as noted by Kavanagh et al. (2017), and the resource requirements, as shown by Jensen and Konradsen (2018), however, the high resource demands and uncertain impact on learning outcomes have resulted in limited usage of VR as a teaching medium, as also observed by Radianti et al. (2020). To address these issues, Pellas et al. (2020) suggest the use of mobile VR as a more cost-effective alternative that still offers immersive experiences without spatial or temporal constraints.

Gaudin & Chaliès (2015) on the otherhand attest to videos' high motivational potential due to the authentic presentation possibilities of conventional video technology. Kavanagh et al. (2017) also find high motivation potential in VR due to its immersion and interaction possibilities. The use of 360° videos has revolutionized the way presentations are delivered and experienced. With its ability to provide an authentic and immersive experience, 360° videos have become a popular tool in various fields, including education and training. According to Chen and Hwang (2020), the use of 360° videos has shown to increase motivation levels in individuals who struggle with public speaking. By allowing the viewer to feel like they are physically present in the environment, 360° videos create a sense of immersion that helps reduce anxiety and build confidence in public speaking.

In a study conducted by Yildirim (2018), it was found that the use of 360° videos in documentaries led to higher motivational values compared to traditional video technology. This is due to the enhanced authenticity and immersion provided by 360° videos, making the learning experience more engaging and interesting. While some studies have not found significant differences in motivational levels between traditional video technology and 360° videos, the majority of research supports the high motivational potential of 360° videos (Huang et al., 2020). In fact, 360° videos have been shown to be a highly effective medium for language learning, with learners rating it higher than traditional video technology (Huang et al., 2020).

The use of 360° videos has also been found to increase learner interest and engagement Lee et al., (2020). The influence on learning motivation can be explained not only by the actual subject interest of the learner, but also by the degree of immersion of the playback medium. A high degree of immersion obviously leads to higher learning motivation (Lee et al.(2017, Rupp et al., 2019). Since 360° videos have a higher immersion than conventional videos even with low immersive playback media, learning motivation can be increased in comparison to traditional videos Yang et al.,(2021).

One of the key advantages of conventional video technology, as highlighted by Gaudin & Chaliès (2015) is its potential for facilitating reflection processes. This is particularly evident in the use of videos to capture and present multiple perspectives, allowing for a more comprehensive and nuanced understanding of a particular event or situation. With the ability to view different video footage, individuals are able to critically analyze and reflect on their actions, as well as the reactions of others. The recent advancements in 360° video technology have further enhanced the observation possibilities, as noted by Theelen et al. (2020). This all-round view allows for a more immersive and

interactive experience, providing a more comprehensive understanding of the subject matter. By incorporating text panels or buttons within the 360° videos, as suggested by Tauber et al. (2022), the attention and visual focus of learners can be directed to specific aspects of the panoramic view. This not only supports the learning process but also allows for a more personalized and engaging experience for the learners. (Yousef et al. 2014), in the context of teacher education, the use of 360° videos has great potential for improving reflective practices. Educators can record their own teaching units and use the 360° view to reflect on their instructional strategies and the reactions of their students. This allows for a more in-depth analysis of their teaching methods and enables them to make necessary adjustments for future lessons (Yousef et al. 2014),

1.2 Statement of the Problem

Oral skills are important because they allow people to express themselves and interact with others on a daily basis. Kiswahili teachers have used a variety of teaching aids other than audiovisual aids, but their performance remains poor. Records obtained from the schools studied revealed that students have performed poorly over time, with more than half of them failing the prescribed assessment protocols.

Empirical researches have looked into the use of instructional materials in teaching and learning. Despite all of the research on Audio-visual materials, no research has been done on the utilization of Audio-visual in teaching and learning Oral Skills in Kiswahili, particularly in North rift region. According to SDG4, it emphasized the education inclusion and equity. Schleicher (2014) puts it clear that equitable education is concerned with helping students develop their potential learning abilities without experiencing any barriers. The child is experiencing pronunciation difficulties as a result of mother-tongue influence on second language acquisition. Madhuri (2018) observed that the average child has a problem with mother-tongue sound interfering

with the second language, which contributes most to low self-esteem and incorrect oral expression in pronunciation. Speaking is considered the foundation for other skills. As Palmer (2017) points out that "Learning to speak a language is always by far the shortest road to learning to read and to write it" This is why students find it difficult to communicate appropriately in their second language. This problem may be due to limited practice and lack of exposure to the target language. Therefore, teachers should use Audio-visual multimedia and animations in their classes to promote interactive learning and activities to strengthen their speaking competence as highlighted by Basic Education Statistical Booklet 2020 on the Education Policy Framework and Structure to ensure national socio-economic transformation. To this end, the Government of Kenya (GoK) is committed to providing quality and inclusive education and training, as well as a robust platform for research, to all Kenyans. This is evidenced by the provisions of the Constitution of Kenya. Specifically, Articles 43(1)(f) and 53(1) (b) of the Constitution provide for the right to education and the right to free and compulsory basic education, respectively. With the rapid advancement of technology, incorporating instructional Audio-visual and other multimedia into the classroom has become an essential tool in language learning. These multimedia resources provide students with exposure to spoken language in various forms such as dialogues, plays, stories, and interviews. This exposure is crucial as it allows students to not only hear the language being used, but also see it being used in context.

According to Richter and Nel (2017) teaching aids play a significant role in bridging the gap between teaching and learning. They serve as valuable tools for conveying complex concepts and ideas in an engaging and interactive manner. Through the use of instructional Audio-visual and animations, teachers are able to demonstrate procedures and techniques in a way that is interactive, interesting and effective. This not only

captures the students' attention, but also facilitates their understanding of the subject matter. The current study aimed at assessing how oral Kiswahili proficiency is enhanced through instructional audio-visual resources in Secondary Schools in North rift, Kenya.

In today's fast-paced world, it is essential for teachers and learners to be familiar with the use of multimedia resources in the classroom. Through these aids, students are able to visually and audibly experience the lesson being taught, allowing for a more immersive learning experience. As Shah and Khan (2015) point out, animation and onscreen information provide a different learning experience from traditional printed text. This is highly beneficial for the development of critical thinking and oral skills in students.

1.3 The Purpose of the Study

The purpose of this study was to investigate the impact of audio-visual resources on the teaching and learning of oral skills in Kiswahili among public secondary school students in the North Rift region. Specifically, the study aims to determine whether the integration of audio-visual aids in the classroom leads to significant improvements in students' Kiswahili oral proficiency compared to traditional teaching methods.

1.4 Objectives

To achieve this, the following objectives were used.

- i. To determine the Oral ability of the learners prior to the use of Audio-visual in teaching and learning of Oral Skills in Kiswahili in public secondary schools in north rift region, kenya

- ii. To examine the difference between the Kiswahili performances of students taught using Audio-visual and those taught using conventional technique in public secondary schools in north rift region, Kenya.
- iii. To assess the difference between the Kiswahili performances of the male students taught using Audio-visual and their female counterparts in public secondary schools in north rift region in Kenya.

1.5 Research Questions

The research at hand sort to answer the following questions:

- i. How is the Oral ability of the learners before the use of Audio-visual in teaching and learning of Oral Skills in Kiswahili in public secondary schools in Kenya?
- ii. What is the difference between the Kiswahili performance of students taught using Audio-visual and those taught using conventional technique in public secondary schools in Kenya?
- iii. What is the difference between the Kiswahili performances of the male students taught using Audio-visual and their female counterparts in public secondary schools in Kenya?

1.6 Hypothesis

The following Null Hypothesis (H₀) was used during the research with a $p < 0.05$.

H₀₁. There is no statistical significance difference between the Kiswahili performance of students taught using Audio-visual and those taught using conventional technique in public secondary schools in Kenya.

H₀₂. There is no statistical significance difference between the Kiswahili performance of the male students taught using Audio-visual and their female counterparts in public secondary schools in Kenya.

1.7 Assumption of the Study

Assumptions are things that are accepted as true, or at least plausible, by researchers and peers who will read your dissertation or thesis. In other words, any scholar reading your work will assume that certain aspects of your study is true given your population, statistical test, research design, or other delimitations. In this research the researcher had the following assumption;

- i. The researcher assumes that the sampled population will be willing to use the Audio-visual in teaching Oral Skills in Kiswahili.
- ii. The respondent was to respond genuinely to the research instrument.
- iii. Students' performance represented a true impact on the use of Audio-visual in teaching Oral Skills in Kiswahili.

1.8 Significance of the Study

The Significance of the Study presents the importance of the research. It allows you to prove the study's impact on your field of research, the new knowledge it contributes, and the people who will benefit from it. It is a written statement that explains why the research was needed. It's a justification of the importance of the work and the impact it has on the research field, its contribution to new knowledge, and how others will benefit from it (Creswel, 2023)

The findings of this study are anticipated to yield valuable insights that will benefit Kiswahili teachers in enhancing their instructional approaches for developing oral skills through the utilization of Audio-visual resources. Furthermore, the results of this investigation have the potential to positively influence students' motivation levels in Kiswahili language acquisition, particularly in the area of spoken communication. Moreover, apart from benefiting educators, this research holds immense value for the

scholars in the field, offering them a significant contribution by providing comprehensive information and insights on how oral Kiswahili proficiency is enhanced through instructional audio-visual resources

1.9 Justification of the Study

Teaching approaches in the 21st century requires the use of multimedia's which can ease the delivery of the content. There is a groundswell interest in how Oral Skills in Kiswahili can be impacted to the learners; it is therefore paramount to do an assessment on the use of Audio-visual in teaching Oral Skills in Kiswahili in public Secondary schools in Kenya.

1.10 Scope of the Study

The scope of a study explains the extent to which the research area will be explored in the work and specifies the parameters within which the study will be operating. The study was an investigation on the utilization of Audio-visual in teaching Oral Skills in Kiswahili in Turkana County public secondary schools.

The county is within the boundaries of the former Rift Valley province. Turkana County shares borders with Ethiopia, South Sudan, Uganda and the Kenyan counties of West Pokot, Baringo, Samburu and Marsabit. Its strategic location is unique, creating an immense potential for inter-county and cross-border trade. Only public County schools were targeted. The sample included form two students of County Secondary schools in Turkana County. The decision to choose the area among many others in the country is that they bear the same characteristics and this cannot minimize the importance of other areas which could provide similar results.

1.11 Limitation of the Study

The limitations of a study are its flaws or shortcomings which could be the result of unavailability of resources, small sample size, and flawed methodology among others. No study is completely flawless or inclusive of all possible aspects. Therefore, listing the limitations of the study reflects honesty and transparency and also shows that you have a complete understanding of the topic.

Limitations are those elements that the researcher cannot control. The researcher was limited by the unwillingness of some of the teachers who felt that preparing a video integrated lesson was too tasking. The researcher explained to them the importance of the research in relation to the changing needs of the learner.

There was insufficient ICT resources and unstable power in some of the county schools and some targeted respondents were unwilling to participate. The researcher encouraged them to participate by explaining to them the importance of the research.

The research was limited to twelve schools out of the possible twenty-seven due to time constrain. The researcher used projector to project the Multimedia and animated resources from the internet which was a limitation since the projector can not save the resources for further use.

The limitation of this research is the impossibility to establish to what extent the Audio-visual shown in the classroom influenced the pupils' language skills, as well as vocabulary growth, in comparison with the videos they watched outside of school.

1.12 Delimitation of the Study

Delimitations are the characteristics that limit the scope and describe the boundaries of the study, such as the sample size, geographical location or setting in which the study

takes place, population traits, etc. Additionally, the researcher might also choose to use some research tools and methodologies to collect data but not others. These delimitations might be imposed for practical reasons, such as lack of time or financial resources to carry out a more thorough investigation. The delimitation section of the study should explain why specific choices were made while others were excluded and how this might affect the outcome of the research.

The study was purely experimental research, therefore randomization of control and the treatment group solved the limitation of the study.

1.13 Theoretical Framework

The structure that supports and describes a theory is known as the theoretical framework. A theory is a collection of interconnected concepts and definitions that present a systematic view of phenomena by describing the relationship between variables in order to explain these phenomena. After a lengthy research process, a theory is developed that explains the existence of a research problem in a study. A theoretical framework serves as a roadmap for the research study, guiding the research process and assisting researchers in clearly interpreting their findings by providing a structure for organizing data and developing conclusions.

Richard Mayer's Cognitive Theory of Multimedia Learning (Mayer, 2014) guided this study. Richard Mayer's Cognitive Theory of Multi media learning is relevant to this study because it guides us in determining the effectiveness of the Audio-visual in teaching Oral Skills. Multimedia learning, also known as multimedia instructional design, is a prominent theory in the field of educational psychology. It focuses on how individuals process and retain information through the use of various forms of media, such as text, images, videos, and audio. This theory was developed by Richard E.

Mayer, a professor of psychology at the University of California, Santa Barbara, and has been widely studied and applied in educational settings.

The cognitive theory of multimedia learning, according to Mayer, is based on three main principles: the dual-channel assumption, the limited capacity assumption, and the active processing assumption. According to the dual-channel assumption, individuals have separate channels for processing visual and verbal information. This means that when presented with multimedia, learners are able to process both visual and verbal information simultaneously, leading to better understanding and retention of the material.

The limited capacity assumption, on the other hand, suggests that individuals have a limited capacity for processing information. This means that presenting too much information at once can overload a learner's cognitive resources and hinder their ability to learn and retain information. As a result, multimedia designs should strive to present information in a way that is manageable for the cognitive capacity of the learner. The active processing assumption, the third principle, emphasizes the importance of learners actively engaging with the material in order to promote learning. This can be achieved through various strategies, such as including interactive elements in multimedia presentations, encouraging learners to generate their own connections and associations, and providing opportunities for reflection and application of the material.

The cognitive theory of multimedia learning, developed by (Mayer 2014) and further elaborated by (Clark and Mayer 2016), has revolutionized the way Audio-visual are designed for educational purposes. This theory posits that the design of multimedia should prioritize reducing extraneous processing, managing essential processing, and encouraging generative processing in order to facilitate effective learning.

Extraneous processing refers to cognitive processing that is not aligned with the learning objectives and is caused by poor design. In other words, when the design of a Audio-visual is ineffective, it can lead to unnecessary cognitive processing that hinders the learning process. To avoid this, (Mayer 2014) suggests that Audio-visual should be designed in a way that minimizes distractions and irrelevant information. This can be achieved through techniques such as using simple visuals, clear and concise language, and avoiding unnecessary animations or special effects. On the other hand, essential processing refers to the necessary cognitive processing that takes place in working memory while watching an Audio-visual. This processing can be affected by the complexity of the material being presented. According to (Clark & Mayer 2016), Audio-visual should be designed in a way that manages essential processing by breaking down complex information into smaller, more manageable chunks. This allows learners to process the information more easily and effectively.

Lastly, generative processing refers to the cognitive processing that occurs when learners actively engage with the material and make sense of it. This type of processing is aided by learner motivation, which can be fostered through various design techniques.

Multimedia learning has become increasingly popular in recent years due to its effectiveness in helping learners retain and understand new information. But why is it so effective? To truly comprehend this, it is good to understand how the brain processes information.

According to renowned educator Richard Mayer, the brain receives and processes information through multiple channels, depending on how it is presented. The first channel is the visual channel, which processes visually represented material such as

pictures, videos, charts, and printed words. On the other hand, the second channel is the auditory channel, which processes auditory information such as spoken words in a narration and other nonverbal sounds.

When a learner is presented with visual information, the brain processes it solely through the visual channel. This means that all of the information is captured and processed together, allowing for a more comprehensive understanding. Similarly, when a learner is presented with auditory information, the brain processes it separately from visual information, allowing for a more focused and detailed understanding.

But how does this relate to learning? Well, when a learner is introduced to new material, it is first stored in their sensory memory. This initial stage is crucial as it allows the learner to capture the information in its entirety for a brief moment. From there, the information is transferred to the working memory, where the learner begins to actively work with it in order to process and learn from it.

Once all of the material has been combined in a functional manner, the new information can be stored in long-term memory. Multimedia instruction helps students learn more deeply because it takes advantage of these two separate channels and allows the student to go through the process of creating multiple models to truly understand the material that is presented to them. This is also very important to the objectives under study because it will guide to examine the difference in Kiswahili performance of students taught using videos and those taught using conventional technique.

It's pretty obvious why we're all gung-ho about incorporating multimedia learning these days. After all, when one has a handle on how the brain process information, it's only natural that he/she makes the most out of it. Mayer, in particular, really breaks it down for us. He not only delves into the nitty-gritty of how our brains handle multimedia

information, but also gives us some solid tips on how to seamlessly integrate it into our learning. First things first, he reminds us that multimedia learning is basically just a fancy way of saying "words and pictures." It could be as simple as a textbook chapter with some accompanying images or charts. Or, it could be an online lesson with some flashy videos.

But Mayer's not just here to give us the lowdown on multimedia learning. He's also got some sage advice for us, starting with a little heads-up about the "limited capacity assumption." In a nutshell, this assumption boils down to the fact that human has a finite amount of space and processing power in our brains, (Mayer 2014) . In other words, one can't just cram all the information in the world into the noggins. One has to be selective about what to focus on. This is especially important for Kiswahili teachers, who will have to carefully choose which videos to use for Oral Skills. Mayer's warning is clear: don't overwhelm your students with too much information. One simple way to avoid this is by limiting the amount.

According to Mayer, one of the key pieces of advice is the "active processing assumption." As we have previously discussed, it is crucial for the learner to carefully choose which information to retain in their working memory and then actively engage with it in order to truly absorb it. Mayer explains that processing involves creating a mental representation or model of the information, (Mayer 2014). As educators, it is important for one to encourage students to actively process the material as they integrate this assumption into the multimedia instruction. In order to optimize learning, material should have a clear and logical structure and should guide the learner in constructing a mental model, which is essential for achieving both the first and second objectives.

Another important aspect of the process structure is its ability to break down complex systems into simpler, more understandable steps. This can be particularly useful in educational settings, where students may struggle to comprehend complex concepts. By using a cause-and-effect chain, the process structure can clearly show the relationship between different elements and how they work together to achieve a specific outcome, (Mayer 2014). This can aid in better understanding and retention of information.

Moving on to the comparison structure, this type of structure is commonly used in decision-making processes. By organizing information in a matrix, individuals can easily compare and contrast different options and make informed choices. For example, a comparison structure can be used in business settings to analyze the strengths and weaknesses of different strategies or products.

The generalization structure, on the other hand, is often used in academic writing to present a main idea and its supporting details. By using a branching tree, the main idea can be broken down into smaller subtopics, making it easier to understand and remember. This structure is also useful in organizing and presenting information in a logical and cohesive manner, (Mayer 2014). The enumeration structure is a simple yet effective way of presenting a list of items. This can be particularly useful in presentations or reports where a list of important points or items needs to be highlighted. By using a visual representation, such as a list or bullet points, the information can be presented in a clear and concise manner, making it easier for the audience to follow along.

Lightning is a natural phenomenon that has both fascinated and terrified humans for centuries. Its sudden appearance and powerful strikes can cause immense damage, yet

its formation is a complex process that is still being studied by scientists. To begin with, let us first understand the basic principles of lightning formation. It all starts with the movement of air masses. Cool air, represented by horizontal squiggly lines, moves towards warmer air, depicted by vertical squiggly lines. This creates an unstable environment where the warm air rises rapidly, forming vertical squiggly lines. As this warm air reaches higher altitudes, it cools down and condenses, creating clouds. The vertical squiggly lines pointing into the cloud represent this process of cloud formation.

Now, you may wonder, how does multimedia play a role in understanding this process? According to Mayer's Cognitive Theory of Multimedia Learning, the combination of words and images is crucial in facilitating learning. This not only captures the attention of the audience but also aids in visualizing the complex process.

Furthermore, Mayer's theory emphasizes the importance of using relevant and meaningful images in instructional materials. In the context of our presentation, choosing a cartoon animation that does not directly relate to the material can hinder a student's learning.

1.14 Conceptual Framework

A conceptual framework illustrates the expected relationship between the variables. It defines the relevant objectives for the research process and maps out how they come together to draw coherent conclusions. A conceptual framework is a representation of the relationship one expects to see between variables or the characteristics or properties that one wants to study.

Conceptual frameworks can be written or visual and are generally developed based on a literature review of existing studies about the topic a representation of an expected relationship between variables. Variables are simply the characteristics or properties

that one wants to study. The conceptual framework is generally developed based on a literature review of existing studies and theories about the topic.

Independent variables are the variable the experimenter manipulates or changes and are assumed to have a direct effect on the dependent variable in the study therefore the Independent Variable will be the Audio-visual resources for use, Facilities, Training, attitude, Planning/preparation, and Selection of Audio-visual.

Dependent Variables are the variable that is being measured or tested in an experiment, in the study Dependent Variable is the Oral Skills in Kiswahili.

Intervening variables is a variable that affects the relationship between an independent variable and a dependent variable. Often this type of variable can appear when researchers are studying the relationship between two variables and don't realize that another variable is intervening in the relationship. In the study therefore the Intervening Variables are the entry behavior of the learners, the IQ of the learners and the willingness of the Kiswahili teachers to use Audio-visual in teaching.

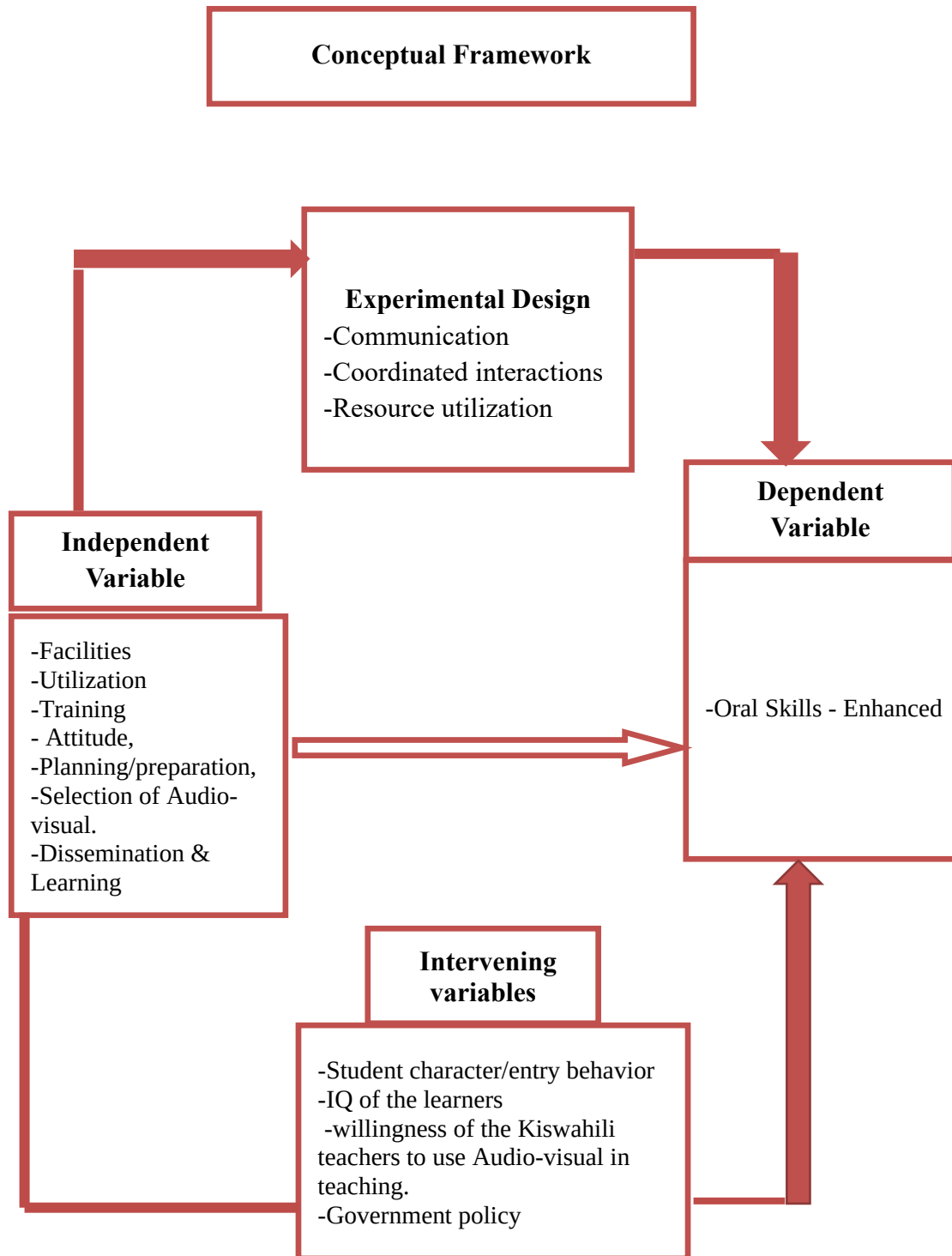


Figure: 1.1 Conceptual Framework

Source: Chepkemoi Naumi

Intervening variables

The Audio-visual is the independent variable in the conceptual framework, while the oral skills-enhancing learning process is the dependent variable. The model depicts the factors that influenced the learning process. Audio-visual Aids Enhancing Learning Process. Additive model is used here. The equation for the representation of the models is given as;

$$Y_i = \beta_0 + \beta_i X_i + \varepsilon_i$$

Here, Y_i represents the dependent variable, β_0 denotes the constant, β_i is a regression coefficient of independent variables,

x_i represents the independent variables also called as explanatory variables and ε_i denotes the random error. So equation representing our conceptual framework is given as, $KOS = \beta_0 + \beta_1 (VAs)$ Equation-1 represents the Additive model of the research. Here is, (Oral skill) represents the dependent variable enhancing learning process and β_1 is independent variable and represents the Audio-visual.

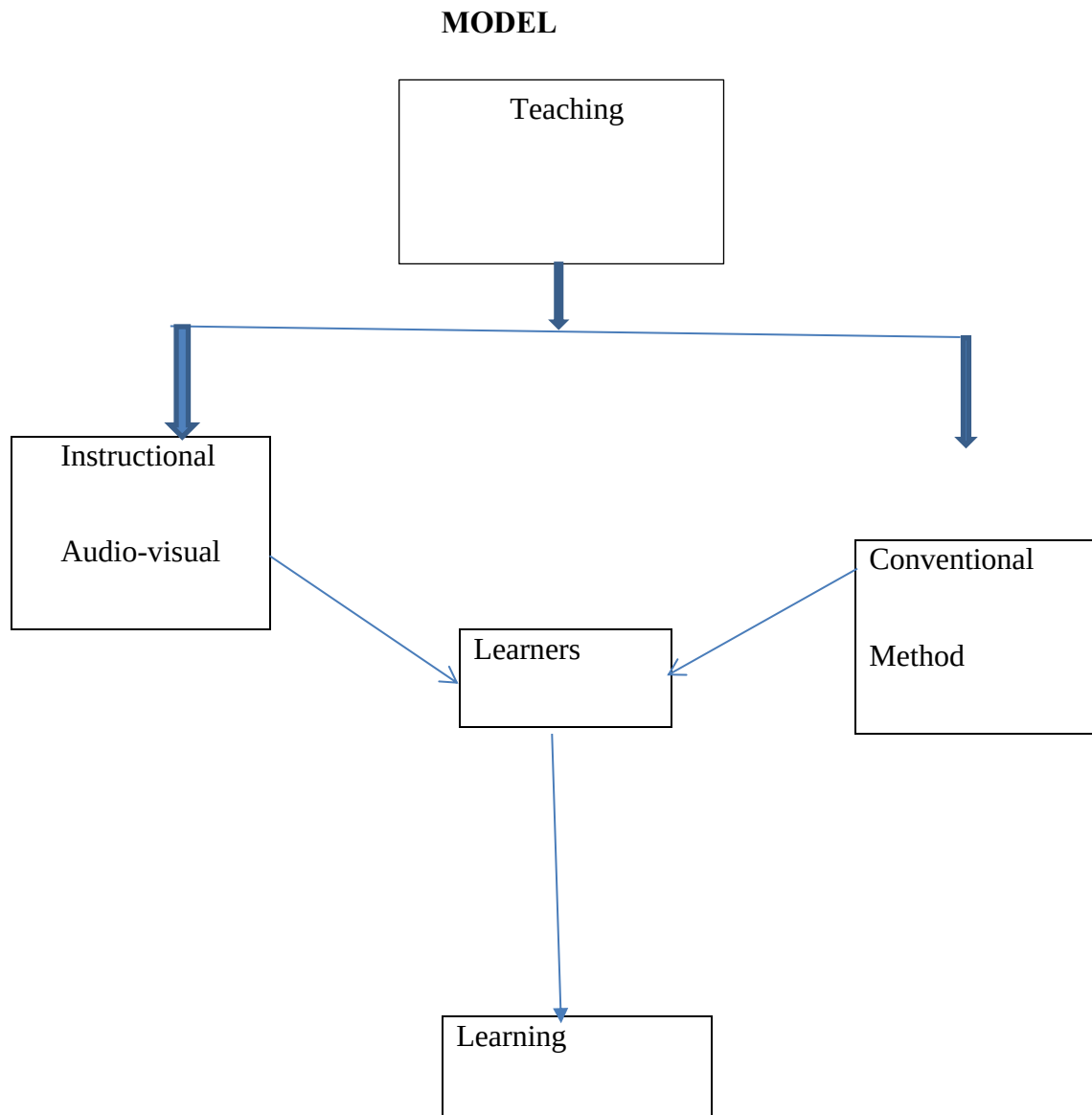


Figure 1.2: Model

Source: Chepkemoi Naumi

1.15 Operational Definition of Terms

Operational definition gives an obvious, precise, and communicable meaning to a concept used to ensure comprehensive knowledge of the idea by specifying how the idea is measured and applied within a particular set of circumstances. An operational definition must be valid, which implies that it should measure what it is supposed to measure. Creswel (2023) it must also be reliable, meaning that the results should be the same even when done by different people or by one person at different times.

There are various terms which were used in the study that warrant the operational definitions. They include the following: -

Audio-visual: Motion pictures stored on VHS or other format, in the study it will refer to the educative motion pictures and voice for Oral Skills.

ICT: Information Communication Technology

Instuction: It is the act of teaching while Instructional resource is the media used for teaching and learning.

Kiswahili: It is an agglutinative Bantu language widely spoken in East Africa. In the study, it is a compulsory Language subject that all learners are required to undertake in their Secondary school level.

KNEC: Kenya National Examination council. In the study it means the summative exams learner under take to complete the O'Level studies or secondary school studies.

Oral: Expressive or eloquent. In the study it was used to bring the meaning of the ability to speech or one's ability to communicate vocally in a given language.

Skills: Capacity to do something well. To have personal or practical knowledge or be versed.

UNESCO: United Nations Educational, Scientific and Cultural Organization. In the study the same meaning was used.

Utilization: It is the act of using. In the study it was to bring the meaning of a purpose for which something is used.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The researcher presents a review of related literature concerning the teaching of Kiswahili Oral Skills through the use of Audio-visual and other related areas in this chapter.

It was being presented in two ways; Literature of related studies outside Kenya and the literature related to the study which deals with the general review of the literature related to the study as derived from books, reports, journals, primary sources and internet. It was presented under different sub headings in related to the objectives of the study.

Speaking is the verbal use of language to communicate with others; it concerns putting the ideas into words about perception, feeling and intention to make the other people understand the message that is passed. It can also be said that speaking is people's ability in expressing their idea to other people (Madhuri, 2018). People engage in speaking for having a good communication. Communication is passing or transferring information from one person to another, one has to master all the structure of the language in order to use it well.

The power of ICT in promoting teaching and learning in the developed countries has been recognized as the Chinese say:

“When I am told I forget, what I see I remember and what I do builds a castle in my head” (Ellis, as quoted by Othman, 2018)

This is much the same with teaching Kiswahili play, if students are merely told concepts verbally, they may easily forget, if they are given an opportunity to see the relationship they will remember, but more importantly if they practice what they are

told and shown, they internalized it. ICT bridges the gap between theory and practice as emphasized by (James, 2021)

Since the COVID-19 pandemic, technologies such as cell phones, the Internet, TV, computers, and Audio-visual games have become an inseparable part of students' lives. This situation is vastly different from their predecessors. They are surrounded by technology as they grow up. They use it for studying as well as socializing with others because the government advises everyone to stay at home. Marc Prensky refers to this generation as "Digital natives" (Prensky, 2021). "Our students have changed dramatically," he said. Their brain processes new information in ways that differ from what their educators expected or designed to teach. As a result, finding and developing creative and effective ways to engage and educate digital natives becomes a challenge for teachers. According to (Dion, 2020) Listening studies are closely related to communicative approach, dictation is often associated with the audio-lingual method. However, there are countless creative activities that language instructors can incorporate into their classrooms to keep students engaged and help them improve their language skills. Some examples include: Role-plays: As per (Benjamine, 2019), this activity allows students to practice real-life situations and improve their speaking and listening skills. They can take on different roles and engage in conversations, such as ordering food at a restaurant or negotiating a business deal. Language games: Games such as word puzzles, crosswords, or vocabulary bingo can make learning fun while improving language skills. These activities help reinforce vocabulary, spelling, and grammar rules.

Vkorac (2023) emphasized that Group discussions encourages students to engage in group discussions on various topics can enhance their speaking and listening abilities. It also allows them to practice express their opinions, supporting their arguments, and

engaging in meaningful conversations. Storytelling: (Ranjil, 2014) highlight that having students create and share their own stories promotes creativity, speaking fluency, and vocabulary expansion. It can be done individually or collaboratively, and can even be turned into a presentation or a performance. Multimedia projects: Assigning tasks that involve creating presentations, Audio-visual, or podcasts in the target language not only helps improve speaking skills but also enhances technological proficiency and creativity as stated by Brown (2015;). This is significant to the study because, as stated by (Brown 2015& Buckingham 2017), speaking activities that focus on real-world contexts. As a result, each speaking activity serves a purpose; therefore, language instructors should have a concrete reason for selecting or employing specific activities. Various scholars have classified speaking activities according to their purposes.

However according to (Kabel et al., 2021; Nacak et al., 2017), Audio-visual lessons in education are a pedagogical tool that can improve teaching and learning support and inform evidence-based discussions. According to (Adu et al., 2022 & Pratama et al., 2020), the use of Audio-visual allows teachers and students to watch, share, comment, and interact in order to generate knowledge. Teachers and students, on the other hand, can access Audio-visual at any time and from any location; the content can be shown, repeated, stopped, and completed as desired (Pratama et al., 2020). However, all of these findings were derived qualitatively and with a limited scope; they could have been more significant if the scope had been expanded and the data quantified.

Little wood, according to Kabel (2021), classified speaking activities into functional communication activities and social interaction activities. Personal activities focus on expressing one's own thoughts, feelings, and opinions, while transactional activities focus on exchanging information and completing tasks. Social interaction activities, on

the other hand, involve practicing various conversational skills, such as turn-taking, active listening, and responding appropriately to others.

With technological advancements, the integration of Information and Communication Technology (ICT) in education has become increasingly important. ICT tools enable more interactive and engaging content delivery, making learning more enjoyable and effective (Naumi, 2017). In the context of Kenya, the Ominde commission's emphasis on the provision of instructional resources aligns perfectly with the potential benefits of ICT in education. By incorporating technology, teachers can access a vast array of digital resources, including educational Audio-visual, simulations, e-books, and online platforms that cater to various subjects and learning styles.

ICT also enables collaborative learning, allowing students to work together on projects, share ideas, and engage in peer-to-peer discussions according to (Belt, 2021) who said this not only fosters teamwork and critical thinking but also prepares students for the digital-driven world they will enter after their education. Furthermore, (Lund, 2019) puts it clear that ICT provides opportunities for personalized learning, where students can progress at their own pace and receive targeted support. With access to online assessments and adaptive learning platforms, teachers can identify individual learning gaps and provide tailored interventions accordingly.

It is crucial for the Ministry of Education according to (Mayer, 2024) to prioritize the provision of relevant instructional resources, including ICT tools, to enhance the teaching and learning process. By doing so, they can empower both teachers and students, creating a dynamic and inclusive educational environment. The Ominde commission's focus on instructional resources as put by (Theelen, 2020) aligns well with the potential benefits of ICT in education. By embracing technology and providing

relevant resources, Kenya can take significant strides in improving the quality of education and equipping students with the necessary skills for the future.

Yunus (2018), on the other hand, stated that there is an irreversible trend among Asian and Pacific countries to transform their teaching force and educational staff into technology literate and skilled workers. Almost all countries in the region, including emerging economies, are training teachers at the primary, secondary, and tertiary levels in the use of information and communication technologies (ICT) in education to varying degrees and scope.

Similarly, Goh.et.al (2021) provided three types of speaking tasks that instructors could use to help students improve their speaking skills. Unlike the previous authors, Burns (2021) classified activities that students do in the classroom collaboratively or individually. Communication-gap, discussion, and monologic tasks are among them. Communication-gap and discussion tasks, on the other hand, require learners to work in pairs or small groups to achieve specific outcomes. Tasks such as context gap, information gap, simulations, and regular group discussions are examples of such tasks. Monologic tasks, on the other hand, necessitate the creation of long pieces of discourse according to (Umar, 2014). Telling a story, sharing personal anecdotes, and giving a talk are all examples of monologic tasks.

Podcasts offer an engaging and convenient way for students to improve their listening skills. By providing relevant instructional resources like podcasts, the Ministry of Education in Kenya can support the Ominde commission's recommendation of using instructional resources in the classroom (Wachira, 2014). Podcasts can be easily accessed through smartphones, tablets, or computers, making them accessible to a wide range of students.

According to Castro (2021) Podcasts cover a wide range of topics and subjects, allowing teachers to find content that aligns with the curriculum. This variety ensures that students have access to diverse and engaging materials that cater to their individual learning styles and interests. In addition, Afraz, (2018) said that despite improving listening skills, podcasts can also enhance comprehension, vocabulary, and critical thinking abilities. Listening to authentic conversations, interviews, or storytelling in podcasts exposes students to different accents, speech patterns, and vocabulary usage. This exposure helps students develop a deeper understanding of the language and improves their overall communication skills.

Guskey (2020) podcasts can be used as a tool for independent study or self-paced learning. Students can listen to podcasts at their own convenience, allowing them to review or revisit concepts as needed. This flexibility empowers students to take ownership of their learning and encourages self-directed learning habits.

The integration of podcasts as instructional resources as placed by (Juliette, 2014) aligns with the growing importance of Information and Communication Technology (ICT) in education. By embracing technology and incorporating podcasts into the classroom, the Ministry of Education in Kenya can enhance the learning experience for students, promote active engagement in the classroom, and support the Ominde commission's recommendation of utilizing instructional resources.

On the otherhand, (Ramli, 2017), said when constraints are removed, students find learning more interesting and, as a result, listen to various topics that will enrich them with new ideas to discuss and that will facilitate reaching their educational goals and improving their listening which is very relevant to the study.

According to Harris (2016: 81), there are five components of language that influence speaking ability that is very important to the study, but they were discovered through qualitative research. Pronunciation is one of the components: Pronunciation is very important in speaking because incorrect pronunciation can change the meaning of a word. However, according to (Hornby, 2015) pronunciation is the way a language is spoken, the way a word is pronounced, the way a person speaks the words of language; this is also a significant observation that will guide the study at hand; this is pivotal to the study because pronunciation is a very important aspect in the development of oral skills.

Furthermore, having a strong grasp of vocabulary is crucial for effective communication in any language, and English is no exception. It is the foundation upon which one build the sentences and convey our thoughts and ideas. Without a wide range of vocabulary, the ability to express oneself becomes limited and may struggle to accurately convey the purpose.

In order to master vocabulary according to (Dhimoleo 2022), it is important to not only learn new words, but also understand their meanings and usage in different contexts. This allows us to use words appropriately and effectively, avoiding confusion and misunderstandings. Additionally, regularly practicing and incorporating new vocabulary into our daily conversations can greatly improve our fluency in speaking English.

Fluency is essential in order to effectively communicate with others. Laaser, (2017) said it is the ability to speak effortlessly and smoothly, without hesitation or pauses. This not only makes the conversation more engaging, but also allows for a natural flow

of ideas and thoughts. It is important to note that fluency does not necessarily mean speaking quickly, but rather being able to express oneself clearly and coherently.

Fluency according to Durlauf (2016) is crucial because it enables listeners to respond to what we say. When we speak fluently, we give our listeners the opportunity to actively participate in the conversation and provide their own thoughts and opinions. This creates a more dynamic and interactive communication, leading to a deeper understanding and connection between the speaker and listener.

A strong vocabulary and fluency, communication can still be hindered if there is a lack of comprehension. According to Harries (2016), a Audio-visual is the technology of electronically capturing, recording, processing, storing, transmitting, and reconstructing a sequence of still images representing scenes in motion, whereas (Newby et al. 2019) define Audio-visual as the display of recorded pictures on a television-type screen. Video refers to any media format that uses a cathode-ray screen to display a picture. According to (Richards & Renandya 2018), Audio-visual is an extremely dense medium that incorporates a wide range of visual elements as well as a wide range of audio experiences in addition to spoken language. It means that Audio-visual is a type of media that includes both visual and audio effects.

It is simple for a group of creative teachers who have used Audio-visual in the classroom to sit down and make a list of different ways to use Audio-visual in the classroom. There are numerous accounts in the literature of interesting Audio-visual lessons. Although it is a popular tool to use with students, (Canning-Wilson 2020) suggests that as educators we must not lose sight of the educational purpose it serves in the language classroom. According to Canning Wilson, there are some techniques that

should benefit both the teacher and the learner in order to achieve a successful result in language teaching using video as an aid.

One benefit is that it increases students' enjoyment and satisfaction while focusing their attention on the main topic.

The second is freeze framing and prediction. As per (Vkovac, 2023), pressing the still or pause button, you can freeze frame the image on the screen. Audio-visual adds a new dimension to our understanding of the characters' body language, facial expressions, emotions, reactions, and responses. When a teacher wants to teach words and expressions related to mood and emotions, ask questions about a specific scene, or draw students' attention to certain points, the picture is frozen. Students can be asked what will happen next if the scene is frozen. As a result, they speculate on what will occur in the next act. Freeze framing is fantastic for speculation. (Scagnoli, 2017) also asserted that this activity stimulates students' imaginations by having them predict and deduce additional information about the situation.

The fourth activity is sound on and vision off. Playing a section of a Audio-visual unit and removing the visual element from the presentation by obscuring the picture so that students can hear only the dialogue but not see the action can be an interesting and useful activity. Students predict or reconstruct what happened visually using only what they hear in this activity (Sharma, 2023).

Repetition and role-playing are paramount. Close repetition can be a necessary step in communicative production exercises when there are some difficult language points in the Audio-visual unit. (Ozer, 2017) emphasized that an Audio-visual scene is replayed with pauses for repetition, either individually or in chorus. When students have a firm grasp on the presentation, they are asked to act it out.

On the other hand, reproduction activity according to (Schneps, 2023) said that after viewing a section, students are asked to repeat what is being said, describe what is happening, or write or retell what has occurred. This activity encourages students to put their knowledge to the test. Even if it is difficult and mistakes are made, students will benefit from experimenting in English. Because it appears to be a difficult task, guidance, assistance, and reassurance may be required. However, busy dubbing as per Livingstone (2020) said when students have the necessary language skills, they can participate in this activity. After watching a sound-off Audio-visual episode, students are asked to fill in the missing dialogues. It is interesting and enjoyable for the students to dub a scene from an Audio-visual.

Furthermore, Kousha, Thelwall, and Abdoli (2022) classified YouTube Audio-visual into three types. Art and humanities, natural and formal science Audio-visual, and social science are among them. Additionally, Nofrika (2019) claims that vlogs, a new type of video, are primarily used by students. Vlogging allows people to connect from all over the world. The creator's Audio-visual reach audiences all over the world by allowing people to connect with one another. (Othman & Qiao, 2018) Vlogs also allow students to obtain information at a time and location that is convenient for them. Learners may feel less pressured if they are allowed to think about a topic and listen to a lesson as many times as they need without being pressured to move on by the rest of the class.

According to Kanean (2013), using movies to teach English, especially to foreign learners, is a good idea because it allows students to improve their skills by recognizing the actors' and actresses' speech patterns. According to Kousha, Thelwall, and Abdoli (2012), natural or formal science Audio-visual include online Audio-visual with natural science or formal science (math and logic) categories that show a specific natural or

formal phenomenon, explain the theory underlying the natural or formal phenomenon, and describe a scholarly event or experience related to studying such phenomenon. The social sciences. Advertisements, news or correspondents' reports, activism and business, politics, social science films, and academic speeches by a social scientist were all listed as forms of social sciences included in YouTube videos by (Kousha, 2022) International.

There are a variety of ways in which Audio-visual can improve teaching and learning in higher education. One study (Taslibeyaz et al., 2017) found that watching videos was beneficial for gaining clinical skills, changing attitudes, encouraging cognitive learning, and retaining knowledge in the context of medical education from 2000 to 2014. Similarly, Yousef et al. (2014) discovered some evidence that video-based learning improved teaching methods and learning outcomes in a review of peer-reviewed qualitative and quantitative papers from 2003 to 2013 sourced from 7 major databases and 21 academic journals. Furthermore, video's visual advantages provide a vehicle for expanding access to practical demonstrations. Students have the opportunity to learn from field experts.

Many studies use Mayer's "cognitive theory of multimedia learning" as a framework to understand the processes involved and how video can help or hinder learning (Mayer, 2014; Clark and Mayer, 2016). The theory is based on three principles, the first of which is that there are two distinct channels for processing visual/pictorial material and auditory/verbal material. Second, each channel has a limited capacity and can only handle a small amount of data at a time. The third principle states that learning requires active processing. The following are the three steps for selecting, organizing, and integrating information across the dual channels: Learners choose relevant sounds, words, and images to process and organize the sounds they choose.

According to these theories, (Schreiber 2014) note the benefits of video in enhancing learning. The visual and auditory nature of video stimulates the dual processing channels to enhance learning; the ability to pause, rewind, and repeatedly watch video alleviates the limitations of working memory; and finally, video provides opportunities for interacting with interesting material, through attentive engagement with video content, which can be organized and integrated with previous comprehension. Castro-Alonso et al. (2018), on the other hand, note that transient forms of information can cause increased cognitive load due to the need to process current images while retaining and integrating those that have vanished.

Simultaneously, audiovisual teaching aids were shown to be ineffective in the absence of a previously developed application methodology.

In most public secondary schools, audio visual aids such as television, video tapes, power point slides, and projectors are not typically available for computer science teaching and learning. This does not help to instill the necessary computer technology skills, and as a result, students perceive computer science as a difficult subject. These findings are consistent with those of (Dahar, 2017). According to Eze's research, audio visual processes help people learn more easily and quickly than verbal explanations alone. This is significant because the findings of this study revealed that using audiovisual materials improves student performance in computer science by keeping students' attention focused throughout the entire lesson period. The findings also revealed that the use of audio visual.

Another concept that has emerged in recent years and lends itself well to audio-visual is "blended learning" (the use of multimedia resources in addition to traditional classroom methods). One cited issue with video use in course teaching in general is that

excessive use of unregulated opensource digital content can lead to less course structure, which can cause problems for students' learning (Jackman and Roberts, 2014). Blended learning provides pedagogical solutions in this case; video-based learning combined with other pedagogical tasks and methods, both online and face-to-face, can result in a very beneficial learning experience and strong outcomes (Kinash et al., 2015, Yousef et al., 2014). Indeed, the blended learning approach appears to be strongly supported as a student preference.

Although much video-based education remains top-down and teacher-centered (Yousef et al., 2014), there is a growing trend toward combining both teaching-focused and learning-focused methods (Kirkwood and Price, 2018). Students are expressing a growing desire to be more autonomous in their learning journeys and to create "personalized learning environments" both inside and outside of the classroom (Rasi and Poikela, 2016). Video allows students to have more control over their learning by allowing them to watch it when they want and by allowing them to create video content as part of their learning process.

Other factors to consider regarding the presenter include the effect of attributes such as age and perceived expertise (Hoogerheide et al., 2016a), gender (Hoogerheide et al., 2016b), and speech (Guo et al., 2014). In general, students appear to find videos with the instructor's image to be more engaging (Pi et al., 2017), or that they engage with course content more as a result of the instructor's presence in video (Guo et al., 2014). Furthermore, evidence suggests that watching video-modeling of an instructor performing a task increases students' confidence in believing they can also perform the same task (Hoogerheide et al., 2016b). It appears that the majority of students state.

Wieling and Hofman (2016) investigated the effects on student learning of a combination of videos and online quizzes with feedback. In this between-subjects design study, 474 students enrolled in the European law course were randomly assigned to one of two groups: one with access to online lectures and multiple-choice quizzes with feedback, and one with access to only the online lectures. According to the regression analysis, providing online video recordings is practical because it allows students to view them if they missed the actual class.

Vural (2023) investigated the effects of a question-embedded online interactive video environment on student achievement in a quasi-experimental study. Participants in the study included 318 teacher education students enrolled in an introductory computer literacy class. To teach the same content, the researcher used two different course materials: a question-embedded interactive video environment and an interactive video without the question component. The study discovered that a video-based environment with embedded questions promoted student learning, increased student interaction, and increased time spent with the learning materials. The study concluded that the interactive video environment with embedded questions may result in better learning outcomes and higher learner achievement.

Sings (2023) also discussed the impact of interactive video tutorial-based problems on the problem-solving abilities of physics students. The study found that the majority of students who couldn't solve the tutorial problems without assistance were able to do so after watching the video tutorials. Wells et al. (2022) conducted research into the use of video tutorials in the university setting. This three-year study discovered that if the videos are well-designed, assessment-focused, and easily accessible to students, they have the potential to improve student satisfaction and grades by allowing students to learn at their own pace that meets their learning preferences and needs.

While numerous studies have found that video has a positive effect on learning, some studies have found that interactive videos have no effect on student learning. Merkt et al. (2019), for example, compared the effectiveness of interactive videos and illustrated textbooks in German secondary school classrooms in two studies, one in the laboratory and one in the field. Sixty German high school students took part, and they were given a regular video, an interactive enhanced video, or an illustrated textbook. They were given multiple-choice tests to assess their knowledge of content and were required to write essays covering the content from the various mediums with which they were presented. Students in the regular video group outperformed students in the enhanced video group, which was surprising. The second study was carried out by the authors.

Similarly, Castro Superfine et al. (2015) also found no effects of videos. In this quasi-experimental study, the authors investigated if the use of video cases supported pre-service elementary teachers' noticing of children's mathematical thinking. The authors found no significant differences between experimental and control groups in terms of their noticing of children's mathematical thinking but suggested that an additional factor to consider when using videos for instruction are the faculty and student perceptions.

In addition to the reported benefits of video analysis on language teachers, it has also been found to have a positive impact on pre-service teachers. Gaudin and Chaliès (2015) by using video analysis, pre-service teachers are able to gain a better understanding of the teaching process and develop a sense of emotional distance from their lessons. This allows them to view themselves objectively and identify areas for improvement. As a result, they are able to shift their focus from their own subjective feelings to more actionable concerns that can actually enhance their teaching skills.

Video analysis enables pre-service teachers to put themselves in the shoes of experienced teachers. Capan (2016), this not only helps them to gain a deeper understanding of the challenges and responsibilities of teaching, but also allows them to pay attention to issues that are important for effective teaching. This includes factors such as lesson planning, classroom management, and student engagement.

Akcan (2019). Moreover, the use of video analysis has been found to reduce pre-service teachers' anxiety about their teaching abilities. Rather than constantly worrying about their own performance, they are able to objectively evaluate their teaching and make necessary adjustments. This not only leads to improved teaching skills, but also helps to build confidence and self-efficacy in pre-service teachers.

Blazd, (2016) video analysis is a valuable tool for language teachers and pre-service teachers alike. It not only helps them to gain emotional distance from their lessons and view themselves objectively, but also enables them to focus on important aspects of teaching and improve their overall performance. As the saying goes, "a picture is worth a thousand words (Orlova 2019).

Analyzing videos of their teaching, teachers can better identify their strengths and weaknesses (Serdar, 2018). Several studies, for example, have found that allowing teachers to analyze lesson videos helps them improve their teaching skills (Agbayahoun 2017). Other studies have identified more specific skills that these analyses allow learners to concentrate on, such as target language use (Susoy 2015), materials design (Deneme 2020), and classroom management (Setyaningrahayu et al. 2019).

Gungor (2016), pre-service teachers become more aware of their own difficulty in managing student behavior in the classroom. Video lesson analyses, according to Koc (2021), can help teachers become more aware of their students' classrooms. Previous

research on peer feedback has also revealed that it has a number of distinct and specific benefits for pre-service teachers. These include assisting them in becoming more aware of their own strengths and limitations by providing them with alternative perspectives on their lessons, allowing them to reconsider their approach

Fernandez (2010). This reflection enabled them to distinguish more clearly between their current pedagogical practices and the theoretical frameworks they were learning about in their coursework. As a result, it enhanced their pedagogical and content knowledge Okumuş and Yurdakal (2016), as well as their ability to create better learning materials and encourage greater participation. Previous peer feedback research has also revealed a number of distinct and specific benefits for pre-service teachers. Among these are helping them become more aware of their own strengths and limitations by providing them with alternative perspectives on their lessons, allowing them to reconsider their approach (Fernandez 2019).

Reflecting on their pedagogical practices and the theoretical frameworks they were learning about in their coursework, teachers were able to gain a deeper understanding of the connections between theory and practice. (Kourieos 2016). This self-examination allowed them to identify areas where their teaching methods may not align with the latest educational theories, prompting them to make necessary adjustments. By bridging the gap between theory and practice, teachers were able to enhance their pedagogical and content knowledge. This not only improved their ability to deliver effective lessons, but also enriched their understanding of the subject matter. (Okumuş 2016) As a result, teachers were able to create more engaging and meaningful learning materials for their students.

Moreover, the process of reflection also helped teachers to encourage greater participation from their students during lessons. By incorporating new pedagogical techniques and strategies, teachers were able to create a more interactive and inclusive learning environment. (Okumuş 2016). This allowed students to actively engage with the material and deepen their understanding of the subject. In addition, the act of self-reflection also led teachers to recognize the value of peer feedback. By critically examining their own teaching practices, teachers were able to see the benefits of receiving feedback from their colleagues. This feedback not only helped them to improve their teaching methods, but also fostered a collaborative and supportive culture among teachers (Pratiwi, 2016). Overall, the act of reflection played a crucial role in improving teachers' pedagogical practices and content knowledge. By integrating theory into their teaching, creating engaging learning materials, promoting active participation, and valuing peer feedback.

However, previous research findings were not always favorable. Preparing for video-based lesson feedback, according to some studies, takes time for pre-service teachers (Savas, 2022a, b) and teacher educators to provide formative assessment on (Eröz-Tua, 2023). Others have expressed concerns about being filmed while teaching (Savas 2022a, b; Serdar, Tülüce and Eçen 2018), either because they are uncomfortable being filmed (Hockly, 2018) or are afraid of making mistakes and receiving a negative evaluation from their peers or supervisor.

Kourieos (2016) one of the main issues that has been highlighted by researchers is the lack of experience among teachers when it comes to utilizing videotaped microteaching as an evaluation tool. This has raised concerns about the authenticity of the process, as some argue that teachers tend to rehearse with their students beforehand, which defeats

the purpose of presenting a genuine class for the purpose of receiving honest and constructive feedback.

The use of videotaped microteaching as an evaluation method has been a topic of debate among educators. (Albahir, 2020) argues that it provides a valuable insight into a teacher's performance, others believe that it can be artificial and does not accurately reflect their teaching abilities. This is often due to the fact that teachers are not accustomed to being evaluated through this medium, and may not know how to effectively present themselves on camera.

The issue of rehearsing with students before the microteaching session according to Amosa (2015) has also been brought up. This practice can lead to a lack of authenticity in the classroom, as the teacher and students may not be behaving in their usual manner. As a result, the feedback received may not be as helpful or accurate as it could be.

Cassim (2017) pointed out that teachers may feel pressured to perform perfectly during the microteaching session, knowing that their performance will be recorded and evaluated. This added pressure may hinder their ability to teach naturally and could result in an inaccurate representation of their teaching abilities. To address these concerns, it is important for teachers to receive proper training and guidance on multimedia use.

Mercado.et.al (2014) some teachers make excuses for poor performance rather than viewing it as an opportunity for reflection and professional growth due to a lack of experience with self-evaluation (Agbayahoun 2017). Concerns have also been raised about teachers' limited technological literacy, which may limit their ability to record, edit, and share the course videos.

Qiao (2016) research on video recordings of pre-service teachers' microteaching relied on face-to-face feedback rather than video-recorded feedback. The study, on the other hand, investigated pre-service teachers' perceptions of video recorded feedback on their video recorded microteaching lessons. In other words, the asynchronous feedback is recorded so that participants can watch it whenever and however many times they want. (Mercado and Baecher 2014). This enables the teacher educator to provide inexperienced pre-service teachers with real-time feedback on their teaching, which they can use to learn from their colleagues. As a result, participants saw a recording of their instructor watching and microteaching the lesson while pausing it to react to it as it happened.

Previous research has also found several disadvantages to video-recorded microteaching. Several other studies have found that pre-service teachers were fearful of being recorded. This was frequently due to their apprehension of making errors (Savas 2012a, b). Similarly, in Mercado and Baecher's (2014) study, some pre-service teachers expressed reluctance to share footage of their teaching with others, such as peers or supervisors, but when they did, they found the feedback to be generally beneficial. Serdar Tülüce and eçen (2018) discovered that while participants were initially nervous during their filmed microteaching, those feelings quickly dissipated. Participants in that study were also hesitant to watch at first.

Savas (2022) two other participants complained about the video-recorded microteaching. The first was that the assignment itself required time to prepare for and complete, resulting in what appeared to be extra work for the student teachers. Another criticism was that the video microteaching lessons were perceived as "artificial" by some, despite the fact that the study's author did not elaborate on what made them artificial. Peer feedback is an essential aspect of education that has been gaining

significant attention in recent years. (Scagnoli 2017), It involves students providing feedback to their peers on their academic work, allowing them to improve their learning and understanding of the subject matter. This concept has been widely discussed and explored in various educational settings, including primary and secondary schools.

In a study conducted by Shilpa & Sunita (2023), the role of multimedia devices in children's education was highlighted as a key factor in the success of peer feedback. With the advancement of technology, multimedia devices have become an integral part of children's learning process. These devices provide students with interactive and engaging learning experiences, making the learning process more enjoyable and effective. Moreover, the report also shed light on the different types of schools and the impact they have on peer feedback. It was found that schools with a more diverse student population tend to have a more effective peer feedback system.

2.1 The Ability of the Learners' Prio the Audio-Visual Resource

Savas (2022), Students from different backgrounds and cultures bring a unique perspective to the table, allowing for a more comprehensive and well-rounded feedback process. In addition to this, the study also emphasized the crucial role of school teachers in facilitating peer feedback. Teachers play a vital role in creating a safe and conducive environment for students to give and receive feedback. They also act as mentors and guides, providing students with the necessary guidance and support to improve their feedback skills. Furthermore, peer feedback has been shown to have a positive impact on students' academic performance.

The teacher's awareness has improved comprehension through multimedia in early childhood education. Early learning multi-media device standard. TV can help raise awareness of early childhood universal values. Computers have accurate information

when used in interactive ways. As per (Harmer, 2017) Videos are primarily based on real-world scenarios that are easily interactive with children. The animation has a strong influence on children's minds, and their academic success is enhanced. Slide projection presentations pique the interest of children. This demonstrates that dependent and independent variables are related. As a result, the theory was accepted.

Foulkes et al. (2015) investigated BMS competence in preschool boys and girls living in a low-income region of North-West England. Except for jumping, leaping, and sliding, children demonstrated low levels of ability across all abilities, though they performed better on locomotive skills than on object-control skills. There were no significant gender differences in the total or locomotive scores, but boys had a significantly higher object-control score than girls. These findings back up the study's hypothesis and are consistent with previous research in young children (Barnett et al., 2015). Furthermore, gender differences in individual skill scores were observed, with boys being more proficient in jumping and kicking and girls being more proficient in running, hopping, and galloping.

Obrusnikova and Rattigan (2016) provided practitioners and researchers with guidance on how to incorporate video self-modeling (VM), (Dowrick, 2019), and VP into their instruction in order to promote the development of essential motor skills in children. While the hard work nature of such a method may appear daunting at first, particularly when it comes to editing video after it has been filmed, authors believe that the benefits are worthwhile. These benefits include model accuracy, clarity with which to communicate, channeling children's attention (removing distracting sound or motion in video models), and children's freedom and empowerment. Furthermore, recent advancements have made their use in video capturing and editing even more usable and user-friendly.

As Dutta et al. (2022) have pointed out, the question is not whether or not new technologies should be used. The scientific challenge is to seek out the different technological solutions with the aim of making them the levers of success in PE programmers in order to enhance the learning experience of individuals.

Tripp & Rich (2022) review of studies on the use of video in teacher education showed that video enables preservice teachers to switch their focus from themselves and focus more on pupils and their learning. To this end, tasks involving some form of interaction (with a trainer and/or peers) were preferred by the participants, even though individual tasks were more frequently proposed by the trainers. However, Tripp and Rich's review was limited to training mechanisms wherein the learners analyzed their own videos and thus does not provide a better understanding of how watching another teacher (a peer or unknown teacher) on video might contribute to the reflective practice of teachers.

The studies analyzed by Brunvand (2019) show that the use of video in teacher training makes it possible to analyze the same situation several times from different angles, something that direct observation does not allow. Using video can thus help develop better noticing skills among preservice teachers. Moreover, when the person appearing in the video is unknown, having access to his/her comments can contribute to a conceptual change among preservice teachers, something that is known to be difficult to achieve in initial teacher training (Guskey, 2022).

Brunvand's (2019) literature review was not a systematic review. The systematic literature reviews conducted by Hixon and So (2019), Marsh and Mitchell (2014) and Gaudin and Chaliès (2015) all confirmed that video can effectively be used in teacher education with different aims, including developing the ability to reflect on one's own teaching skills. These studies show that using video, by exposing preservice teachers to

many different potential situations (and all their complexities) and engaging them in a collective analysis of these situations, can help promote deeper reflection. This deeper reflection notably leads to a better linkage between actions in the classroom and more general pedagogical principles or various perspectives. However, Hixon and So's review (2019) was limited to initial teacher education.

Marsh and Mitchell (2014) review includes studies on continuing teacher education but, while it addresses the use of video to promote reflection, this was not its specific focus. Wang and Hartley's review (2023), like the preceding reviews, also showed that using video in teacher education leads to changes in teachers' beliefs (when they observe themselves) or helps them to engage in a reflective analytical process (when they observe both themselves and peers) or to model their practice on a desired practice (when they observe experts). However, their review concerned studies conducted more than ten years ago.

Gaudin and Chaliès (2015) systematic review more specifically addressed the nature of teacher's activity as they view a classroom video, among other angles of analysis. They concluded that teachers' video viewing activity features two main processes, namely, selective attention (ability to identify relevant classroom events within the complexity of the setting) and knowledge-based reasoning (ability to interpret what they have identified and imagine new mechanisms of action for the future).

Arbain (2017) in his review focused on the goals and effects of video viewing. Whether in the context of teacher education or the professional development of in-service teachers, the use of video to reflect on teaching practices has been widely documented in academic literature. However, the learning process of the teachers involved in these training mechanisms, especially the reflective process, has received less attention than

their effect. Thus, this study focuses on understanding the state of research on the use of video to support the development of reflective practice in initial and continuing teacher education.

On the otherhand, some studies demonstrated that the video-based training mechanism led to a change toward reflection that was more focused on the learner and learning rather than on the teacher him/herself or classroom management (Calandra & Fox, 2019). Other studies showed opposite results, revealing that the participants' concerns remained focused on themselves and on behaviour management despite the videobased mechanism

Calandra et al., (2019) talked of another aspect of the learning process that was described (9.8%) related to the foundations of reflection: was the reflection based on facts or specific observations stemming from the video, or rather on recollections or generalities? For example, Grant and Kline (2019) concluded that the use of video appeared to have helped the discussion between participants evolve beyond generalities and recollections of practice. Reflection stemming from the analysis of a video thus appeared to be better grounded and better supported than reflection based solely on recollections (videos of the learner him/herself) or a written case study (videos of other teachers or pupils). These results are consistent with those reported in several of the studies analyzed (Bower, Cavanagh, Moloney & Dao, 2021).

2.2 Performance of Students Taught Using Videos

In today's digital age, educational videos have become an integral part of the learning process. With the rise of online education, these audiovisual resources have gained immense popularity among students and educators alike. (Hernández, 2021) a doctoral candidate in the field of Education and ICT, has conducted extensive research on the

effectiveness of these videos in the field of physics education. His study focused on students' perceptions of the usefulness of educational videos in both online and on-site learning environments.

Hernández's 2021, research revealed that students have a positive attitude towards the use of educational videos in their physics courses. They found these resources to be engaging, interactive, and visually appealing, making the learning experience more enjoyable and effective. Moreover, students reported that these videos helped them grasp complex concepts and theories more easily, as they could see them being demonstrated in real-time. One of the key findings of (Hernández's 2021) study was the impact of educational videos on students' motivation and engagement. With the increasing use of technology in education, students are more inclined towards multimedia resources, and educational videos are no exception. These videos not only provide a break from traditional classroom lectures but also encourage students to actively participate in their learning process. This, in turn, leads to a deeper understanding and retention of the subject matter. Furthermore, Hernández's research also explored the differences in the use of educational videos between online and on-site learning environments. It was observed that while online students had access to a wide range of videos and could watch

The main finding of the research in both learning environments is that students rate videos as the most valuable resource, but they see them as complementary to text materials. The study also discovered that more videos of problems are viewed than theory videos, and that this use increases when an exam or assignment deadline is approaching. This is significant to the study because it emphasizes the importance of instructional videos; however, the findings were derived from a qualitative study, which

may not provide an accurate picture in a real-life situation; it would have been more illustrative to use a quantitative method.

"In this digital age, students see videos as useful and necessary because they provide visual and auditory elements, but written texts allow students to easily reference and review information." Both mediums have distinct advantages that can greatly aid learning. Students like videos because they can bring concepts to life with dynamic visuals and engaging explanations. They are particularly useful for demonstrating practical skills or demonstrating complex processes. Furthermore, videos can be useful because they allow students to learn at their own pace and return to specific sections as needed. Written texts, on the other hand, provide a comprehensive and detailed source of information. In today's digital age, there is an abundance of resources available for students to enhance their learning experience.

Victor et.al. (2020) one of the most popular mediums is videos, which offer a visual and auditory approach to learning. However, written texts still hold a crucial role in the education system. They have the benefit of being easily searchable, allowing students to find specific information or review key concepts quickly. This not only saves time but also promotes efficiency in studying. Moreover, written texts encourage active reading, a practice that has been proven to be highly effective in learning. By actively engaging with the material through annotation, highlighting, and taking notes, students are able to comprehend and retain the information better.

García (2020) this is because these actions require students to process the information in their own words, leading to a deeper understanding of the material; In addition, written texts allow students to personalize their learning experience. With the ability to make notes and annotations, students can tailor the material to their own learning style

and needs. This level of customization is not possible with videos, as they offer a one-size-fits-all approach.

Written texts are a reliable source of information (García, 2020). With the rise of fake news and misinformation, it is crucial for students to have access to credible sources. Written texts, especially those from reputable publishers and authors, ensure the accuracy and validity of the information presented. This is important in developing critical thinking skills and promoting a fact-based approach to learning. It is important to note that videos and written texts should not be seen as if they replace teachers. Students also stated that videos allow them to "save time and focus on what's important," and that they are especially useful for a course like physics because they help them grasp difficult concepts. This draws teachers' attention to the importance of using videos in the classroom on a regular basis to enhance learning.

Mercado and Baecher (2014) videos are a valuable resource for developing oral skills in language learning. They offer a dynamic and engaging way for students to practice speaking and improve their pronunciation and intonation. In addition, videos can be used in various ways to promote discussions and enhance dialogue creation among students.

One effective way to use videos in developing oral skills is through film discussions. By discussing and analyzing different films, students can improve their speaking abilities as they share their thoughts and opinions. This not only helps with their vocabulary and grammar, but also encourages critical thinking and communication skills. Another creative way to use videos is by having students watch a film clip without sound and create their own dialogue. This exercise not only challenges students

to use their imagination and language skills, but also allows for a more interactive and collaborative learning experience.

Research has shown that even watching a film silently can have a positive impact on students' oral skills. Watching a film has been a popular pastime for decades, and with the advancement of technology, it has become even more accessible and immersive. However, the act of watching a film is not just a form of entertainment, but it can also have a significant impact on one's cognitive and oral skills. Qiang et al. (2007:41) highlight this in their research, stating that the act of watching a film can stimulate the articulatory organs and contribute to the development of oral skills. The process of watching a film involves not only the visual aspect but also the auditory and cognitive aspects. As the audience watches and listens to the dialogue, their brain processes the information and forms connections between the words and their meanings. This process helps in improving vocabulary and comprehension skills, which are essential for effective communication.

Watching a film also involves active engagement from the audience. Unlike reading a book, where the reader is solely responsible for interpreting the text, watching a film requires the audience to actively participate in the story. Qiang et al. (2017) this active engagement can be seen when the audience reacts to certain scenes, laughs at jokes, or even sheds tears during emotional moments. Such emotional involvement helps in developing empathy and understanding of different perspectives, which are crucial for effective communication. Involving students in the content they are watching is also essential for their overall learning experience. When students are actively engaged in the film, they are more likely to retain the information and apply it in their daily lives.

In a recent survey conducted by Halava (2022), it was found that students have a positive perception of using English movies to improve their speaking skills. This further supports the idea that videos can be an effective tool in developing oral skills. However, it is important for teachers to be reminded to incorporate various instructional media, such as videos, in their teaching to facilitate effective learning. However the study was limited in its applications since the scope was small, therefore, it could have been illustrative if the scope was broader.

In Nigeria, Amosa and Ogunlade (2015) investigated the differences in the achievement of pupils taught using audio instructional package on basic school pupils' performance in English pronunciation and those taught using the expository method. The findings indicate that the pupils taught using the audio instructional package performed significantly better than those taught using expository method which is pivotal to the study at hand since it will guide on the performance of the learners. However, in Kenya, Achola et al., (2016) found that teaching using various instructional materials improved the performance of learners in various learning activities including ability to write dictated words. The study concluded that mandatory use of instructional media should be established while teaching to enhance English language subject because instructional media are an integral part of English language teaching which is pivotal to our study because it helps to predict the expected performances of the learners taught using videos, even though the method that was used was not the same as the one used in the study at hand.

In Tanzania, the use of instructional media in primary schools is a problem since in most Primary Schools there is inadequate use of such for enhancing learners' mastery of reading and writing skills. Shirima (2013) it was further discovered that instructional media are not used frequently because of large number of pupils in classrooms and

shortage of recommended resources in school context, and as a result pupils graduate with insufficient knowledge and skills to undertake real world tasks. In the similar vein, Mtitu (2014) concluded that large classes of up to 100 pupils limit the use of instructional resources particularly text and reference books, computer assisted facilities and resources made from the school surroundings and this points out that teachers ought to solicit for various instructional media to enable teaching and learning. However, the study was limited in its applications since the scope was small; therefore, it could have been prudent if the scope was broader.

The necessity of different learning activities for teaching with video is emphasized by many researchers and educators, such as Kusainov et al (2021) who brought up a very important claim that the use of pre- and post-viewing activities in their project called ‘The Film Circle’ successfully fulfilled the role of scaffolding and motivated pupils to speak, which was the primary goal of their experiment. ‘The Film Circle’ represented a structured group project where five high school pupils were assigned different roles to perform according to their abilities and interests. Each pupil in the group had to analyze a film from a different perspective and present conclusions.

After viewing the film, the pupils worked in their groups, taking turns to present the information they gathered and participated in a discussion of the film they had seen. The discussion was very basic, often with pupils asking and answering simple questions or reading their observations out loud. More importantly, the conclusion that Kusainov et al (2021) made after having conducted their project was very significant in that pupils can rise to their teachers’ high expectations and improve their English, if the latter set attainable communicative goals for their pupils and design motivating interactional activities with adequate support, i.e., scaffolding. However, the study was limited in its

applications since the scope was small, therefore, it could have been illustrative if the scope was broader.

Most importantly, scholars, such as Washburn (2021) and Quaglio (2019) assert that videos, such as situation comedies, or simply sitcoms, and television talk shows, are the best source for training pupils' 'real life' oral skills. However, Quaglio (2019:1) compares the language of 'Friends', a popular American television situation comedy, to natural conversation. On the otherhand Quaglio (2019:13) states that: 'Excerpts from 'Friends' have been used (and are still being used) to exemplify features of conversational English in ESL classrooms in the United States.' What is more, sometimes television shows do not reflect, but, on the contrary, exert influence on the spoken language itself which is very significant to the study even though Quaglio (2019:12) claims that: In terms of language, the use of the adverbial intensifier so modifying an adjective split by the negated not (as in That is so not true) or followed by a clause (as in That is so not what this is!), often used by the characters, has become a regular feature of American English conversation, not only among younger groups which is pivotal to the study. However, the study was limited in its applications since the scope was small and the method used limits its findings, therefore, it could have been illustrative if the scope was broader and the method was quantified.

It was echoed earlier that students report through surveys and interviews that video aids learning in a number of ways. These include assisting in comprehension and recalling information, providing alternative perspectives, stimulating interest, motivating further research and increasing knowledge (Mitra et al., 2020, Kay et.al 2022). Experimental studies find significant differences in test scores for students with access to video materials in the context of problem-based instruction (Choi and Yang, 2021) and across a number of studies considering video podcasts.

Kay (2022) one particular study looking at student data over three consecutive years, found that scores were increased by 2 percent overall for the one period where online videos were available. These videos demonstrated how to apply concepts to solve problems in molecular biology. It should be noted that the availability of video was accompanied by learning objectives provided at the end of each lecture that had not been available at other points however the study was limited in its applications since the scope was small, therefore, it could have been illustrative if the scope was broader.

On the other hand, Video has become an important part of higher education. It is integrated as part of traditional courses, serves as a cornerstone of many blended courses, and is often the main information delivery mechanism in MOOCs. Several meta-analyses have shown that technology can enhance learning as emphasize by Schmid et al., (2014) and multiple studies have shown that video, specifically, can be a highly effective educational tool which is very significant to the study. In order for video to serve as a productive part of a learning experience, however, it is important for the instructor to consider three elements for video design and implementation:

2.1 Performance of students taught using videos

Mercado (2014) Blended learning has become a popular concept in education, particularly in recent years with the rise of technology and multimedia resources. This approach combines traditional classroom methods with digital components, such as videos, to create a more dynamic and engaging learning experience. In fact, studies have shown that integrating videos into course teaching can lead to strong learning outcomes, however, as with any teaching method, there are challenges that must be addressed.

One major challenge with using videos in the classroom is the abundance of unregulated opensource digital content. While this content may seem like a convenient and cost-effective option, it can also lead to a lack of course structure and organization. This, in turn, can present problems for students in their learning. As Jackman and Roberts (2014) point out, without proper regulation and structure, students may struggle to understand the material and may not achieve the desired learning outcomes.

To address this challenge, it is important for educators to carefully select and curate the digital content they use in their courses. This means not relying solely on opensource materials, but also incorporating high-quality, reputable resources. Additionally, educators should provide clear guidelines and expectations for how the videos will be used in the course, and how they fit into the overall learning objectives.

It is crucial for research on blended learning to have a broad scope and consider various factors, such as the students' backgrounds, learning styles, and access to technology. One of the key advantages of blended learning is that it offers flexibility and convenience for students. With the option of both online and face-to-face learning, students can choose the mode of learning that best suits their needs and preferences. This has been highlighted by several studies, including Ramlogan et al. (2014), and Mitra et al. (2020), which have found that students prefer the blended learning approach. This is because it allows them to access course materials and participate in discussions at their own pace, while also having the opportunity to engage in face-to-face interactions with their peers and instructors.

Blended learning has been found to promote active learning and critical thinking among students. By incorporating video-based learning, students are encouraged to engage with the material and think critically about the concepts being presented. This can lead

to a deeper understanding of the subject matter and better retention of information. Additionally, the use of multimedia in blended learning can make the learning experience more engaging and interactive.

The digital revolution in higher education has undoubtedly brought about significant changes and advancements in the way education is delivered however, these changes have also sparked concerns among education leaders. While online provision has become a top priority for many institutions, the rise of Massive Open Online Courses (MOOCs) has challenged traditional ways of teaching and learning, leading to a sense of uneasiness and uncertainty among educators (Scagnoli et al., 2017).

Kinash et al. (2015) the emergence of online education has caused a shift in priorities for many education leaders, however, Crook and Schofield (2017) argue that this shift has also brought about a tension between commercial and academic approaches, as institutions struggle to find a balance between profit and education. This has resulted in a reluctance to relinquish control and a fear of losing institutional certainties.

It is evident that the changing landscape of higher education presents immense opportunities for innovation and improvement. One of the key players in this new environment is video technology. Scagnoli et al. (2017), with its ability to create engaging and interactive learning experiences, video has become an essential tool for educators looking to enhance their teaching methods and reach a wider audience. While qualitative research has shown the potential of video in the education sector, there is a need for more quantitative studies to further demonstrate its effectiveness. Video has become an integral part of the learning process in higher education, with its impact being widely recognized by researchers, however, to truly understand the extent of its influence, a quantitative approach is essential. Scagnoli et al., (2017) this method allows

researchers to gather concrete evidence and data, providing a deeper understanding of the role of video in driving innovation and improvement in higher education. One of the key benefits of using a quantitative approach is its ability to provide measurable results. By collecting and analyzing data, researchers can accurately assess the impact of video on the learning process. This allows for a more objective and reliable evaluation, as compared to qualitative methods which rely on personal opinions and observations.

A quantitative approach also allows for a more in-depth analysis of the effectiveness of video in higher education. Kirkwood, (2023) by examining various variables such as student engagement, retention rates, and academic performance, researchers can gain a comprehensive understanding of how video aids in the learning process. This, in turn, can help identify areas for improvement and inform future teaching strategies. In addition to providing concrete evidence, a quantitative approach also allows for comparisons to be made between different learning methods. For instance, researchers can compare the impact of video lectures versus traditional lectures on student learning outcomes. Kirkwood (2023) this can help educators and institutions make informed decisions on the most effective teaching methods to adopt. Furthermore, the use of a quantitative approach can also aid in identifying trends and patterns in the data. This can provide valuable insights into how video can be utilized in innovative ways to enhance the learning experience.

The flipped classroom has revolutionized the way we approach teaching and learning. By incorporating video technology, we are able to make fundamental changes to the traditional classroom setting. Kirkwood (2023) this has allowed for a more personalized and engaging learning experience for students. With the rise of technological advancements, the need for re-thinking and re-designing academic course content has

become crucial. This is especially important when catering to a diverse market of students with varying experiences and expectations.

One of the major benefits of using video in the flipped classroom is the ability to create succinct podcast segments. This has proven to be a more effective way of delivering course material compared to the traditional one-hour lecture format. In fact, research conducted by Guo et al. (2014) has shown that students are more engaged and motivated when presented with shorter, more focused segments of information.

The process of re-thinking and re-designing course content in response to technological changes has had a significant impact on improving the material itself. This is because it forces educators to critically evaluate their teaching methods and adapt to the changing needs of students. Kirkwood (2023) by incorporating video technology, teachers are able to create more dynamic and interactive lessons, making the learning experience more enjoyable and effective. In addition, the use of video in the flipped classroom has also allowed for a more flexible and student-centered approach to learning. With the ability to access course material at any time and at their own pace, students are able to take control of their learning journey. This has proven to be particularly beneficial.

Researchers refer to “disruptive innovation” as per (Kirkwood, 2023) or a “disruptive pedagogy”, according to (Kinash et al., 2015); video can shift the concept of teaching from didactic approaches to constructivist learning with students able to control aspects of their learning. Video is being used in a variety of ways to support various pedagogical strategies successfully. By no means have a comprehensive listed, within just the context of problem-based learning, video clips can be used to present a problem to students to trigger problem-solving; to provide information around the topic; However,

the study was limited in its applications since the scope was small, therefore, it could have been illustrative if the scope was broader.

The use of video instruction has become increasingly prevalent in various educational settings, leading to a wide range of design options for educators to choose from. In order to effectively engage and educate students, it is crucial to carefully consider the content, style, and platform of the instructional videos. This not only includes selecting the most relevant and informative material, but also taking into account the most effective ways to motivate students and enhance their learning outcomes. Additionally, it is important to consider the emotional state of students, as it can greatly impact their ability to learn and retain information.

Chen and Wu (2015) the design choices made for video instruction should aim to facilitate optimal learning for students. This means not only delivering information in a clear and concise manner, but also considering how to engage students on an emotional level. By incorporating elements such as humor, storytelling, or relatable examples, educators can create a more dynamic and engaging learning experience for students.

The platform used for video instruction can greatly impact its effectiveness. With the rise of technology, there are now numerous platforms available for educators to use, such as online learning platforms, social media, and virtual reality. Each platform offers its own unique features and benefits, and it is important for educators to carefully select the one that best suits their instructional goals and the needs of their students.

In addition to the design options for video instruction, it is crucial to consider the affective state of students. Emotions play a significant role in the learning process.

Specific subject matter and pedagogical strategies necessitate varying design considerations. Different decisions might be made when designing videos aimed at helping students solve maths problems, teaching a foreign language, demonstrating a medical procedure or lecturing in ancient history. Case studies which highlight the process of designing video for learning can only advise that it is imperative to draw on a close collaboration between expertise in the field/subject matter and in video production (Schneps et al., 2010, Chandra et al., 1990). There really is a lot more that can be researched and explored here, especially in terms of subject areas that see stronger levels of student engagement and impact where video is used in course teaching; the current body of knowledge is merely scratching the surface at this point.

One of the main ways in which video can have a significant impact on teaching and learning in higher education is through its ability to enhance students' clinical skills. According to a study conducted by Taslibeyaz et al. (2017), which analyzed the use of video in medical education from 2000 to 2014, it was found that watching videos was highly beneficial in improving students' clinical skills. The study further highlighted that student who were exposed to video-based learning were able to develop a better understanding of complex medical procedures and techniques.

Video-based learning has also been shown to have a positive impact on students' attitudes towards their studies. In the same study by Taslibeyaz et al. (2017), it was observed that students who watched videos as part of their learning experience showed a more positive attitude towards their studies. This can be attributed to the fact that videos offer a more engaging and interactive way of learning, which can help students stay motivated and interested in their studies.

To improving clinical skills and attitudes, video-based learning has also been found to encourage cognitive learning among students. This was evident in the study conducted by Taslibeyaz et al. (2017) where students who watched videos were able to grasp complex concepts and theories more easily. This is because videos offer a visual representation of information, making it easier for students to understand and retain knowledge. Furthermore, the use of video-based learning has also been linked to better learning outcomes.

The use of video in education has been shown to have numerous benefits beyond just providing visual aids. For example, video can also aid in increasing students' attention and engagement levels. In fact, studies have found that students are more likely to pay attention and retain information when it is presented in a video format (Ramlogan et al., 2014; Cooper and Higgins, 2015). This is because videos allow for a more interactive and immersive learning experience, which can help students stay focused and interested in the material.

Video can also provide a means for students to access practical demonstrations that they may not have been able to experience otherwise. For instance, students in remote or underprivileged areas may not have access to field experts or real-life practices, but through video, they can still learn from these experts and gain valuable knowledge and skills. This can help bridge the gap between students from different backgrounds and provide equal learning opportunities for all.

Video can also be used to highlight information and concepts that may be difficult to describe through traditional means such as verbal or written text. For example, complex scientific processes or intricate mathematical equations can be better understood when presented visually (Rasi and Poikela, 2016; Schneps et al., 2010). This is because videos

can provide a step-by-step demonstration of these concepts, making them easier to comprehend and remember. However, it should be noted that the effectiveness of video in education may depend on the subject being learnt

The findings of Lee and Kim (2016), recent studies have also shown that incorporating video content in online courses has a positive impact on student learning outcomes. For instance, a study by Smith et al. (2019) revealed that students who were exposed to video lectures in their online courses had higher exam scores compared to those who only had traditional text-based materials. This is because videos allow for a multi-sensory learning experience, where students can not only hear and read the information, but also see it being demonstrated, which can improve their understanding and retention of the material.

Videos also offer a more flexible and personalized learning experience for students. With the ability to pause, rewind, and re-watch videos, students can go at their own pace and review the material as many times as needed. (Kirkwood, 2023) This is especially beneficial for students who may struggle with certain concepts or have different learning styles. Additionally, videos can be accessed at any time and from any location, making it easier for students to fit their coursework into their busy schedules.

Kirkwood (2023) Incorporating video content in online courses can also enhance the sense of community and collaboration among students. In a traditional classroom setting, students may feel hesitant to ask questions or participate in discussions. However, in an online course with video content, students can engage in discussions and debates through video comments and live video sessions, creating a more interactive and inclusive learning environment. It is also worth noting that the use of video content in online courses can benefit both the teacher and the learner.

Video has been shown to cater to different learning styles, making it a versatile tool for educators. Some students may prefer visual and auditory learning, while others may benefit more from reading and writing. By incorporating video into their teaching methods, instructors can appeal to a wider range of students and enhance their overall satisfaction with the course.

Additionally, a study by Chen and Wang (2019) found that students who had access to video resources reported feeling more connected to their instructors and peers. This sense of connection and community can greatly contribute to student satisfaction and create a supportive learning environment.

It is also worth noting that video can be used to supplement traditional classroom lectures. A study by Brown and Wilson (2017) found that students who watched video lectures in addition to attending in-person lectures had a better understanding of the course material and showed higher levels of satisfaction with their learning experience.

Video can also be a valuable tool for distance learning. A study by Johnson and Smith (2020) found that students who participated in online courses with video content had higher levels of satisfaction and reported feeling more connected to their classmates and instructors compared to those who did not have access to video resources.

The preference for video over text is not limited to problem-based learning, as Rasi and Poikela (2016) observed in their review of literature. They found that students across various disciplines and learning environments showed a strong preference for video as a medium of instruction. This could be attributed to the fact that video is a more dynamic and visually stimulating medium, which can help students better understand and retain complex concepts.

The benefits of video podcasts, as highlighted by Kay and Kletskin (2022), go beyond just satisfaction. Students also find video to be enjoyable, motivating, and intellectually stimulating. This is because video allows for a more interactive and engaging learning experience, with the use of visuals, animations, and real-life examples. This not only makes the learning process more enjoyable, but also helps students to better understand and apply the concepts being taught. Furthermore, video provides students with a sense of independence and control over their learning. This is evident in the study by Kay and Kletskin (2022).

As per the positive effects of video highlighted in the literature review, faculty perceptions on the use of video are generally positive. In a review of 200 faculty perceptions of Web 2.0 tools, the use of instructional videos was viewed as the most adopted and popular instructional tool according to the study done by (Daher and Lazarevic, 2014). On the otherhand, videos also tend to improve student satisfaction of the learning experience. For example, We-Jung and Cigas (2023) discussed the use of video mini-lectures in the introductory computer science classroom. The study revealed higher student satisfaction with the course and higher completion rate. In addition, the study showed that with the addition of the video mini-lectures students' course grades slightly increased. However, the study was limited in its applications since the scope was small, therefore, it could have been illustrative if the scope was broader.

Giannakos et al., (2015) found that students have a positive attitude toward the use of video lectures. Similarly, when using interactive videos for instruction, Laws et al. (2015) found that students perceived video vignettes as engaging and enjoyable. Some studies focused on researching the effects of video tutorials on student learning and educational experience in general. In addition, Hund and Getrich (2015) studied the use of short statistical video tutorials in the graduate biostatistics course. Specifically, the

study focused on students' perceptions of the use of videos in the class by conducting survey and focus group interviews. Students perceived video tutorials as a useful learning tool when it comes to improvements in their learning and course performance. However, the study was limited in its applications since the scope was small; therefore, it could have been illustrative if the scope was broader.

Students report that combining interactive videos with a lecture is an effective method to learning as it was clearly stated by Cherrett et al., (2019) who examined the benefits of interactive videos with second-year undergraduate civil and environmental engineering students. Students experienced different learning environments and were asked if they learned effectively from the lecture only, the video only, or the lecture and video combined. The results showed that interactive video enhanced students' learning experience. However, the study was limited in its applications since the scope was small; therefore, it could have been illustrative if the scope was broader.

Remote online learning and teaching (RO-L&T), on the other hand, has long been regarded as a promising educational practice for the future, owing to its wide availability and flexibility in scheduling. According to (Adedoyin and Soykan, 2020; Adnan and Anwar, 2020; due to the forced campus shutdown), the 2020 COVID-19 pandemic has greatly accelerated the use of RO-L&T in many universities. Although some RO-L&T experiences have been accumulated over the last two decades (Bach et al., 2016; Keengwe and Kidd, 2020), this presents new challenges to both students and instructors. There are primarily three existing methods for fostering a RO-L&T environment (Bergmann and Sams, 2012; Hrastinski, 2018; Yamagata-Lynch, 2014; Young et al., 2014): (1) synchronous RO-L&T, in which the instructor and students meet at the same time for a live video lecture; (2) asynchronous RO-L&T, in which the

instructor uploads pre-recorded videos and the students study those materials at their leisure; and (3) flipped RO-L&T.

The flipped RO-L&T stands out among them due to its emphasis on student-centered activities such as discussions, presentations, interactive feedback, and critical thinking exercises (Bognar et al., 2019; CavigliaHarris, 2016). It becomes even more beneficial when combined with educational videos. In a flipped RO-L&T, students learn pre-recorded videos at their own pace prior to the synchronous flipped class session, which includes student-centered dynamic and interactive L&T activities Galway et al., (2014; Jia et al., (2020) one of the main reasons why students in this format are more motivated to learn is because it allows for a more personalized and interactive learning experience. (Cristina Blasco et al., 2016 indicated that with the use of technology, students are able to access a variety of resources and engage in different learning activities that cater to their individual needs and interests. This not only keeps them engaged and interested in the subject matter, but it also allows them to take ownership of their learning and make meaningful connections with the material.

Moos and Bonde (2016) the increased teacher-student interaction in this format plays a crucial role in the effectiveness of teaching and learning. In traditional classes, teachers often have limited time to interact with each student individually, which can lead to some students feeling left behind or not receiving the support they need. However, with the use of technology, teachers are able to provide personalized feedback, guidance, and support to each student, creating a more inclusive and supportive learning environment.

Blasco et al., (2016) the use of technology in this format allows for a more dynamic and interactive classroom environment. With the availability of online discussion

forums, virtual simulations, and collaborative projects, students are able to engage in active learning and apply their knowledge in real-life scenarios. This not only enhances their understanding of the subject matter but also fosters critical thinking, problem-solving, and communication skills.

Moos and Bonde (2016) further said, this format also promote self-directed learning, as students are encouraged to take responsibility for their own learning and pace. This not only helps students develop time-management and organizational skills but also promotes a sense of autonomy and independence.

The videos are the primary study materials for self-studying students. As a result, according to (Slemmons et al., 2018), pre-recorded videos play a significant role in determining the effectiveness of an online-flipped course and thus the student learning outcome. According to (Mora, 2016), video can create an immersive learning environment that helps students remember key knowledge and develop critical thinking. Online platforms have become increasingly popular in recent years, particularly in the field of education. This trend has been accelerated by the promotions of the flipped RO-L&T approaches, which has grown in popularity due to its low cost and ease of use (Slemmons et al., 2018). As a result, this method has been widely used in language education, with promising results.

According to research, the flipped RO-L&T approach improves students' language proficiency. Students can engage with the content at their own pace and in a more interactive manner by allowing them to access instructional materials and lectures online. This is especially beneficial for students who struggle with traditional classroom instruction (Gloudeman et al., 2018).

The flipped RO-L&T approach has been shown to facilitate practice and improve learning outcomes in addition to improving language proficiency. Students can apply their knowledge and skills in a more practical and meaningful way when they have access to online resources and activities. Several studies, including those conducted by Lopes and Soares (2016) and Zkurdidis and Bümen (2019), have demonstrated this.

One potential area for exploration is the use of the flipped RO-L&T approach in STEM (science, technology, engineering, and mathematics) subjects. With the increasing emphasis on STEM education in today's society, it is important to consider how this innovative teaching method could enhance student learning and engagement in these fields.

Moos et.al. 2016). Incorporating the flipped RO-L&T approach in STEM subjects could provide students with a more interactive and hands-on learning experience. Instead of simply listening to lectures and completing textbook exercises, students could engage in activities such as virtual simulations, group projects, and problem-solving exercises. This would not only make the learning process more enjoyable for students, but also better prepare them for real-world applications of STEM concepts. Additionally, the flipped RO-L&T approach could help address the issue of gender and racial disparities in STEM education. By providing a more diverse and inclusive learning environment, this teaching method could potentially attract and retain more underrepresented groups in these fields. This could ultimately lead to a more diverse and talented workforce in STEM industries. Furthermore, the flipped RO-L&T approach could also be beneficial in the arts and humanities. While these subjects may not seem as suited for this type of teaching method, it could still offer advantages such as promoting critical thinking, creativity, and collaboration. For example, students could watch videos or read articles as homework, and then come to class ready to

engage in discussions and activities related to the material. Another potential area for exploration is the use of the flipped RO-L&T approach.

Christ et al., (2017) and Guo et al., (2014), can significantly impact the overall effectiveness of a course in a flipped classroom. Aside from the use of videos, there are several other important factors that contribute to the success of a flipped classroom. The incorporation of interactive activities and discussions is one such element. These activities allow students to actively engage with the material and put what they've learned from the videos into practice and effective compared to longer ones. Therefore, teachers must also consider the length of the videos when curating or creating them for their flipped classroom. Slemmons et al. (2018) another benefits of using videos in a flipped classroom is the ability to incorporate multimedia elements. This can include visual aids, animations, and interactive features that can enhance the learning experience for students. By utilizing different forms of media, teachers can cater to different learning styles and make the material more engaging and memorable for students.

Videos can also provide a way for students to revisit and review the material anytime, anywhere (Smoos & Bonde, 2016). This can be especially helpful for students who may have missed a class or need extra reinforcement on a certain topic. With videos, students have the flexibility to access the material at their convenience, allowing for a more personalized and self-directed learning experience.

Slemmons et al. (2018) in addition, the use of videos can also promote active learning in a flipped classroom. Instead of passively listening to a lecture, students are actively engaged in the material by watching and interacting with the videos. This can lead to a deeper understanding of the content and encourage critical thinking and problem-

solving skills. However, it is important for teachers to strike a balance between using videos and incorporating other forms of learning activities in a flipped classroom. While videos can be a valuable tool, they should not be the sole source of information and instruction. Teachers should also include hands-on activities, discussions, and other interactive tasks to ensure a well-rounded learning experience for students (Slemmons et al., 2018).

The length of the videos is one of these factors. It has been discovered that the length of a video has a direct impact on the success of a flipped classroom (Guo et al., 2014). This is supported by research by Brame (2016) and Slemmons et al. (2018), who discovered that shorter videos are more effective for teaching and learning. This is due to the fact that shorter videos are more adaptable and convenient for students, as well as more engaging and popular (Long et al., 2016; Yang, 2017).

The recording location is another important consideration when creating videos for a flipped classroom. According to research, the location of the recording can affect the overall quality of the video as well as its effectiveness as a teaching tool (Guo et al., 2014). A video shot in a noisy or distracting environment, for example, may be less effective than one shot in a quiet and focused setting. As a result, instructors must carefully consider the location of their video.

Afify (2020) investigated the effect of three different video lengths on student performance (short 6 minutes, medium 6-12 minutes, and long >12 minutes) and discovered that short lecture videos can lead to higher academic achievement. Manasrah et al. (2021) discovered similar results, concluding that short videos are more entertaining and informative. Furthermore, (Kuznekoff, 2020) reports that students are less engaged with long videos, often viewing them for a short period of 5-6 minutes,

indicating a preference for shorter videos. The online-flipped classroom, with the help of length-optimized videos (short videos), can boost students' motivation and independent learning, ultimately improving teaching effectiveness (Chang et al., 2015; Yang, 2017; Yin and Liu, 2017). As a result, additional research is both necessary and meaningful.

Students' level of engagement reflects their personal willingness to actively participate in various academic activities, such as lectures and in-class exercises. A lack of engagement, according to Wang et al. (2014), can have a negative impact on both learning and academic performance. Active learning, or high engagement, on the other hand, has been shown by Ferrer et al. (2020) to improve the overall learning experience and outcomes. Motivation, on the other hand, is a person's inner drive to accomplish something and is closely related to engagement.

It is our responsibility as teachers to prioritize engagement and motivation in order for an educational program to thrive. To instill these qualities in our students, we must constantly seek out the most effective teaching methods. Recent research has shown that different teaching modes can have a significant impact on engagement and motivation, particularly for students participating in remote online learning and teaching (RO-L&T) versus those on campus (Bawaneh and Moumene, 2020; Ferrer et al., 2020; Kamarzaman et al., 2022).

According to a study conducted by Bawaneh and Moumene (2020), students in RO-L&T demonstrated higher levels of engagement and motivation when exposed to a blended learning method that combined online and face-to-face teaching. This finding was supported by Ferrer et al. (2020), who discovered that when students in RO-L&T

were exposed to a flipped classroom approach, their engagement and motivation increased significantly.

One of the main benefits of the flipped classroom model is that it allows students to have more control over their learning. By watching pre-recorded lectures or accessing online resources at their own pace, students can take the time they need to fully understand the material before coming to class. This can lead to a deeper understanding and retention of the material, as well as a sense of ownership over their own education (Izadpanah, 2021). Additionally, the flipped classroom model promotes active learning and engagement. By using class time for interactive and collaborative activities, students are able to apply their knowledge in a hands-on way. This can be especially beneficial for subjects that require practical application, such as language learning. In Afzali and Izadpanah's study, the experimental group showed a significant increase in student engagement, which is a key factor in academic success.

Izadpanah's (2021) furthermore, the flipped classroom model can also foster a more inclusive learning environment. By utilizing online resources, students who may have difficulty attending traditional in-person classes, such as those with disabilities or busy schedules, can still participate in the learning process. This can lead to a more diverse and well-rounded classroom, creating a more enriching learning experience for all students. Another advantage of the flipped classroom model is that it allows for a more personalized learning experience. With pre-recorded lectures and online resources, students can revisit the material as many times as needed to fully understand it. This can be especially beneficial for students who may struggle with certain topics or need extra time to grasp the material.

Afzali and Izadpanah's (2021) study, the flipped classroom model is highly effective. Their research involved 360 English language learners over a period of six weeks, where students were randomly assigned to either a control or experimental group. The experimental group, which utilized the flipped classroom model, showed a significant increase in student engagement and motivation compared to the control group. This demonstrates the positive impact of the flipped classroom model on student learning outcomes. One of the main reasons for this success is the increased flexibility it provides to students.

Moos and Bonde (2016) unlike the traditional classroom model, where students are expected to learn at the same pace and in the same way, the flipped classroom allows students to learn at their own pace and in a way that best suits their individual learning style. Additionally, the flipped classroom promotes active learning and encourages student participation through interactive and collaborative activities during class time. It is worth noting that the targeted population in the study by Afzali and Izadpanah was limited hence limiting the scope, however the study could have been illustrative if the scope was broadened. One of the key aspects of the flipped classroom model is the idea of "flipping" the traditional classroom structure.

Instead of students passively receiving lectures and instruction in the classroom, they are assigned videos or readings to review at home, and class time is used for hands-on, collaborative activities and discussions (Moos and Bonde, 2016). This approach has been shown to be particularly beneficial for students who may struggle with traditional lecture-based teaching methods. By allowing them to review material at their own pace and in their own time, they can better absorb the information and come to class prepared to engage in meaningful discussions and activities.

Fulton (2012) extends this argument, claiming that the flipped classroom explicitly improves student learning and social skills. The flipped classroom encourages students to take a more active role in their education, which helps them develop important skills like collaboration, communication, and problem-solving. This not only benefits students in the classroom, but also prepares them for future career success.

One way in which the flipped classroom empowers students is by promoting active learning.

As Pierce and Fox (2022) suggest, that students are able to access lecture material outside of class, they are then able to come to class prepared and engage in more meaningful discussions and activities. This not only allows students to take ownership of their learning, but also promotes a deeper understanding of the material. In addition to promoting active learning; the flipped classroom also encourages students to think critically and creatively. By taking on a more hands-on role in their learning, students are able to apply the concepts and ideas they have learned in class to real-world scenarios. This not only fosters a deeper understanding of the material, but also allows students to develop important problem-solving skills.

Moos and Bonde (2016) the flipped classroom allow for a more personalized learning experience. With access to lecture material outside of class, students are able to review and revisit concepts at their own pace. This caters to different learning styles and ensures that all students have a solid understanding of the material before moving on to more complex topics.

The flipped classroom also promotes collaboration and communication among students. (Marshall, 2013). With the traditional lecture format, students may feel hesitant to ask questions or participate in class discussions, however, with the flipped approach, students are more actively involved in the learning process and are encouraged to share their thoughts and ideas with their peers. This not only fosters a sense of community within the classroom, but also allows students to learn from one another. Overall, the flipped classroom not only transforms the role of the teacher but also the way of learning.

Slemmons et al. (2018) promoting active learning and transforming the role of the instructor, the flipped classroom also offers practical benefits for students. One of these is the ability to learn at their own pace. By providing access to instructional materials outside of the classroom, students are able to review and study at a pace that suits their individual needs. This not only promotes a deeper understanding of theDespite the stated advantages and benefits of the flipped classroom as an instructional strategy, there are a number of concerns voiced by its critics. First, many educators feel as though the flipped classroom undervalues face-to-face socratic teaching, thus creating an environment whereby the instructor no longer provides engaging lectures but “leads from behind” while assuming the tasks of observation, feedback, and assessment (Marshall, 2013). Secondly, while home access to computers and the Internet has expanded over the past couple of decades, there is still a large percentage of students who are impacted by the digital divide and consequently are not able to access required digital content such as video lectures, annotated PowerPoint presentations, and other electronic materials necessary for student development and learning (Hamdan & McKnight, 2013).

One of the main issues surrounding the implementation of a flipped classroom is the lack of consensus on its design and structure. While some educators advocate for a completely flipped model where students learn all course material outside of class, others suggest a more hybrid approach where some class time is still dedicated to traditional lectures (Marshall, 2013). This debate has led to confusion among educators as they try to determine the most effective way to implement a flipped classroom.

In addition to the ongoing debate over design and structure, there is also a dearth of scholarly research on the effectiveness of the flipped classroom in improving student performance. While some studies have shown positive results, others have found no significant difference in student performance between traditional lecture-based classes and flipped classes. Slemmons et al. (2018) this lack of consensus among researchers further adds to the uncertainty surrounding the flipped classroom model. Due to the conflicting opinions and lack of research, many educators and researchers are actively debating the effectiveness of the flipped classroom. Some argue that the traditional lecture-based environment allows for better student engagement and retention of information, while others believe that the flipped classroom promotes a more active learning experience and leads to improved academic performance. (Marshall, 2013). To address this ongoing debate, the current study focuses on the academic performance of students in the traditional lecture-based sections of an undergraduate management information systems course compared to those in the flipped classroom sections. By examining the performance of students in both types of classes, the study aims to provide valuable insights into the effectiveness of the flipped classroom model.

The researchers started their journey by conducting a thorough literature review on flipped learning. They found that the concept originated from the concept of blended learning, where students are exposed to both face-to-face and online learning. However,

flipped learning takes it a step further by placing the responsibility of learning on the students themselves. Slemmons et al. (2018) by flipping the traditional classroom model, students are able to watch lectures or read materials at home, and then use class time for active learning activities such as discussions, group work, and hands-on projects.

The team of researchers also interviewed experienced educators who had implemented flipped learning in their classrooms. They found that these educators saw a significant increase in student engagement and motivation. By allowing students to take charge of their own learning, they were more invested in the material and were able to connect it to real-life situations (Marshall, 2013). This ultimately led to a deeper understanding and retention of the material. Moreover, the researchers also looked into the impact of flipped learning on students' academic outcomes. They found that students who were exposed to this method showed higher levels of critical thinking and problem-solving skills. This can be attributed to the interactive nature of flipped learning, where students are encouraged to apply their knowledge in various scenarios and collaborate with their peers. In addition, the team also observed that flipped learning had a positive impact on students' time management skills. By having access to lectures and materials at home, students were able to learn at their own pace and review the material as many times as needed. This not only helped them understand. To ensure the validity of their study, the researchers carefully selected a diverse group of students from various majors and class standings. This approach not only allowed for a more comprehensive analysis of the results but also ensured that the findings would be applicable to a wider range of students. The team believed that this was crucial in understanding the true effectiveness of flipped learning and its potential impact on different types of learners.

The study was conducted over the course of a semester, with students from all backgrounds and levels participating in the flipped learning classes (Marshall, 2013). The researchers carefully monitored and documented the students' progress throughout the semester, using a variety of methods such as surveys, quizzes, and class observations. The students were also given the American Chemical Society comprehensive standardized final exam at the end of the semester, allowing the researchers to compare the results with those of traditional lecture-based classes.

As the semester progressed, the researchers noticed a significant difference in the students' attitudes and engagement towards learning. The flipped learning approach provided students with more autonomy and control over their learning, allowing them to pace themselves and review material. The results were astounding. The flipped classroom section, which had been redesigned to incorporate interactive and engaging activities, had a remarkable 86% of students scoring a C or higher on the final exam. This was a significant improvement compared to the traditional lecture-based sections, which only had 72% and 61% of students scoring a C or higher, respectively.

Upon further analysis, the researchers found that the flipped learning environment allowed for more student-centered learning and increased student engagement. This, in turn, led to a deeper understanding of the material and better retention of knowledge. The students in the flipped section were able to actively participate in discussions and hands-on activities, which helped them develop critical thinking and problem-solving skills. The success of the flipped classroom approach in this study highlights the potential of this method to revolutionize the traditional.

Tune, Sturek, and Basile (2013) conducted a study to evaluate and compare the academic performance of first-year graduate students in a traditional lecture-based

curriculum versus a modified flipped classroom curriculum. The focus was on cardiovascular, respiratory, and renal physiology. In the modified flipped classroom, students were required to (1) watch pre-recorded lectures before class and (2) participate in group activities, individual assignments, and quizzes during class, followed by a Q&A and problem-solving session. On the other hand, the traditional curriculum involved attending face-to-face lectures and completing homework assignments. The results showed that students in the flipped classroom scored significantly higher on the cardiovascular and respiratory sections of the multiple-choice exam, with an average difference of 12 percentage points, and 11 percentage points on the renal section, compared to their counterparts in the traditional curriculum.

In 2022, Ruddick conducted a study comparing the academic performance of students in a traditional lecture-based section of an introductory chemistry course to those in a flipped version of the same course. The traditional section involved in-class lectures and at-home individual activities, while the flipped section had students watch video lectures at home and participate in problem-based activities during class time. The results showed that the flipped section had higher final exam scores and a greater percentage of students earning a C or better than the traditional section. Similarly, in 2023, Strayer compared the flipped and traditional classroom methods in an introductory statistics course and found that the flipped section showed more innovation and cooperation in learning. Another study by Papadopoulos and Roman in 2020 also used the flipped learning model in an electrical engineering course, where lectures were delivered before class and guided work was completed during class time.

The course was available in two formats: traditional and flipped. Traditionally, lectures were given during class, and homework consisted of problem solving. Pre- and post-testing of student performance revealed a non-significant difference between the two

classes. On closer inspection, however, the flipped class had a higher percentage (18.3%) of correctly answered questions on the pre-test than the traditional class (17.1%). There was a significant difference on the post-test, with the flipped class scoring 31.2% and the traditional class scoring 24.1%. This is consistent with Bishop and Verleger's (2023) anecdotal evidence that the flipped classroom may improve student learning over traditional classrooms.

However, switching to the flipped classroom method, according to Berrett (2022) and Lape, Levy, and Yong (2014), requires a significant amount of effort and may not result in improved student performance when compared to a traditional classroom setting. In one study, students in a traditional classroom setting were more satisfied with the course structure than those in a flipped classroom, according to Frederickson, Reed, and Clifford (2015). Furthermore, the authors discovered no statistically significant difference in the students' knowledge at the end of the course. Students expressed dissatisfaction with the web-based lectures because they lacked visual aids, but they found the opportunity for peer collaboration to be more engaging and stimulating.

Furthermore, the use of videos in education has been shown to improve student motivation and retention. According to Tse and Wong (2015), students in flipped classrooms felt more motivated and engaged in their learning than those in traditional classrooms. This is because videos are interactive, with visuals, animations, and other multimedia elements that capture students' attention and stimulate their curiosity.

In today's world, technology plays a crucial role in education. With the rise of digital learning, videos have become an integral part of the learning experience. Not only do they provide a personalized approach to learning, but they also offer a wide range of benefits for students.

One of the key advantages of using videos in education is the ability to cater to individual needs and preferences. Every student learns at their own pace, and videos allow them to pause, rewind, and re-watch at any time. This feature is particularly beneficial for students who struggle with specific concepts or require more time to process information. By giving students the freedom to control their learning, videos can help them gain a deeper understanding of the material and achieve better results on assessments.

Moreover, the incorporation of videos in education has opened doors for collaboration and peer-to-peer learning. With the rise of social media platforms, students can now effortlessly share educational videos, engage in discussions, and participate in debates about the content. This not only fosters critical thinking and communication skills, but also enables students to learn from one another and reinforce their comprehension of the subject matter. By promoting a collaborative learning environment, videos can enhance the overall learning experience for students. However, it is important to note that the effectiveness of videos in education relies not only on their utilization, but also on their integration into the curriculum. As previously mentioned, factors such as video duration, relevance to the curriculum, and supplementary resources must also be considered.

2.3 Difference between the Performance of the Male and Female Students

While it's important to note that individual students may have different learning preferences and abilities, research suggests that the use of videos in education can have positive effects on both male and female students. (Jackman & Morrain-Webb 2019). Videos have been found to enhance student engagement, as they provide a visual and auditory learning experience. This can be beneficial for students who learn better through visual or auditory means. Additionally, (Morita et al. 2016) stated that videos

can present information in a more dynamic and interactive manner, increasing student interest and retention. However, it's important to remember that gender differences in performance are influenced by factors other than video use. Individual learning styles, motivation levels, prior knowledge, and external factors such as support systems and access to resources are examples of these. Overall, while the impact of videos on male and female student performance may differ on an individual basis, the use of videos in teaching and learning can benefit students of all genders in terms of increasing engagement and understanding (Morita et al, 2016).

Gender differences in academic performance have recently piqued researchers' interest (Hung et al. 2022). Indeed, males have historically had higher enrolment in STEM subjects at the tertiary level of education than females, and their overall academic performance has been rated higher (Ullah & Ullah 2019). This situation frequently translates into job opportunities for men in science and engineering, as well as the ability to hold high-ranking positions in these fields (Maltese & Cooper 2017). However, the study was limited because its scope was small; therefore, it could have been demonstrative if the scope was broadened and the study was quantified.

Conventional video technology (Noetel et al., 2021) offer the possibility of adapting learning content to individual pace and progress, for example, through the option of repeating content without time limitations. As a specific video format, 360° videos also have individual control options and can adapt to the individual learning process, especially when it comes to repetition of educational content in a safe, authentic, and realistic environment without risk. For instance, 360° videos are suitable for first-aid courses, as per (Barsom et al. 2020), or for driving lessons in driving schools, according to (Barić et al. 2020). In addition to the individual playback options of conventional videos, the panoramic view of 360° videos offers greater individual observation,

reflection, and analysis options. Thus, 360° video technology enables greater individual learning processes and is not limited to a predefined camera focus within video recording. However, the study was limited because its scope was small; therefore, it could have been demonstrative if the scope was broadened and the study was quantified. (Perez-Felkner et al. 2022), Over the years, there has been a persistent belief that males are naturally more intelligent and academically superior to females. This belief has been reinforced by historical data that showed males outperforming females in academic settings. This notion, however, ignores the structural barriers and stereotypes that have hampered female academic abilities, particularly in science and technology. (Perez-Felkner and colleagues 2022) Fortunately, recent studies in developed countries have revealed a significant difference in academic performance between men and women. Females now outperform males in almost all disciplines and at all levels of education, according to a study conducted by (Perez-Felkner et al. 2022). This represents a significant shift from the past, when males were viewed as the dominant force in academic settings.

Interestingly, this shift is not limited to specific disciplines or levels of education. (Workman, 2020) argue that females are now excelling in traditionally male-dominated fields such as the natural sciences. This is a clear indication that females possess the same competencies and abilities as males, and their academic performance is not limited by their gender. Moreover, the improvement in females' academic performance is not due to them enrolling in easier classes or courses. As noted by (Sharkey 2022), females demonstrate their competencies in all fields of education, from elementary to higher levels. This proves that females are equally capable, if not more, in all educational fields, debunking the long-held belief that males are superior. However, the study was limited because the scope was small and was qualitative in nature;

therefore, it could have been demonstrative if the scope was broadened and the study be quantified.

The use of videos in education has become increasingly popular in recent years, with many researchers and educators touting its benefits. Adu et al. (2022) argue that videos allow for a more interactive and engaging learning experience, as teachers and learners can watch, share, comment, and interact with the content to generate knowledge. This is supported by (Pratama et al. 2020), who highlight that video can be accessed anywhere and anytime, and can be shown, repeated, stopped, and completed at will, providing flexibility for both teachers and learners.

However, as (Whitton & Maclure 2017) point out, there are some potential downsides to the use of videos in education. They highlight the psychological benefits, such as improved learning attitudes and motivation, as well as the cognitive benefits, including enhanced learning and memorization. Additionally, they note the visualisation of knowledge as a key benefit of using videos in education. While the views of (Adu et al. 2022), and (Whitton & Maclure (2017) are important contributions to the study of video use in education, it is important to acknowledge the limitations of their research. For example, the study by (Whitton & Maclure 2017) is based on a qualitative approach and has a relatively small scope. This raises questions about the generalizability of their findings. To address this, future research could broaden the scope.

Technology has become an integral part of our lives, and its impact on education cannot be denied. With the rapid advancements in technology, it is now possible for students to use various tools and platforms to enhance their learning experience. (Pratama et al. 2020), this not only opens up new opportunities for students, but also provides them with a chance to prepare for a bright future. The use of technology in education has

been widely studied and has been proven to have a positive impact on students' motivation to learn. According to (Pratama et al. 2020), incorporating technology into the teaching and learning process can greatly increase students' motivation to learn. This is because technology makes learning more engaging, interactive, and fun for students.

In addition to benefiting students, the use of technology in education also has a significant impact on teachers. According to (Handi Pratama et al. 2020), using video in the classroom not only benefits students but also helps teachers improve their own technological skills. This is due to the fact that teachers must be well-versed in technology in order to effectively incorporate it into their teaching methods. Furthermore, using video in the classroom allows teachers to quickly and effectively cover material, making the learning process more efficient and enjoyable for students. Vlogs are one of the most creative ways to use technology in education. Vlogs, as mentioned by (Pratama et al. 2020), can be used as a project in which students create their own videos to demonstrate their understanding of the material.

(Damronglaohapan & Stevenson, 2023). These scholars' fruits shed light on how YouTube implementations work well to cope with the listening skill of English learners and their English proficiency level. However, the findings were derived through the qualitative method and it could have been more illustrative if it was quantified.

On the other hand, the Harrison study found that, in the case of distance learning courses, the most watched videos were interviews highlighting the fact that short films of academics talking on a particular subject were perceived as having the most impact on students' learning (Harrison, 2020). Unlike the preference of the respondents for shorter videos ranging between 1 and 5 minutes in the Harrison study, another

investigation found that ideal length of videos should not be over 15 minutes as identified by (Pratama, Arifin & Widianingsih, 2020). What is probably the most important finding of the Furthermore, the Harrison study revealed that distance learning courses have become increasingly popular due to the convenience and flexibility they offer. Students can access course materials and lectures anytime and anywhere, making it easier for them to balance their studies with other commitments. This has been especially beneficial during the pandemic, where traditional in-person classes have been disrupted.

Moreover, the study (Harrison, 2020) also highlighted the importance of using videos in distance learning courses. These videos were found to have a significant impact on students' learning, as they provided a practical application of the theoretical concepts being taught. This not only enhanced students' understanding of the subject matter but also made it more engaging and interesting for them. However, the ideal length of these videos has been a topic of debate. (Harrison, 2020). While the Harrison study showed a preference for shorter videos, other investigations have suggested that videos should not exceed 15 minutes. This could be due to the attention span of students and the need to keep the content concise and to the point (Harrison, 2020). Therefore, it is important for educators to strike a balance and provide a variety of video lengths to cater to different learning styles. In addition, the use of technology in education has opened up new opportunities for collaboration and interaction. With the rise of social media, students can now connect with their peers and instructors from all over the world. This not only enhances their learning experience but also prepares them for the digital world they will enter after graduation as concluded by (De Witt et al., 2023).

YouTube has become an indispensable tool for online learning, especially during the Covid-19 pandemic. As schools around the world were forced to close their doors,

teachers turned to YouTube as a way to continue educating their students. This website has proven to be a valuable resource for both teachers and students, providing a vast library of authentic and real-life videos that enhance students' understanding of their English lessons.

According to Maness (2014), watching authentic and real-life clips on YouTube can have a positive impact on learners. These videos provide students with a more engaging and interactive learning experience, making it easier for them to comprehend and retain information. In fact, studies have shown that students are able to recall more than 75% of the material when they see, hear, and do it, as opposed to just reading or listening (Lindstorm, 2014). One of the main advantages of using YouTube for online learning is the wide range of content available. Teachers can find videos on almost any topic, from grammar and vocabulary to literature and culture. This allows them to supplement their lessons with relevant and interesting material, making the learning experience more enjoyable for students. Moreover, YouTube also offers a platform for students to practice their English skills outside of the classroom. They can watch videos, listen to podcasts, and even interact with native speakers through comments and discussions. (Lindstorm, 2014). This not only helps students improve their language abilities, but also exposes them to different accents, dialects, and cultures. However, it is important to note that many researchers observe that using YouTube in meaning develops students' mentality and creativity as illustrated by (Abbas, 2020). Others conclude that higher thinking levels, including problem-solving and decision making, have improved and developed among learners as they connect what they have learned from YouTube videos to real-life situations. On the other hand, (Almurashi 2016) states clearly that using YouTube videos to teach English helps to provide good understanding, make the learning process more fun and meaningful, and give students a chance to easily

memorize their lessons. As a source of information, 98% of students use YouTube while 86% of them assure that it enhances their performance according to the findings of (Jafar, 2022). However, the study was limited due to its small scope and the sampling method used; it could have been more illustrative if the scope and the sample size was broadened.

In recent years, there has been a growing recognition of the importance of gender equality in education, particularly in developing countries. In recent years, there has been a growing recognition of the importance of empowering women and girls in the field of education. It has been widely acknowledged that investing in female education not only benefits individual women but also has a positive impact on the community and society as a whole.

One of the main challenges faced by women in accessing education is the lack of opportunities and resources available to them. In many developing countries, girls are often forced to drop out of school due to financial constraints, early marriage, and cultural norms that prioritize boys' education over girls.

However, despite these challenges, the findings of Ullah (2019) have brought to light the remarkable progress that has been made in improving female academic performance in these regions. This is a testament to the determination and resilience of women who have fought against all odds to pursue their education. One of the key factors contributing to this improvement is the increasing emphasis on promoting gender equality in education policies and programs. Governments and organizations have recognized the need to provide equal opportunities for girls and have implemented various initiatives to support their education. Furthermore, there has been a significant push towards encouraging girls to pursue STEM fields, traditionally dominated by men.

This has been achieved through targeted outreach programs, scholarships, and mentorship opportunities, which have helped break down gender stereotypes and encourage girls to excel in these fields. The impact of these efforts is evident in the increasing number of women entering and excelling in STEM fields. This not only empowers individual women but also has a positive impact.

One of the main barriers to education for girls and women in developing countries is the lack of resources and opportunities. Jafar, (2022). Many girls are forced to drop out of school at a young age to help with household chores or to get married. This not only limits their access to education but also perpetuates harmful gender stereotypes that portray women as inferior to men in academic pursuits. However, the findings of (Ullah, (2019) challenge these stereotypes and highlight the potential of girls and women to excel in traditionally male-dominated fields such as science and math. This is a significant step towards breaking down gender barriers and promoting equal opportunities for all individuals, regardless of their gender. Moreover, Ullah, (2019) the results of these studies also have implications for the global economy. As the demand for STEM skills continues to grow, it is crucial to tap into the full potential of the female population. By providing equal access to education and promoting gender equality in STEM fields, developing countries can unlock a wealth of talent and contribute to their economic growth and development.

Contrary to recent studies by (Armah et al. 2021) from other parts of the world pointing to the improved academic performance of females, the majority of the studies conducted in Ghana show that males outperform females, especially in mathematics and science subjects according to (Kyei and Benjamin 2021). However, the findings were limited to qualitative approach which limits the voice from the quantitative approach; it could have been clearer if they could concede the quantitative data. The

Oppong 2021 study conducted in Ghana has been a significant contribution to the understanding of the academic performance of female students in STEM programs. It has brought to light the need for targeted support and attention for these students, and has shown that with the right resources and encouragement, they can excel in traditionally male-dominated fields. However, there is still much to be explored in this area. While the Oppong study focused on high school students, there is a lack of research on the academic performance of male and female students at the university or tertiary level. This is a crucial stage in a student's education, as it sets the foundation for their future career path. It is therefore essential to understand the factors that contribute to the academic performance of male and female students in STEM at this level.

One area that requires further research is the impact of societal and cultural expectations on the academic performance of male and female students in STEM. In many cultures, there is a perception that STEM subjects are more suited for men, leading to a lack of support and encouragement for female students. This can have a significant impact on their academic performance and needs to be addressed. Additionally, there is a need for comparative studies on academic performance at different levels of education. As noted by Walberg (2015) and Johnson (2014), academic performance tends to change as one progresses in their education. Therefore, understanding the factors that contribute to the academic success of male and female students at different levels can provide valuable insights for improving

Washburn (2016) in his turn, emphasizes that situation comedies enable viewers to acquire pragmatic language use, namely how to use the language appropriately in different situations, depending on such factors as the relationship between the speakers, the setting, and the context of the situation which was according to (Washburn, 2021),

who stated that dialogues in textbooks often reflect what we think to say, rather than what we actually say, which makes it difficult for teachers to teach their pupils pragmatic language use correctly which is significant to the study. Television, on the other hand, provides opportunities for observing pragmatic use and has several advantages over real interaction, such as the advantage that viewers are not directly involved in the interaction and hence can focus and analyze the patterns and forms of pragmatic language use, as well as that television shows can provide viewers with access to a wide variety of interactions and interlocutors with various permutations of status, gender, settings, and formality as per (Washburn 2022). Thus, taking into consideration the fact that teaching speaking does not consist of only teaching pronunciation and intonation, but also some other important aspects, such as pragmatic language use, videos can be valuable resources in language teaching in these respects. However, the study was limited to the small scope; therefore, it could have been prudent to expand the scope.

In that case (Harmer, 2017) proposes two video-based activities which can be used in video-based lessons. One of them is video watching activities. A number of activities are designed for specific video situations. They explore the range of options for use with both “off-air” and language learning videos. Video watching activities includes three sections one is general comprehension. The activity in this section is designed to have students to watch video in order to understand the gist of video and then look back again for details. In this activity, students have to try and give as many as information about what they have seen. (Washburn, 2016) then, in pairs, they have to agree on everything they heard and saw. When the discussion has been finished, the teachers read out questions and the students have to write the answer. After that, they compare with other pairs whether they all agree. They watch the video again to check the answer.

Two is working with aspect of language. The activity in this section shows the unique language works to the medium of video. A way of greeting students in monolingual groups to focus on language is to get hold of English language videos which have subtitles in students' language. The teacher can start by viewing the video without sounds and discussing the subtitles in general. (Littlewood, 2016) after the first viewing, both the teacher and students discuss what they have seen. The second viewing, the students have to write down what they think the original English words were. For the final viewing, they watch the extract with the sounds turned up to compare their English with the words that were actually spoken.

Three is video as springboard to creativity. How video clips help to start the students' creativity showed in the activity of this section by encouraging interpretation, provoking thought, and asking for language use. Scognoli (2017) in this activity, students watch a video clip and the teacher make sure that they understand it. Then they do any language work which may be appropriate. Teacher asks students to watch the clip again but they have to imagine how the scene would be different. This activity helps the students understand more about language being used and direct them to insights about language and behavior in general. Schneps, (2023) Sometimes, the teacher needs to modify and select their own authentic video material to fit their timetable and the specific needs of the students.

In addition to (Renandya, 2016) guidelines, it is also important for teachers to carefully select video materials that are relevant to the students' language proficiency level and interests. This will not only engage the students better, but also ensure that the video is effectively used as a language learning tool. Another important aspect to consider is the length of the video. It is recommended to use shorter videos, especially for younger learners, as their attention span may be shorter. For older students, longer videos can

be beneficial as it allows for deeper analysis and discussion. (Pellas, 2021). Furthermore, teachers should also provide pre-viewing and post-viewing activities to enhance the students' understanding and learning from the video. These activities can include predictions, note-taking, and reflection questions. This will not only make the video more interactive and engaging, but also encourage critical thinking skills. Moreover, teachers should also encourage students to use the video as a resource for self-study. This can be done by providing the students with a list of recommended videos related to the course topics, or by assigning video projects where students have to create their own videos to demonstrate their understanding of a specific language concept. (Renandya, 2016). It is also important for teachers to continuously evaluate the effectiveness of using videos in the classroom. This can be done through student feedback and assessment of their language learning progress. This will help teachers to make necessary adjustments and improvements in their use of videos as a language learning tool. Using short sequences. It is difficult to specify an exact sequence length without identifying a particular video sequence. It is better to exploit a short (three to five minutes) segment of video thoroughly and systematically rather than to play a long sequence which is likely to result in less active viewing on the part of the students. (Yunus, 2018).

Familiarizing oneself with the material by treating the video material as seriously as any other language teaching material. The teacher has to learn the materials before presenting in the class. If time allows, try to doing the activities in order to anticipate difficulties or questions the students may have. (George, 2022) Treating the video as both a visual and an audio text. When planning the lessons, it is important to consider not only the video script, but also the video itself. Test the degree of visual support in a video sequence by viewing it first when the sound is turned off to see how much people

can comprehend based on the pictures alone and designing lessons that provide opportunities for repeated viewing. Once is not enough. Unless students are extraordinary and –native levels of language proficiency, they will need to see and hear a video sequence several times if they are to understand the situation, identify the characters, and observe and recall the language and other facets of the video in any detail (Mathew, 2019). Planning activity for three stages. Teachers can promote active viewing and increase students' comprehension and recall by planning video-related lessons for three stages of activities: previewing, viewing, and post-viewing. The stages are elaborated as follows: Pre-viewing activities: These prepare the students to watch the video by tapping their background knowledge, stimulating interest in the topic, and lessening their fear of unfamiliar vocabulary, viewing activities that involve playing and replaying the entire sequence: relevant parts and requiring students to focus on important aspect such as factual information, plot development, or the language used in particular situation. (George, 2022).

Finally, the Post-viewing activities. These require students to react to the video or to practice some particular language point. In this point, the teacher can make discussion, role play, and debate among others. On the other hand (Mathew, 2019) stated that like any other resources, video is best when it is used carefully and intelligently. The teacher is responsible for making video-based lesson a rewarding language learning experience. How the teacher approaches the use of video in the classroom will determine how valuable it is perceived to be by the students, and how significant it will be to them, in the language learning process.

However, Odeh, (2023) suggest that using audio-visuals as a teaching method stimulates thinking and improves learning environment in a classroom which is pivotal to this study because the effective use of audio-visual aids substitutes monotonous

learning environments. Students develop and increase personal understanding of the areas of learning when they experience a successful and pleasant learning in the class room, the findings were significant to this study because it points out the importance of using audio-visual, a weakness with this argument, however is that they did not specify the forms of audio-visual. Busà (2020) in his views states that listening to real people speaking about real-life experiences and interacting with other speakers in a natural way may be considered more stimulating than listening to actors reading scripts elaborated by EFL (English for Foreign Language) writers. A video can be effective way to get students' attraction and increase their motivation which is very significant to this study because it clearly indicates the importance of the video in learning of second language.

Similarly, a study by Awolaju (2016), investigated the use of instructional materials as it correlates with the academic performance of students in Senior Secondary Schools in Osun State. The sample used for the study consisted of 40 students who were randomly selected from two different secondary schools in Ilesa East local government area in Osun State. 20 Students were used for experimental group while the other 20 students were under the control group. Research instrument used for the study was a Biology Achievement Test (BAT) which consisted of 50 multiple choice items. A reliability coefficient of 0.82 was obtained for BAT, using test-retest method. Data collected was analyzed by using mean score, standard deviation and t-test distribution. Findings revealed that students taught with instructional materials performed better than those taught without instructional materials. The study however limited in its application as he chose to be focused on a small sample size it may have been more illustrative to broaden the scope.

Dike (2019) however, investigated the strategies for producing instructional materials. The study adopted a survey design aimed at investigating the extent to which AVs were used in teaching and learning and their impact on teaching and learning in some selected private Secondary Schools in Enugu. Two research questions were stated and subsumed in a hypothesis and a total of one hundred and twenty respondents participated in the study which was very significant to this study because it covered a recommendable scope and it is of great importance to the study at hand.

Audio-visual materials have been proven to be an effective tool in improving students' oral skills, as noted by Supiyati (2021). These materials not only engage students visually but also audibly, making the learning experience more interactive and dynamic. This is especially important when it comes to learning a language, as proper pronunciation, stress and intonation patterns, and connected speech are crucial elements in mastering speaking English effortlessly, as emphasized by Harmer (2017). By using audio-visual materials, students are able to see and hear the correct pronunciation of phonemes, which are the basic units of sound in a language. This allows them to easily imitate the sounds and develop their own speaking skills. Additionally, audio-visual materials provide a more realistic representation of how English is spoken in real-life situations, as students are able to observe the body language and facial expressions of the speakers, which are important aspects of communication. Moreover, audio-visual materials are more engaging and stimulating for students compared to traditional teaching methods. This is because they incorporate a variety of visuals, such as videos, images, and animations, that can capture students' attention and make the learning experience more enjoyable. This can be especially beneficial for students who are visual learners, as they are able to process information better when it is presented in a visual format.

Furthermore, the use of audio-visual materials allows for a more personalized learning experience. With the availability of various online resources, students can choose materials that cater to their needs.

The use of technology in language learning has become increasingly popular in recent years. With the rise of social media and video-sharing platforms, such as YouTube, educators have been exploring new ways to engage students and enhance their language skills. In the study conducted by Albahiri & Alhaj (2020), the researchers focused specifically on the use of YouTube videos to stimulate oral skills among second language learners. The study was carried out with 48 students from a higher learning institute in Saudi Arabia and was designed as a quasi-experimental study. This means that the researchers were able to compare the results of the students who were exposed to the YouTube videos with those who were not. The findings of the study were highly significant, as they showed that the use of technology and media elements, such as videos, can have a positive impact on language learning. One of the key benefits of using YouTube videos in language learning is the visual and audio elements they provide. These elements have been found to be particularly effective in motivating second language learners to engage in language interactions. The combination of visual and audio cues allows students to better understand and absorb the language, making it easier for them to participate in meaningful conversations. Moreover, YouTube has been found to be a valuable source of visual and audio materials for language learning. With its vast collection of videos in different languages, students have access to a variety of content that can aid in their language learning journey. This is a significant shift from traditional teaching methods, which often rely on textbooks.

Moreover, a study was carried out by Yunus et al. (2018) to examine the utilization of authentic English video clips among EFL students in Aceh, Indonesia. The study, which

was a quasi-experimental design, utilized non-randomized groups to conduct the experiments. A total of 68 students from a high school in Banda Aceh participated in the study. The experimental group was exposed to authentic video clips during their lessons, while the controlled group used audio compact discs. The main focus of the research was to further investigate the effectiveness of audio-only materials versus audio-visual materials. The findings showed positive effects in both groups, with improvements observed. However, the higher t-test result of the experimental group solidified the fact that videos were more effective in comparison to audio. This highlights the importance of understanding how both audio and visual components work together to create a more efficient learning environment in the language classroom. This understanding is crucial as it stems from this pivotal research and provides a valuable perspective on the use of videos in teaching and learning.

Furthermore, (Madhuri, 2018) stressed the significance of audio-visual materials in enhancing students' Oral Skills, stating that it is the most effective method among other techniques. According to him, the combination of sound and sight in teaching through audio-visual materials allows for the utilization of multiple sensory channels, thus promoting student learning. This understanding is supported by (Kausar, 2023) in (Thaseem & Kareema 2017), who also emphasized the importance of using audio-visual materials in learning English. This is because students often struggle with mastering the language and may find it challenging to learn without the aid of audio or visual materials. In fact, Tarcen (2014) argues that the use of audio-visual materials not only increases the emotional input, but also enhances the level and productivity of verbal skills. Furthermore, Umar (2014) supports the idea that the incorporation of high-tech new technology as audio-visual materials can motivate even the most reluctant English learners to regularly practice speaking. Therefore, it is essential for

teachers to be reminded of the crucial role instructional technologies play in the learning process.

Video-based learning has long been used as an educational tool to assist in classroom teaching, with earliest usage noted during the Second World War (Yousef et al., 2014). A number of recent advances, most notably the rapid growth in access to high-speed internet through homes, schools and personal devices such as tablets or smartphones, have had a significant impact in changing the learning environment and accelerating video use in higher education. Researchers note an “explosion” in online courses and a rapidly changing comprehension of how video can be used effectively to enhance learning (Schneps et al. 2020). Within this explosive space of change and development, educational institutions and libraries now sit with huge amounts of curiosity about what video can and will do for their faculty and students. This is similarly the case for educational publishers and video distributors who are investing large sums of money in the creation and distribution of this content. Some fundamental, key questions exist that have been and continue to be explored via numerous research endeavors: How is video making a tangible difference in the higher education space; what impact is it having on student engagement with their course and learning; and, perhaps most crucially, what are the measures of success of video use both for students and researchers?

June et al., (2014) conducted action research to explore the effects of YouTube videos and interactive activities on critical thinking of 50 Malaysian university students. The study concluded that YouTube videos increased students’ participation and engagement and improved their critical thinking skills. Students’ learning increased in the lectures by visualizing the content and relating the material to the real-world examples. Students perceived YouTube videos as fun and interesting.

Similarly, positive effects of videos on learning are demonstrated in a research study conducted by (Johnson and Cotterman, 2015). They examined how secondary science pre-service teachers used a video club to restructure their science knowledge into science knowledge for teaching. The study concluded that video clubs enabled pre-service teachers to deepen their understanding of science teaching and learning.

Giannakos et al., (2015) also found benefits of videos on students learning. This longitudinal study looked at the use of an open-access video analytics system in the video-assisted undergraduate reading course. The study showed a positive correlation between repeated views of videos and the students' learning performance. In addition to students' positive attitudes toward the use of video lectures, videos provided students with higher cognitive level learning and deeper engagement.

Karppinen (2015) while the overall positive effects of using video are evident in the literature, new software technologies provided additional variables to the use of video. For example, when videos are combined with other software or web languages or viewed through enhanced software applications, a video lecture transforms the viewers' experience from passive listeners to engaged watchers that interact with the content. Video in particular is often attractive as a means to capture content and present direct instruction. Of all the technological components involved in the learning experience, it is often the most visible and the most resource intensive. It is easy then to assume that it will be the most impactful. (Theelen, 2020).

It is indeed a powerful medium, but as with anything else, video must be created with an eye for strong pedagogical choices in order to be most effective. Likewise, just as video is one tool in the media toolbox, its utilization is one strategy on the instructional palette. Video can also be designed for presenting case studies, interviews, digital

storytelling, student directed projects, and more. Choosing the appropriate instructional strategy and pairing it with an effective media format is part of the analysis performed during your lesson planning process (Ranieri, 2022).

Teachers can only use instructional resources they are made available and carefully selected to help the teacher achieve the instructional objectives. According to (Kochhlar, 2021), a teacher who has adequate and relevant teaching materials and facilities will be more confident, effective and productive. On the other hand, (Muranga, 2016) asserts that resources and methods of instruction among others affect the amount of learning that takes place. (Boyle, 2017). As such effective learning and teaching demands that resources are made available to the students. Maranga states that; “the provision of quality education and training depend on, among other things the supply of adequate equipment as teaching materials. However, the study was limited in its applications since the scope was small; therefore, it could have been illustrative if the scope was broader.

Various studies conducted in Kenya have revealed that many secondary schools are experiencing acute shortage of the necessary instructional resources, there is therefore need to improvise resource materials which are not available. (Muranga, 2016). Moreover, in addition to keeping up with technological advancements, teachers must also be adaptable to the diverse needs and learning styles of their students. This requires a deep understanding of each student's individual strengths and weaknesses, as well as the ability to tailor lessons and activities to cater to their unique learning needs. In today's society, students are exposed to a vast amount of information and distractions through technology, making it even more challenging for teachers to engage and motivate them in the classroom. This is where the role of a teacher becomes even more

crucial. (Muranga, 2016). Not only must they be well-versed in technology, but they must also possess strong communication and interpersonal skills to effectively connect with their students and create a conducive learning environment. Furthermore, teaching also involves a significant amount of emotional labor. Teachers are not only responsible for imparting knowledge, but they also play a crucial role in shaping the character and values of their students. This requires a high level of empathy, patience, and understanding, as well as the ability to handle conflicts and difficult situations. (Boyle, 2017). Despite the challenges, teaching remains a fulfilling and rewarding profession. The impact that a teacher can have on their students' lives is immeasurable. They have the power to inspire and shape the minds of future generations, and this responsibility is not one to be taken lightly, teaching in today's society requires a combination of knowledge, adaptability, technological proficiency, interpersonal skills, and emotional labor. It is a challenging profession, but one that is crucial in shaping (Torcan, 2017).

Fortunately, new technologies not only increase the training needs of teachers, but also offer solutions to these challenges. Information and communication technology (ICT) has the potential to provide flexible and effective ways for professional development, improve pre- and in-service teacher training, and connect teachers to a global community of educators. By utilizing ICT, teachers can have access to a wealth of resources, including materials, peers, and networks of experts, which can help them improve their skills and stay up-to-date with the latest advancements in technology and pedagogy. (Boyle, 2017). One of the most effective ways to develop teachers' ICT skills and promote its integration into their teaching is through the provision of ICT-based training environments. These environments allow for on-demand access to resources and facilitate active discussions among teachers, allowing for the exchange of expertise and advice on both technology and pedagogy. As (Pacey, 2019) suggests, this approach

of using ICT to support teachers' ongoing professional development and networking can be highly beneficial, as it provides organized support and guidance. It is important not to fall into the trap of considering that the use of technology or media is going to be the “silver bullet” that will make students learn or be more motivated. The learning activities that students perform with videos are a critical part of the learning outcomes and motivations (Boyle, 2017). That is, simply presenting information in a stimulating digital video format will not automatically nor necessarily lead to in-depth learning (Karppinen, 2015). Rather it is the pedagogy, the well-crafted message, the whole approach, and design that are the critical elements, not the media.

According to Anderson et al. (2019), the instructor's role is to construct a cohesive narrative for students to follow in their mediated instruction and activities. This narrative should make students aware of both the explicit and implicit learning goals and activities that they will be participating in. As noted by Brush, Glazewski, and Hew (2018), ICT serves as a valuable tool for students to explore and understand various learning topics, as well as solve problems and provide solutions. By incorporating ICT, students are able to access and comprehend concepts more easily, while also engaging in student-centered and self-directed learning.

This is supported by (Dahar and Faize 2021), who state that students are now more frequently using computers in meaningful ways to build new knowledge. Through this process, students learn how to access, select, organize, and interpret information and data from various sources. This, in turn, allows them to critically evaluate the quality of the learning materials. As highlighted by Chai, Koh, and Tsai (2020), learning through ICT not only creates a creative learning environment, but also helps students develop a deeper understanding of their areas of learning.

(Robbin, 2018) said serving and student-teachers need to be skilled in the use of ICT and also to be able to critically evaluate strategies for the acquisition and the appropriate application of ICT in diverse curriculum area .Major ICT competencies required by teachers were highlighted by Kirschner and Woperies (2023) that to include competency in making personal use of ICT; mastery of a range of educational paradigms that make use of ICT; competency in making use of ICT as mind stools; competency in using ICT as tool for teaching, competency in mastering a range of assessment paradigms which involves use of ICT; and competency in understanding the policy dimensions of the use of ICT for teaching and learning. Pre-service teacher education should focus on the need for student-teachers to have ICT skills for their own use in the preparation of materials for teaching and learning activities; the need to facilitate the direct use of ICT in students' learning activities within the classroom situation; and the need for teachers to develop in their students a critical awareness of ICT applications and the social implications as emphasized by (Robbin, 2018). Similarly, Marija& Palmira (2017) classified ICT competencies into two: basic and educational ICT competence.

These competences are further elaborated in the ICT competency standards for teachers developed by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2018) highlighted that Based on these documents, the information and communication technology competency is comprehensive than mere focus on ICT skills. Rather, it is a comprehensive approach to education reform in six broad areas of policy, curriculum and assessment, pedagogy, the use of technology, school organization and administration, and teacher professional development. The UNESCO (2018) standards for teachers are meant to improve teachers' practice in using ICT in

an innovative way for teaching, collaborating with colleagues, and for school organization.

In recent years, there has been a growing emphasis on the use of technology in language learning and teaching. With the increasing availability of technological tools, many educators have started incorporating them into their classrooms. This trend has also been observed in the field of English as a Foreign Language (EFL) teaching, where teachers are constantly looking for ways to make their lessons more engaging and effective.

The study conducted by Mathew and Alidmat (2023) sheds light on the role of resourceful English language teachers who adopt an eclectic approach in the EFL classroom. This approach involves using a variety of teaching methods and materials, including technological aids, to cater to the diverse needs of EFL students. The study was specifically conducted at the undergraduate level at Aljouf University in Saudi Arabia, where the use of technology in language learning is still relatively new.

The positive impact of using technological aids in EFL instruction was one of the study's key findings (Mathew & Alidmat, 2023). Students in the study reported feeling inspired and motivated after using technology-enhanced EFL textbooks. This is unsurprising given that technology has become an essential part of our daily lives, and students are naturally drawn to it. Teachers can tap into students' interests and make the learning process more enjoyable and interactive by incorporating technology into their lessons. The study did, however, reveal some challenges in the use of technological aids in the EFL classroom (Matthew & Alidmat, 2023). Many teachers struggle to find resources that meet the needs and abilities of their students. The study's findings indicate that using audio-visuals as a teaching method stimulates thinking and

improves the learning environment in the classroom. The use of audio-visual aids effectively replaces monotonous learning environments. When students have a successful and enjoyable learning experience in the EFL classroom, they develop and increase their personal understanding of the areas of learning. According to the findings, students find audio-visual sessions useful and relevant when they are directly related to course content. The current study will attempt to provide insights into students' performance after using audio visual aids.

Arora (2023) studied the development of students with the use of audio-visual aids with complete virtual learning and their impact. The researcher compared the use of traditional method with the modern teaching methodology where the impact and use of audio-visual aids learning on the student of Indore at university level, an objective type questionnaire was developed to collect the data. A sample size of 30 students was taken and the questionnaire was made to fill by them. It was concluded that there is a great impact of audio-visual aids in the teaching-learning process in Indore.

According to the students, they find this method of teaching very effective. They said that if the topic shown to them are all related to their curriculum and gives them additional knowledge then they get more attracted towards this technology. It motivates students to attend lectures, as they are very curious to see or hear what the teacher is going to show them in the upcoming class. (Rogers.et.al., 2018). They say by seeing animated effects, colorful presentation and hearing recording they are able to concentrate more in class. This is very significant to the study because it will be able to test the achievement of the students in abide of proving these findings.

Further it was found by Graviferkr et al., (2014) that it develops a strong bonding between students and teacher and students open up with their queries and those who

used to hesitate to ask a question they do not feel shy now. Thus, it makes an interactive learning and makes the teaching-learning process more effective. Students also say that text-books are knowledgeable but if they need updated knowledge then they refer to presentation and videos shown them in class and they also said that it saves their time from copying notes from the board and thus increasing more of communication in class.

The integration of ICT in classroom is getting more important as it help student in enhancing their collaborative learning skills as well as developing transversal skills that stimulates social skills, problem solving, self-reliance, responsibility and the capacity for reflection and initiative. All these elements are core values that students need to achieve in an active teaching and learning environment (Ghavifekr et al., 2014). Similarly, in Malaysia the government has implemented the integration of ICT in learning and teaching process in early 1970's. This is due to the importance of technology literate which produce critical thinking workforce to face and involve the country in the global economy

Hamidi (2021) highlighted that many schools were upgraded with computer's lab, the internet connection, smart white boards, LCD and other ICT tools and equipment. Despite all these, the problem faced was the teachers' skill and aptitude, technical support and stability of the system in order to implement the policy successfully. However, the government is still improving and upgrading the systems to be fully utilizing by ICT. As a developing country, exploration of the factors that affecting Malaysian teachers' ICT usage in schools can help to increase the integration of ICT in country's teaching and learning process.

The Ministry of Education launched a comprehensive review of the education system in Malaysia in October 2011. In order to raise the education standards, government

developed a new national education blueprint; the latest one is the Education Blueprint 2013-2025. This blueprint provides the plan for the sustainable educational transformation of the Malaysia education system until 2025 (Ministry of Education, 2012). This document also includes the plan to raise the role of ICT in the whole education system. In order to complete the transformation mission, Blueprint proposed 11 strategic and operational shifts. ICT has been mentioned on the 7th shift, which requires scaling up quality learning in Malaysia by providing internet access and virtual learning environment via 1BestariNet for all schools in Malaysia by 2023 (Ministry of Education, 2022). It ensures possibilities of maximizing the implementation of ICT for self-guided learning, this is very significant information though the study simply because video is one of the forms of ICT.

However, globally, there is debate that majority of high school graduates cannot speak English language properly according to (Alonzo, 2014; Sarwar, et al., 2014; Alharbi, 2015). They highlighted that even the bright students who get high scores in written examinations are unable to express themselves orally in English language. In Kenya, students lack communicative and linguistic competence and often code switch to use Sheng, Kiswahili and English languages during conversation or in group discussions in class as per (Abenga, 2015; Gudu, 2020). This contributed to the study at hand because most of the Kiswahili students are not able to express themselves well by using Kiswahili. Research done in Kenya by Mwamba (2015) found out that many students in secondary schools were shy and preferred remaining quiet in class because they were unable to express themselves properly in spoken English. This observation is consistent with that of Richards (2020) who found that learners who have no linguistic competence often speak slowly, take too long to compose utterances, do not participate actively in conversation, their spoken English language do not sound natural, have poor

grammar and pronunciation which was very significant to the study at hand since it guides in examining whether the students have fluency in speaking Kiswahili.

Similar observation was made by Alharbi (2015) in Saudi Arabia where learners have low oral skills due to absence of authentic language learning situations outside and inside classroom. According to the author, there are several factors that influence learning of speaking skills for instance use of mother tongue outside and inside classroom environment, low status of English in a country, learners' negative attitude towards English language, use of mother tongue by teachers to explain difficult concept, use of teacher-centered methodology and passiveness of learners in classroom (Ibid) This was very pivotal to the study since it elaborates more on the confidence and the authenticity of the learners when the educational video is used as a media during teaching and learning process. Alharbi (2015) added that these factors influence successful speaking skills lessons. The problem of low communicative and linguistic competence from secondary school is carried to the university where it has also been observed that some of the first-year students in Kenyan universities are not able to sustain class discussions in English language without code switching or making grammatical mistakes (Barasa, 2015). This is a serious problem which could affect the students learning of other subjects and long-term professional career development.

Video-assisted learning is a growing strategic teaching approach in many modern classrooms. Educational videos are now more accessible than ever and teachers are increasingly making use of this readily available resource. But with increased screen time comes increased controversy and debate. While videos are great for things like social-emotional learning, cognitive ability, and inclusivity, if not properly utilized in the appropriate setting, videos will not be used to their full potential and can even hinder academic performance as per (Arora,2016)

However, Chao (2021) noted that Video-assisted learning at its core is simply the integration of videos into lessons. But as technology has advanced, so too have the dynamics between student and teacher evolved. Students do not simply strive to land a job where they sit quietly and obey. Educators aim for them to become innovators and creators, to argue and question the things around them, and to grow up to be better, well-rounded, happy individuals.

On the otherhand, Angelini (2021) added that videos, television, and movies are nothing new, but optimizing them for learning is relatively new. Videos can help students perform better not just academically but also emotionally and socially. Videos can provide students with a completely new world, even if the scope is still quite limited. Knowing how to implement successful video-assisted learning is not especially challenging, but it is important to be well informed in regards to both the benefits and disadvantages of screen time so that you can make the best choice for your students.

But according to Dahar (2017) he puts it clear that video-assisted learning (VAL) is defined as a strategic teaching approach to using videos – either educational or conceptual – to improve a student's comprehension, cognitive ability, or social-emotional skills. What that means is that videos are more than just a way to pass time or provide additional information on a specific learning objective. Video-assisted learning takes videos and transforms them into an important part of both general education and student wellbeing.

This was emphasized by Joann (2022) by saying whether they are short, targeted clips or television programs; videos are proven to benefit different aspects of a student's development and educational progress. How this impacts the student depends on the type of videos used and the practices you wish to employ. Video-assisted learning is

not ideal for isolated use but should rather be an addition to the already existing curriculum or individualized education plans (IEP).

This is because videos – educational, conceptual, or entertaining – can have negative consequences for student progress if not managed properly. This article will help you identify which video type is best for your students as well as how to manage and prevent common negative side effects associated with screen time and skewed or inappropriate content as per (Hamidi, 2021)

Due to technological advancements, in particular, the ease of recording and producing instructional videos, college faculty are finding the process of creating their own material to be one option to diversify their teaching. In fact, universities and colleges around the nation have moved their video educational content to external hosting services such as YouTube (Gilroy, 2020). When we consider the plethora of available tools, faculty's engagement in instructional video development and dissemination, and the ability for students to independently locate and learn from millions of available video resources, it becomes essential to study how to engage students with video content.

The literature on the use of videos for teaching and learning in the past decade is lengthy and covers a variety of topics. These topics include the effects of video quality on student engagement (Guo et al., 2014), benefits of using videos in higher education (Vieira et al., 2014), students' attitudes toward instructional videos (Kelly et al., 2019), and use of videos in a variety of teaching modalities such as blended or flipped classrooms (Bishop and Verleger, 2023). The present paper discusses student performance and engagement with instructional videos when the nature of the content is mathematical, analytical, and science oriented.

Moreover, it is an excellent device to increase teacher's desire to change their practice, and most teachers declare that it is beneficial for reflecting on their job, particularly in self-assessment processes (Tripp & Rich 2022). The assumption is that teachers' understanding and improvement of their practice are processes that develop during all their professional career. Hardly there is a moment where a teacher may state that s/he has reached a level of expert, where learning or improvement is no longer needed. As Levin (2023) states, after studying longitudinally the career of teacher, they need ongoing support to develop pedagogical understanding, and to remain in the classroom; they need opportunities that encourage and allow them to continue to be learners, and they need to be reflective (think metacognitively) if they are to continue to improve their practice.

Why may video lessons be instrumental in improving teaching? Because they may become mirrors of the teacher's practice and think metacognitively on teaching. To improve the quality of teaching, it requires to identify pedagogical weaknesses. However, what could be classified as a teaching weakness is not evident for everyone. Video recordings are devices that may appropriately identify what teaching strategies should be improved (Star & Strickland, 2018; Baecher & Kung, 2021). Knight (2014) considers that teachers need to be involved in a pre-contemplating stage as the first step for improvement. He asserts that videos have the power to move teachers from what he identifies as a "pre-contemplating" stage because most of them do not have a clue on how their performance looks like. When they watch themselves teaching the most common reaction is one of surprise.

Followed by one of searching to look better, then they try to identify problems and options to improve. Watching videos regarding their own or other performances empower teachers to overcome barriers that impede becoming aware of the problems

on their teaching performance. Among these barriers is the complexity of teaching, habituation or confirmation bias.

Educational statistics and worldwide media have reported a clear gender gap in academic achievement between males and females with boys lagging behind girls in terms of subject grades, secondary school graduation, and tertiary level enrollment and completion. Researchers Majzub and Rais (2020) argue that male underachievement is a topic of critical importance both in Malaysia and around the world. In their research, they found that girls were outperforming boys in almost all subject domains whether they were science or non-science majors. Majzub and Rais also pointed out that the situation worsened as students progressed through the different levels of education with eventual tertiary level matriculation reflecting a 65–35% enrollment of females relative to males.

Hartley and Sutton (2023) examined the issue of stereotype threat as it related to male underachievement and found that children as young as 4 years old thought that adults believed that males were academically inferior to girls. Additionally, this study also revealed that young children were also vulnerable to stereotype threat manipulation where boys performed worse in writing, reading and arithmetic when they were told that they usually performed worse than females. Conversely, Harley and Sutton also found that young male students showed improvement when they were told that they performed just as well as girls academically.

With reference to the Caribbean region, Caribbean Examination Council examination results reveal a very clear picture of male underachievement. The 2020 academic performance report for Caribbean Secondary Examination certificate (CSEC), which marks the end of compulsory education schooling, revealed that 64% of candidates

were female. Further, Cobbett and Younger (2022) posit that the results themselves revealed significant gender differentials with 44% of females recording the highest grades of 1 or 2 compared with 33% of males. Grades 1 and 2 are awarded to those candidates who demonstrate a comprehensive grasp of the main concepts, content knowledge and relevant competencies of any particular subject domain.

And while these researchers argued that boys barely out-performed girls in math by a percentage point or two and that science grades reflected the semblance of gender parity, the overall picture reflected a very different story. Across all subject areas in the Caribbean region, Cobbett and Younger found that approximately 135,000 girls attained grades 1 and 2 compared with about 75,000 boys; a considerable disparity if one considers that the numbers at the beginning of secondary school were near equal.

Further, Common Entrance Examination (CEE) results from the Eastern Caribbean states reveal that 79% of girls compared to 66% of boys achieved the pass level at the end of primary school. Then, at CSEC English A (English Language) examinations, girls in the Eastern Caribbean achieved a 69% pass rate compared to 63% for boys (De Lisle, 2015).

In the context of Trinidad and Tobago, Cobbett and Younger (2022) cite De Lisle, Smith, and Jules' (2020) report that Trinidad and Tobago's student participation in the 2016 Progress in International Reading Literacy Survey (PIRLS) which revealed that the country ranked third in the magnitude of the gender gap disparity. In fact, the report found that there was a significant reading gap of 31 points between males and females with females outperforming males.

This difference was also much larger than the international mean of about 17 points (Cobbett & Younger, Citation2022). De Lisle (Citation2015) advanced that male

students were almost a whole grade and a half behind females in terms of reading ability as reported in the findings of the 2019 PISA test. Additionally, Jackman (Citation2015) argued that Trinidad and Tobago's CSEC results for the period 2015–2020 also reflected the same achievement gap favoring females over males in several subject areas. These subjects included English A (English Language) as well as traditionally male-dominated areas such as Building Technology and Technical Drawing. Jackman also revealed that the 2014 male-female scholarship achievements in the area of science at the Caribbean Advance Level Proficiency Examinations (CAPE) reflected the same gender disparity in achievement.

More specifically, according to the Ministry of Education records of the award of scholarships reported in the local press, females achieved 66% of the premier *open scholarships* (tenable at any international university) and 62% of additional scholarships (tenable at local and regional institutions). These findings reveal that in each circumstance females gained twice as many scholarships as their male counterparts - a continuation of the pattern of performance from CSEC examinations at least two years earlier Jackman, (2015). Regarding the underachievement of males, many researchers have advanced reasons that are well-established in the literature; these reasons are explored below. For the purpose of this study, the reasons for male underachievement have been categorized as personal, school-related and teaching–learning factors.

Cobbett and Younger (2022) suggest that mindsets which feature masculine dominance promote academic disengagement among boys and risk behaviors that lead to school discipline like suspension. In fact, Monceaux and Jewell (2017) advise that there is a belief among boys that maleness means toughness, rebellion and sportiness but not

intellectual prowess so much so that anti-academic peer pressure and harassment are regular occurrences.

Other researchers advance a maturational hypothesis as a reason for the gender differences in achievement where boys develop more slowly than girls and, therefore, lag behind in terms of literacy and other basic competencies for academic success (Majzub & Rais, 2020). Husband (2022) argues that recent neuroscience research gives credence to biological bases for the neurological differences in the ways that girls and boys learn or for gendered learning styles (Hodgetts, 2020). Research also identified low educational utility beliefs combined with low value for religious experiences as positively related to a higher risk of low grades among boys of African American heritage as well as young males in the Caribbean region (ButlerBarnes, Williams, & Chavous, 2022; Plummer, 2023).

Schools play a crucial role in shaping the academic and career paths of students. However, it is important to recognize that not all students thrive in the same learning environment. This is especially true for boys who may struggle academically and prefer more hands-on, practical subjects over theoretical ones. (Mazjub & Rais, 2020). In schools where the curriculum is rigid and does not cater to the individual needs of students, many boys may become disengaged or drop out altogether in search of work opportunities. This not only affects their academic performance but also their overall well-being and future prospects.

It is therefore essential for schools to consider the needs of boys and provide them with a supportive and inclusive learning environment. This includes creating a school climate that values and accepts boys, regardless of their academic abilities. According to research, the academic performance of both male and female students is greatly

influenced by a positive school climate (Mazjub & Rais, 2020). Along with this, the physical environment of schools also plays a crucial role in students' academic success. Providing a conducive learning environment with necessary resources and facilities can significantly enhance the learning experience for boys. This can be achieved by offering hands-on learning opportunities, like vocational subjects, that cater to their interests and strengths. Additionally, schools should strive to create a sense of belonging and support for boys through mentorship programs, peer support groups, and extracurricular activities. When boys feel a sense of belonging and support in their school, they tend to be more attentive (Mazjub et. al., 2020).

In terms of pedagogy, some researchers have advanced the feminization of school and a curriculum is inimical to the academic advancement of males (Joseph, Ramsook, & Simonette, 2016). Some researchers also recommend the need for a re-articulation of curricula to reflect boy-friendly relevance and pedagogy or a recuperative masculinity agenda (Bailey, 2024; Cobbett & Younger, 2022). Others have emphasized the absence of male role models in the school system as a critical factor leading to male underachievement (Joseph, 2016; Mazjub & Rais 2020). While these arguments seem plausible, recent research data from the Trends in Mathematics and Science Study (TIMSS) on teacher-student gender matching across 15 OECD countries do not support gender-matching as a means of improving male underachievement (Cho, 2022). Assessment is a critical part of the teaching–learning process, and some researchers believe that the exam orientation of schools disadvantage boys who dislike mugging facts (Mazjub & Rais, 2020).

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

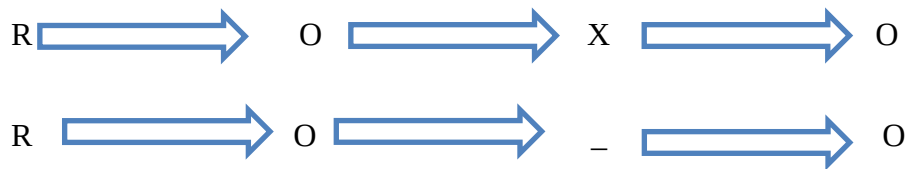
3.0 Introduction

This chapter focuses on procedures that were followed in conducting the study; it includes the research methodology, the research design, the paradigm, the technique, the study population, the sampling procedures, the research instrument, the validity and reliability of the research instrument and the procedure of data collection and analysis.

3.1 Research Method, Paradigm and Research Design

This research embraced Quantitative research which is termed as a traditional positivist, the experimental or the empiricists' paradigm using a quasi-experimental research design which had manipulation of groups, control group which did not receive experimental treatment, their performance provided a baseline against which the effect of the treatment was measured and the randomization where the researcher as per Creswel (2023).assigned study participants to control or experimental groups randomly. It was an intact group pre-test – post-test control design which involved a group of students in the experimental group and those in the control group. The experimental groups were exposed to the special treatment using Audio-visual and the control groups were exposed to the conventional technique without Audio-visual namely textbook-based as the teacher usually does.

Paradigm for Design thus:



Where R, represents random assessment.

O refers to the same process of observations or measurement.

X represents the group's exposure to the experimental treatment (Audio-visual).

Spearman Rank Co-relation was used to determine the degree to which each student rank in one set of scores tent to be correlated with a rank on another set of scores. The formula used is;

$$r = \frac{1 - 6 \sum D^2}{n(n^2 - 1)}$$

Where: r =Spearman's Rank co-relation coefficient

D =Difference between ranks of corresponding scores

n =Number of cases or pairs

Spearman rank correlation takes all values from -1 to +1

The research involved the independent variable and the dependent variable. The independent variable was the treatment consisting of two levels, the treatment with Audio-visual in the experimental group and the treatment with the conventional technique in the control group, and the dependent variable was the students' Oral skill. The table below shows the design of the research.

Table 3.1: The Design of the Research

Group	Independent variable	Dependent variable
Experimental group	Audio-visual technique	Students' Oral ability
Control group	Conventional technique	Students' Oral ability

Two- tailed t-test (Parametric statistics) was used to test the significant difference in means between the groups (boys and girls). The formula used;

$$t = \frac{x_1 - x_2}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}}$$

$$\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}$$

$$\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}$$

Where: N1 and N2 = number of cases in group 1 and 2

S1 and S2 = Standard diffension of 1 and 2

-X1 and X2 = Mean score of group 1 and 2

Dependent group will use the following formula;

$$T = \frac{\sum D}{\sqrt{\frac{N \sum D^2 - (\sum D)^2}{N-1}}}$$

$$\sqrt{\frac{N \sum D^2 - (\sum D)^2}{N-1}}$$

$$N-1$$

Where; D = difference of mean

N = number of corresponding pairs

3.2 Research Population and Sample

A population is a crucial concept in statistical analysis as it presents the entire group of individuals, objects, or events that are of interest to a researcher. It is the group from which conclusions are drawn, and it is essential to have a clear understanding of the population in order to accurately interpret the results of a study. The sample, on the other hand, is a subset of the population that is selected for data collection. It is a smaller group that is representative of the entire population and is used to make inferences about the population.

The process of selecting a sample is known as sampling, and it is a critical step in the research process. The size of the sample is an important consideration in any study. In most cases, the sample size is much smaller than the population size. This is because it is not feasible or practical to collect data from every single member of the population. Instead, researchers use statistical techniques to select a representative sample that can provide accurate information about the population.

According to Creswel (2023). The size of the sample is determined by several factors, including the research question, the level of precision required, and the available resources. A larger sample size is generally preferred as it reduces the margin of error and increases the generalizability of the findings. A smaller sample size can also be sufficient if it is carefully selected and is representative of the population. It is worth noting that the relationship between the sample size and the population size is not always straightforward. In some cases, a larger population may be required.

The population of this research included the form two students of Turkana County secondary schools. The researcher took two classes in each school as the sample of the research. The research used the cluster random technique; it is the sample selection in

which all members of the population are naturally grouped in units as per (Andrew F. 2022). The researcher used random selection to determine which class were an experimental group and the control group.

Each class consists of different numbers of students as showed below:

Table 3.2 The Number of Student

Schools	Frequency	Percentage
Mixed	160	28.02
Boys	201	35.20
Girls	210	36.78
Total	571	100

The experimental group was given the Audio-visuals in their Oral activities. The researcher made lesson plans and some activities for every meeting based on the school-based curriculum. The control groups were given the same materials but without using Audio-visual in their oral activities. The students read from the book and the teacher gave short explanation as showed below:

Table 3.3 The Distribution of the Treatment

Group	School/ Class	Treatment	No. of Students
Experimental	A,B,C,D,E,F,G,H,J,K,L,M	Audio-visual	571
Control	A,B,C,D,E,F,G,H,J,K,L,M	Conventional	571

3.3 Research Instruments

A research instrument is a tool for collecting and analysing data in research. The study was a Quasi-Experimental which had manipulation of groups, control group which did not received experimental treatment, their performance provided a baseline against which the effect of the treatment was measured and the randomization where the researcher assigned study participants to control or experimental groups randomly, and the instruments used in collecting the data were a Pre-Test and a Post-Test. The collected data was the scores obtained from the Pre-test and the Post-test of both the control group and the experimental group.

The scores from the pre-test were used to justify the oral ability of both classes before the treatment. On the other hand, the scores from the Post-test were used to measure whether the implemented method affects the experimental group or not. In this research study, the Oral test served as the research instrument. The Oral tests were held twice, in the Pre-test and the Post-test. It was used to reveal the significant difference in the Oral ability between the students of Turkana County secondary schools who were taught by using Audio-visual and those who did not use Audio-visual.

In formulating the test instrument, the points which were considered was the relevance of the test instruments to the purpose of the study, and the relevance of the test instruments to the curriculum. The test intended to measure students' oral ability before and after the treatment. The oral tests were made based on the Secondary school curriculum for the form two. The syllabus for the form two students in the Oral skill aspect was taken as the considerations in formulating test instruments which is further described in Appendix A. In making the test, the researcher took some sources from some Kiswahili books and the internet. The test was given twice. The first test was used

to gain the pre-test score before the treatment and the second was used to gain the post-test score after the treatment.

3.4 The Validity and the Reliability of the Instrument

Reliability is about the consistency of a measure, and validity is about the accuracy of a measure. opt. Andrew F. (2022) Said that an instrument is considered valid if it is able to test what should be tested. It can explain the data from the variables which are accurately researched. A valid instrument refers to the extent to which an instrument measures what is supposed to measure. A validity criterion that was used in this study was content validity and construct validity.

3.4.1 Content Validity

Validity is a measure of the degree to which a research instrument measures what it is meant to measure. In determining the content validity of the instruments, care was taken to ensure that all items covered all the issues under investigation. The oral validity test employed content validity. According to (Wiersma 2019), content validity is the process of how the test establishes the representativeness of the items in a certain domain of skills, tasks, knowledge, and other aspects that are being measured. It means the tests were developed in reference to the Standard of Competence and Basic Competence of form two Kiswahili learners so that it may be valid to the selected group.

3.4.1.1 Construct Validity

To ensure construct validity, the clarity of the items and level of language was checked. This was done through piloting of the instruments and thereafter consultations with the researcher's course supervisors. In developing the learners test the six levels in the cognitive domain were considered; psychomotor domain which focuses on development of skills and affective domains were also considered (Andrew, 2022).

State that constructs validity refers to theoretical construct trait being measured, but not to the technical construction of the test. This validity was used to examine whether the test has a consistent representation with theories underlying the material given or not.

3.4.2 Reliability of Test Instruments

After having tested the validity of the instrument, the next step was to examine the reliability. A test is considered reliable if the same test is given to the same subjects or matched subjects in two different occasions, the test should yield similar result added that reliability is the consistency of the instrument in measuring whatever it measures. It means that if the instrument has a consistent result in the second chances or more, the instrument is reliable.

Therefore, Reliability means dependability or consistency (Neuman, 2017) suggested that the same thing is repeated under the identical or very similar conditions. It means that the numerical results produced by an indicator do not vary because of characteristics of the measurement process or measurement instrument itself. In this study the reliability was established through a Pilot process which was carried out in two public County secondary schools in West Pokot County. Crown Batch Alpha coefficient was used to establish reliability of the instruments.

Creswel, 2023 a coefficient level of at least 0.7 is considered to be a good measure. The calculations were done using a computer program SPSS and on the basis of the results of the pilot study the data collection instruments were dully modified to attain this level before being used for data collection in the main study.

3.5 Ethical Consideration

In research, ethical consideration is an important principle to which researchers must adhere so as to maintain scientific integrity, uphold research validity, and protect the

rights of participants in research study (Kessio and Chang'ach, 2020). The principle not only ensures that participants take part in the study voluntarily, but also guarantees they are informed and safe for the research subject.

The researcher sort permission from the Ministry of higher education, science and technology, the office of the CEO Turkana County and the University before conducting the research. The researcher visited the selected secondary schools to request the Head teachers to allow her carry out a study in their schools. With permission from the head teachers, the researcher then proceeded to consult with the Kiswahili teachers and heads of Kiswahili department and discussed the details of the research. Convenient days were agreed upon during which data were to be collected. The researcher established a rapport with the teachers and students of the sampled classrooms. This was done by visiting the schools again before the main data collection exercise during which explanations was made to the teachers concerning the purpose of the study and what was entailed. This was done so as to create a relaxed atmosphere during the exercise.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, INTERPRETATION AND DISCUSSION

4.0 Introduction

This chapter presents data analysis, presentation, interpretation, and the Discussion of the effects of video usage in teaching Kiswahili Oral skills among students in public secondary schools. The demographic data and profile of the respondents precedes the analysis of data. Data analysis and research findings were guided by the stated research objectives. Two hypotheses were formulated, tested and analyzed. The results were then presented in table form. The final conclusion about the hypothesis was made, either to reject or fail to reject. The significance level adopted for this research was ($\alpha=0.05$ level).

4.1 Demographic Information

Demographics are an essential aspect of understanding a population, as they provide valuable insights into the characteristics and behaviors of a particular group. In the context of this study, the demographics of the 571 students were carefully examined to gain a deeper understanding of the impact of gender and school type on academic performance.

The students were categorized into two groups: a control group and an experimental cohort. This division allowed for a comparison of the effects of different factors on academic performance. The control group consisted of students from four boys' schools, four girls' schools, and four mixed schools, while the experimental cohort comprised students from the same schools but with a different approach to learning.

The demographics of the participants were diverse, with students from different age groups and genders. The majority of the students were in the age range of 14-16 years, with a small percentage falling below or above this range. This age group is considered crucial as it encompasses the high school years, where students undergo significant physical, emotional, and cognitive changes.

In terms of gender, according to the study, the number of students in girls' schools who were selected formed the highest sample with 36.78%, followed by students in boys' school (35.20%) and lastly students in mixed school (28.02%).

Table 4.1: Units of Analysis

Schools	Frequency	Percentage
Mixed	160	28.02
Boys	201	35.20
Girls	210	36.78
Total	571	100

4.2 Tests of Analysis Requirements

In order to determine if two numbers are significantly different, a statistical test must be conducted to provide evidence. Researchers must collect statistical evidence to make a claim, and this is done by conducting a test of statistical significance which is Normality Tests.

4.2.1 Normality Tests

In statistics, normality tests are used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed. The collected data follows a normal distribution,

which is essential for parametric assumption. Most statistical programs basically support the normality test, but the results only include P values.

In addition to the normality test and probability plot, there are other methods that can be used to determine the normality of a data set. One such method is the Kolmogorov-Smirnov test, which compares the cumulative distribution function of the data to the theoretical normal distribution. Another method is the Shapiro-Wilk test, which uses a similar approach but is more powerful for smaller sample sizes. Furthermore, the results of the normality test and probability plot can also be used to identify any outliers in the data. Outliers are data points that fall significantly outside of the expected range and can greatly affect the results of statistical analyses. By identifying and removing outliers, the normality of the data can be better assessed and the accuracy of the results can be improved. It is important to note that the interpretation of the normality test and probability plot results should also consider the sample size. With larger sample sizes, even small deviations from normality may be statistically significant. On the other hand, highlighted that, with smaller sample sizes, the test may not have enough power to detect deviations from normality. In some cases, the data may not follow a perfect normal distribution, but may still be considered approximately normal. In these situations, transformations can be applied to the data to make it more normally distributed. Common transformations include logarithmic, square root, and inverse transformations. It is worth mentioning that the normality assumption is not always necessary for statistical analyses. There are alternative methods and models that can be used. In addition to the Shapiro-Wilk normality test, other tests such as the Kolmogorov-Smirnov test and the Anderson-Darling test can also be used to test for normality, however, the Shapiro-Wilk test is preferred in many cases due to its ability to handle repeated and tied observations.

Normality tests are important in statistical analysis as they help determine the appropriate statistical methods to use. If a data set is normally distributed, parametric tests can be used, such as t-tests and ANOVA. On the other hand, if the data is not normally distributed, non-parametric tests like the Mann-Whitney U test or Kruskal-Wallis test should be used. It is important to note that normality tests do not prove that a data set is normally distributed, but rather they provide evidence for or against the normality assumption.

In cases where the $P < 0.05$ the data is considered to be significantly different from a normal distribution. However, this does not necessarily mean that the data cannot be analyzed using parametric tests, as the assumption of normality can sometimes be relaxed, furthermore, it is worth mentioning that normality tests are sensitive to sample size. With larger sample sizes, even minor deviations from normality can result in a significant result, while with smaller sample sizes, the test may fail to detect non-normality. Therefore, it is important to consider the sample size when interpreting the results.

Normality test was performed to find out if the distribution of our data was a normal distribution. This research utilized the Shapiro-Wilk normality test to test for the normality assumption. Shapiro-Wilk normality test was used because it allows for repeated and tied observations. The Shapiro-Wilk test is a normality test that checks whether a given data set is normally distributed or not. Normal distribution, also known as the Gaussian distribution, is a probability distribution that is symmetrical around the mean, with the majority of the values falling within one standard deviation of the mean. If a data set follows a normal distribution, it is said to be normally distributed. The Shapiro-Wilk test compares the observed data set to the expected normal distribution to determine if the data set is normally distributed or not.

The results of the Shapiro-Wilk normality test are tabulated below for both the Control and experimental group. If the results of the test showed a p-value, $p \geq 0.05$ then the data is from a normal distribution.

Table 4.2: Test of normality

Data Source	Test Statistic W	P-Value
Pre-Control	0.9915	0.0023
Post-Control	0.9889	0.0003
Pre-Experimental	0.9876	9.0E-5
Post-Experimental	0.9510	7.8E-13

From Table 4.2 the p-values for the four sets of data are all less than 0.05, as tabulated in the table. It does therefore conclude that the data violates the normality assumption and is therefore not normally distributed.

4.2.2 Test of homogeneity of variance.

In an ANOVA, one assumption is the homogeneity of variance (HOV) assumption. That is, in an ANOVA assuming that treatment variances are equal: $H_0 : \sigma^2_1 = \sigma^2_2 = \dots = \sigma^2_a$. Moderate deviations from the assumption of equal variances do not seriously affect the results in the ANOVA. ANOVA is robust to small deviations from the HOV assumption. The concern is about large deviations from the HOV assumption. Evidence of a large heterogeneity of variance problem is easy to detect in residual plots. Residual plots also provide information about patterns among the variance. We performed a hypothesis test to validate the HOV assumption. Considering three common HOV tests: Bartlett's Test, Levene's Test, and the Brown-Forsythe Test. These tests are not powerful for detecting small or moderate differences in variances.

This is okay because the concern was about large deviations from the HOV assumption. Andrew F. (2022). Ensuring accurate results in ANOVA by understanding the importance of the homogeneity of variance assumption. While small deviations have minimal impact, large deviations can significantly affect the findings so that it didn't risk inaccurate conclusions - easily detect heterogeneity of variance with residual plots. And for added assurance, one of the three common HOV tests was considered (Bartlett's Test, Levene's Test, and the Brown-Forsythe Test). So that it can not let unequal variances undermine the research trust in the power of the ANOVA to handle large deviations.

The homogeneity test is an essential tool in statistical analysis, used to determine whether the sample variance is consistent across different groups. This test is particularly important when conducting an analysis of variance (ANOVA) as it ensures that the results are valid and reliable. Levene's Test is one of the commonly used methods for assessing the homogeneity of variances. It is a one-way ANOVA that compares the absolute deviation of each score from the mean for each group.

Levene's Test was first introduced by Howard Levene in 1960 and has since become a popular choice for testing homogeneity of variances. The test is based on the assumption that if the variances are homogeneous, the absolute deviations from the mean will be similar across all groups. This means that the test compares the variability within each group to determine if there are significant differences in the variances.

One of the advantages of Levene's Test is its robustness. This means that the test is not affected by outliers or non-normality in the data. This is because the test is based on the absolute deviations rather than the actual values, making it more resistant to extreme values. This makes it a reliable choice for assessing the homogeneity of variances in a

wide range of distributions. To perform Levene's Test, the first step is to calculate the absolute deviation for each observation. This is done by taking the absolute difference between each observation and the group mean.

The test was used to find out whether or not the sample variance was homogeneous. The homogeneity test was intended to test the equality of variance-covariance matrix of the dependent variable of this study. One test for assessing whether variances are homogeneous is Levene's Test, which is simply one-way analysis of variance on the absolute deviation of each score from the mean for the group. If the value of significance (probability) on the Levene's Test is greater than 0.05, then the variance in variables is homogeneous. The assumption of homogenous/equal variance across sample groups is an important part in Analysis of Variance (ANOVA) tests. Therefore, we performed the Levene test to check that the assumption is not violated. To perform Levene's Test:

We Calculate each $z_{ij} = |y_{ij} - \bar{y}_i|$. Then Run an ANOVA on the set of z_{ij} values and if $p\text{-value} \leq \alpha$, reject H_0 and conclude the variances are not all equal. Levene's Test is robust because the true significance level is very close to the nominal significance level for a large variety of distributions. It is also not sensitive to symmetric heavy-tailed distributions (such as the double exponential and student's t distributions). The results are tabulated below.

Table 4.3 Test of equality of variance

Groups	Df	F-Value	P-Value
Control	14	1.6813	0.05557
Experimental	14	1.5973	0.05562

Table 4.3 shows results of Levene tests, The F-value obtained (1.6813) from the test is less than F computed (3.986,=0.05) and the P-values are all less than 0.05. It is therefore concluded that the equality of variance assumption was not violated.

4.2.3 Descriptive Statistics

Descriptive statistics summarize and organize characteristics of a data set. A data set is a collection of responses or observations from a sample or entire population. In quantitative research, after collecting data, the first step of statistical analysis is to describe characteristics of the responses, such as the average of one variable like age or the relation between two variables.

The use of descriptive analysis is a crucial tool in research, as it allows for a deeper understanding of the data and its implications. In this particular study, the focus was on examining the impact of utilizing videos on students' speaking abilities. By utilizing statistics such as the mean and standard deviation, the researchers were able to gain valuable insights into the effectiveness of this method.

The mean, or average score, was a key component in the analysis. It provided a clear indication of the overall performance of the subjects in the study. This average score served as a benchmark for comparison, allowing the researchers to determine whether the use of videos had a positive or negative effect on the students' oral skills.

The standard deviation, on the other hand, played a crucial role in understanding the variability of the scores. It provided a measure of how much the scores deviated from the mean. A larger standard deviation indicated a greater degree of variability, while a smaller standard deviation suggested a more consistent performance among the subjects.

By considering both the mean and standard deviation, the researcher was able to gain a comprehensive understanding of the data. This allowed the researcher to draw meaningful conclusions about the effectiveness of using videos to improve students' oral skills. The results showed that there was a significant improvement in oral abilities among the students who were exposed to video-based instruction.

The researcher found that incorporating Audio-visual into the classroom not only improved students' oral skills, but also had a significant impact on their critical thinking abilities. By watching videos, students were able to analyze and interpret information presented in a visual format, leading to a deeper understanding of the subject matter. This not only improved their academic performance, but also fostered a sense of curiosity and motivation towards learning.

In addition, the use of Audio-visual allowed for a more dynamic and interactive learning experience. Students were able to actively engage with the material by pausing, rewinding, and discussing the Audio-visual with their peers.

These not only promoted collaborative learning, but also provided a platform for students to voice their opinions and ask questions, further enhancing their understanding of the topic.

The incorporation of videos in the classroom also catered to different learning styles. While some students may excel in traditional lecture-style teaching, others may benefit more from visual and auditory learning. By incorporating Audio-visual, teachers are able to cater to the diverse needs of their students, creating a more inclusive and effective learning environment. Moreover, the use of Audio-visual in teaching has also been found to increase students' retention of information. The combination of visual and auditory stimuli has been proven to be more memorable and engaging than

traditional teaching methods. This not only benefits students in the short term, but also in the long term as they are able to retain and apply the knowledge gained from the videos in future academic or real-world situations.

4.2.4 Comparison of ability of learners in the different schools before the videos

Academic Achievement Scores of Students in public County Secondary School in North rift rigeon for the Period 2018 to 2022

Table 4.4 Comparison of ability of learners in the different schools before the videos

Year	2018	2019	2020	2021	2022
Pass %	41.50	41.79	44.02	47.69	48.68
Fail %	58.50	58.21	55.98	52.31	48.68

Source: Schools records

The first objective of this study was to determine the ability of learners before the introduction of the videos in teaching Kiswahili oral skills. The students in both the control and experimental group were subjected to a test before the introduction of the videos. The schools were categorized as either Boys, Girls and Mixed schools. The test scores and the grades the students achieved were used as a tool to test the ability of learners before the experiment as seen below:

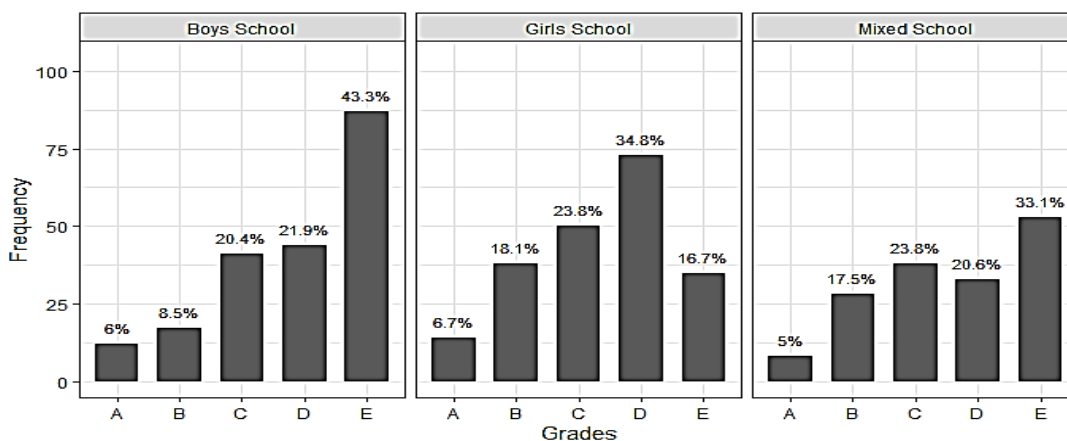


Figure. 4.1 Test scores results for the pre-test for the control group for the three types of schools

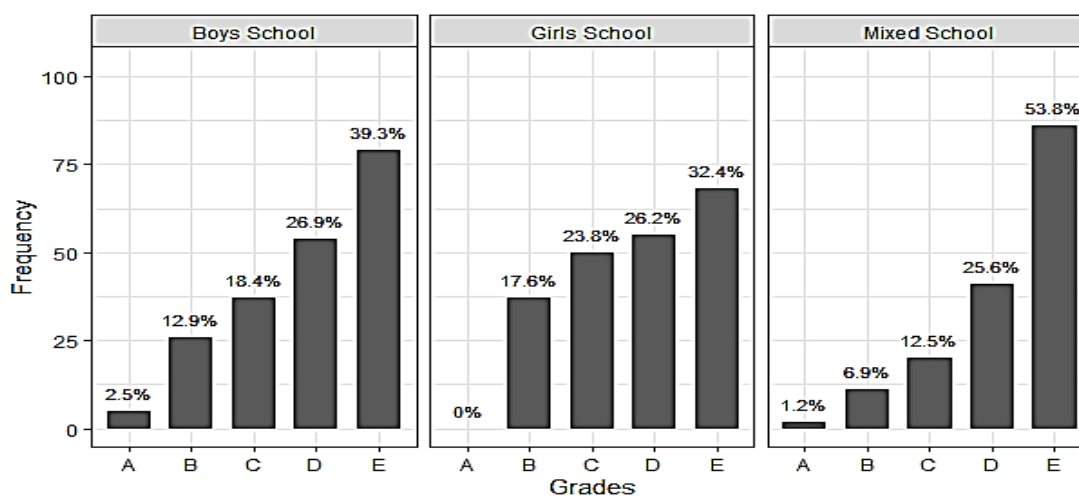


Figure 4.2 Test scores results for the pre-test for the experimental group for the three types of schools

Figure 4.1 and 4.2 illustrates the performance of learners before the use of Audio-visual and after the use of Audio-visual. The two figures also show the comparison of the performance across the three types of schools. The figures show a strong shift to the right, indicating a poor performance, also all the three schools had a lowest percentage of learners achieving grade A. and B.

The data also shows that too many students scored less than 50% in the tests. For the control group the girls had the least percentage of learners achieving grade E with a frequency of 16.7%, while the mixed schools had the highest number of poorly performed learners with almost half of the learners (53.8%) getting grade E. The boy's school performed poorly with 43.3% of the learners getting grade E for the control group. These results were supported by (Qiang et al. 2017) who claim that even if pupils merely watch a film silently, their articulatory organs work. However, it happens only if learners are completely engaged in what they watch. On the other hand (Kusainov A.K et al 2021) brought up a very important claim that the use of pre- and post-viewing activities in their project called 'The Film Circle' successfully fulfilled the role of scaffolding and motivated pupils to speak, which was the primary goal of their experiment which is proven right by the result of the study at hand by the shift of the performance from poor performance to a recommendable improvement,

The results of the pre-test showed that the students in all three types of schools had varying levels of proficiency in Kiswahili oral skills. The Girls' schools had the highest average test scores, followed by the mixed schools and then the Boys' schools. This could be attributed to the fact that girls tend to have more opportunities to practice speaking and engaging in discussions, while boys may be discouraged from participating in such activities.

The grades achieved by the students also reflected this trend, with the Girls' schools having the highest average grades, followed by the mixed schools and then the Boys' schools. This highlights the importance of creating a conducive learning environment for all students, regardless of their gender, to develop their oral skills.

4.2.5 Comparison of ability of learners in the different schools sampled

The examination marks (percentages) of students in twelve schools recorded before and after the introduction of Audio-visual (mean $\pm$ SD). The means with different small letters and asterisk (*) superscripted on them denote means that are significantly different with others ($P > 0.05$, LSD test, $n=12$).

Table 4.5: ability of learners in the different schools sampled

School	Pre-treatment	Post-treatment
Student marks in percentages (%)		
A	41 $\pm$ 17 ^{bcd**}	57 $\pm$ 17 ^{abc*}
B	42 $\pm$ 12 ^{bc*}	50 $\pm$ 20 ^{de*}
C	32 $\pm$ 10 ^{def**}	51 $\pm$ 10 ^{cde*}
D	32 $\pm$ 08 ^{def**}	65 $\pm$ 09 ^{ab*}
E	25 $\pm$ 12 ^{f**}	56 $\pm$ 13 ^{bcd*}
F	48 $\pm$ 10 ^{ab**}	60 $\pm$ 08 ^{abc*}
G	55 $\pm$ 08 ^{a**}	66 $\pm$ 06 ^{a*}
H	49 $\pm$ 05 ^{ab**}	61 $\pm$ 09 ^{abc*}
I	30 $\pm$ 20 ^{ef*}	46 $\pm$ 13 ^{ef**}
J	55 $\pm$ 10 ^{a**}	38 $\pm$ 18 ^{f*}
K	45 $\pm$ 12 ^{b*}	46 $\pm$ 20 ^{ef*}
L	34 $\pm$ 09 ^{cde**}	59 $\pm$ 13 ^{abc*}

The results from Table 4.5 clearly illustrate the impact of instructional resources on the academic performance of students. It is evident that prior to the implementation of Audio-visual, the majority of schools struggled to achieve a mean score of 50 and above. In fact, a staggering 10 schools failed to meet this benchmark; however, there

were a few outliers that stood out, namely schools G and J, which managed to surpass the mark. Interestingly, it was School D that showed the most significant improvement in their mean grade after the videos were introduced. This highlights the importance of incorporating innovative teaching methods in order to enhance student learning.

Despite the success seen in schools G, J, and D, there were still a few schools that struggled even after the implementation of Audio-visual. School K, in particular, showed a poor performance, indicating that there are other factors that can influence student learning. This is in line with (Muranga's 2016) findings, which suggest that resources and methods of instruction are just some of the many factors that can impact the amount of learning that takes place. Therefore, it is crucial for schools to not only focus on providing adequate resources, but also to consider other factors such as teacher training, curriculum design, and classroom management.

Maranga (2016) emphasizes the importance of having quality education and training, which is heavily dependent on the availability of adequate resources. This further emphasizes the need for schools to allocate sufficient resources in order to create an effective learning.

Table 4.6: Analysis of Variance Table

	Degrees of Freedom	Sum of Squares	Mean Square	F-Value	P-Value
schools	11	39007	3546	20.39	<2e-16 ***
Pre-treatment					
grades	4	16597	4149	23.86	<2e-16 ***

After conducting the Analysis of Variance (ANOVA) (see Table 4.6) on the performance of the three schools, it was found that there were significant differences in

the means of the results. This suggests that the schools may have varying levels of academic performance, which could be attributed to a number of factors such as teaching methods, resources, or student demographics.

To further investigate these differences, a Tukey test was performed to compare the means of the three schools. The results of this test showed that the mean scores for schools J, K, and E were statistically different from each other, as indicated by the different letters assigned to them. This indicates that there are significant differences in the academic performance of these three schools.

In addition to comparing the means of the three schools, the pairwise comparison of the pre-treatment and post-treatment means was also conducted for each school. This analysis revealed that schools A, C, D, E, F, G, H, J, and L showed a statistically significant difference between their pre-treatment and post-treatment results. This suggests that the introduction of learning videos had a significant impact on the academic performance of these schools.

To further examine the differences in academic performance between the schools, Table 4.6 below shows the examination marks (percentages) of students in twelve schools, both under control and treatment conditions. The means with different small letters and an asterisk (*) superscripted on them indicate that these means are significantly different from each other, as ($P > 0.05$, LSD test)

Table 4.7 Control groups before the introduction of the Audio-visual

Schools	Pre-video	
	Control	Treatment
Students marks in percentages		
A	54 ± 09 ^{ab*}	41 ± 17 ^{bcd*}
B	42 ± 22 ^{cd*}	42 ± 12 ^{bc*}
C	53 ± 09 ^{abc*}	32 ± 10 ^{def**}
D	24 ± 10 ^{e*}	32 ± 08 ^{def*}
E	45 ± 07 ^{bc*}	25 ± 12 ^{f**}
F	47 ± 14 ^{bc*}	48 ± 10 ^{ab*}
G	54 ± 08 ^{ab*}	55 ± 08 ^{a*}
H	58 ± 14 ^{a*}	49 ± 11 ^{ab*}
I	45 ± 08 ^{bc*}	30 ± 20 ^{ef*}
J	35 ± 10 ^{d**}	55 ± 10 ^{a*}
K	42 ± 22 ^{cd*}	45 ± 12 ^{b*}
L	49 ± 11 ^{abc*}	34 ± 09 ^{cde**}

The results from the pairwise comparison of schools H, J, and D have revealed a notable difference in their means. This significant difference highlights the varying performances of these schools, both before and after the introduction of the Audio-visual. Interestingly, the comparison also showed that the differences between the schools were not consistent, indicating that each school responded differently to the Audio-visual.

Further analysis of the data in Table 4.7 reveals that only three schools, C, E, and F, exhibited statistically significant differences between their pre and post video results. This suggests that the Audio-visual had a varying impact on these schools, with some schools seeing a significant improvement in their results, while others did not experience much change. This finding highlights the importance of considering

individual school contexts when implementing new teaching methods, as the same approach may not yield the same results for every school.

The mean examination marks (percentages) of students in twelve schools were recorded in the table, showcasing the effects of the Audio-visual on both control and treatment groups. The means with different small letters and asterisk (*) superscripted on them indicate significant differences between the schools ($P > 0.05$, LSD test). This statistical analysis further supports the notion that the Audio-visual had varying impacts on each school, with some schools seeing a significant improvement in their students' marks while others did not.

Table 4.8 Control and treatment after the introduction of Audio-visual

School	Post-Audio-visual	
	Control	Treatment
	Students marks in percentages (%)	
A	$44 \pm 10^{d**}$	$57 \pm 17^{abc*}$
B	$54 \pm 18^{bc*}$	$50 \pm 20^{de*}$
C	$37 \pm 08^{d**}$	$51 \pm 10^{cde*}$
D	$46 \pm 08^{cd**}$	$65 \pm 09^{ab*}$
E	$57 \pm 09^{b*}$	$56 \pm 13^{bcd*}$
F	$59 \pm 17^{b*}$	$60 \pm 08^{abc*}$
G	$44 \pm 09^{d**}$	$66 \pm 06^{a*}$
H	$59 \pm 11^{b*}$	$61 \pm 09^{abc*}$
I	$67 \pm 12^{a*}$	$46 \pm 13^{ef**}$
J	$55 \pm 14^{bc*}$	$38 \pm 18^{f**}$
K	$54 \pm 18^{bc*}$	$46 \pm 20^{ef*}$
L	$59 \pm 13^{b*}$	$59 \pm 13^{abc*}$

Results from figure 4.3 shows that there were statistically different scores for the different schools. Schools I, L, F, G are statistically different from others and that their results differ from the others. The pairwise comparison within the schools shows that

several schools had a statistically different result between the control and treatment cohort. This is to say that there was a difference from the students who used the videos and those who used the conventional ways in that those who used Audio-visual shows an improvement in their performance, this therefore supported the statement given by Mayer's theory emphasizes that the brain processes information through multiple channels, depending on how it is presented. The first channel is for visually represented material, such as pictures and videos, while the second channel is for auditory represented material, such as spoken words. This explains why students who used Audio-visual resources showed a greater improvement in their performance, as they were able to process the information through both visual and auditory channels.

When a learner is presented with visual information, it is captured in their sensory memory for a brief moment. This allows the brain to process the information in its entirety before it is transferred to the working memory. Similarly, auditory information, such as spoken words, is also logged in its entirety in the sensory memory before being processed in the working memory. Auditory information includes spoken words in a narration and other non-verbal sounds, and these are processed by the brain separately from the visual. As a learner is learning, the new material first gets logged in their sensory memory. For a brief moment, the image is captured in its entirety, or the spoken words are logged in their entirety. After that initial moment, the learner must begin to work with the information in order to process it and learn, this happens in the working memory.

The boxplot in Figure 4.3 provides a visual representation of the data, allowing us to easily observe the distribution of scores across the four groups. Overall, the data appears to be symmetrical, with a slight skew towards the higher end in the pre-treatment and

post-treatment groups. However, upon closer examination, we can see that there are a few outliers in the pre-control group, indicating some variability in the data.

Interestingly, the post-treatment group stands out with the highest mean score, while the pre-treatment group has the lowest mean score. This suggests that the treatment had a significant impact on the students' scores. It is worth noting that the mean scores of the pre-control and post-control groups are relatively close, indicating that there may not have been a significant difference in scores between these two groups.

To further investigate the differences between the groups, we need to conduct a statistical test. The boxplots clearly show that the mean scores of the four groups are not the same, but we need to determine if these differences are significant. This is an important step in our analysis as it will help us determine the effectiveness of the treatment and whether it had a significant impact on the students' scores.

In addition to the mean scores, we can also see the spread of the data within each group from the boxplots. The wider the spread, the more variability there is in the data. This can also provide valuable insights into the effectiveness of the treatment.

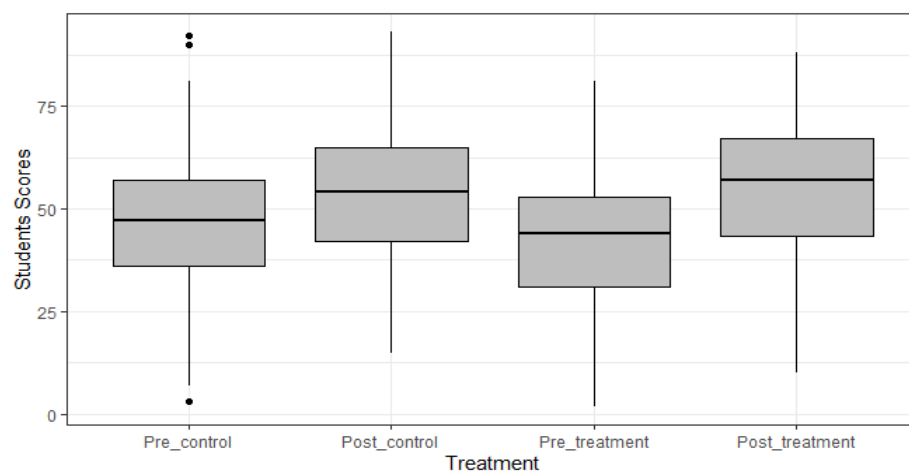


Figure 4.3: A boxplot of Student scores for the different treatment

4.3 Comparison of Students Scores before and after the use of Audio-visual as a learning technique.

The students in the experimental group in this study were exposed to Audio-visual as a teaching technique, while the students in the control group were taught using the conventional method of teaching. The students both in experimental and control group were then given a test to test the efficiency of the Audio-visual against the conventional ways of teaching. The tests scores for the students before the Audio-visual were compared to the tests scored after watching an Audio-visual. Figure 4.4 shows the distribution and frequency of the different grades achieved by students in the test before the Audio-visual. A data set is made up of a distribution of values, or scores. In tables or graphs, you can summarize the frequency of every possible value of a variable in numbers or percentages. This is called a frequency distribution.

Figure 4.4 also shows the distribution and frequency of the tests scores after the Audio-visual were administered. It is clear that the scores after the Audio-visual shows a great shift from the right to the left, the frequency of lower grades that is C, D, E has tremendously decreased and an increase in the A and B grades. We can also see that for girls school there was no student who scored an A before the Audio-visual but after the Audio-visual the frequency of A's was increased by 12.4%. A great shift is seen in girls' schools, with a great drop of those who attained grade E from 32.4% before the videos to 2.4% of those who watched the videos. After the Audio-visual also we see that the majority of students in girls' school scored grade B and C as compared with pre-Audio-visual results where majority of the students scored grade D and E. The students in boys' school had a slight improvement of the overall grades. There was a slight reduction in the frequency of those who scored grade E, from 39.2% to 38.8%. The frequency of students getting grade A also increased slightly from 2.5% to 10%.

There was observed great improvement of learners in mixed schools after the Audio-visual with the highest reduction in the frequency of those getting grade E from 53.8% to 17.5%. The number of learners getting an A also had a huge increase from 1.2% to 18.1%. Generally, the distribution of grades for the three schools before the Audio-visual was negatively skewed, meaning more learners were performing poorly. After the Audio-visual the data distribution behaved almost normally distributed, meaning most learners performed averagely.

It concurred with what (Kusainov et al., 2021) concluded after having conducted their project. They found that pupils can rise to their teachers' high expectations and improve their English, if the latter set attainable communicative goals for their pupils and design motivating interactional activities with adequate support, i.e., scaffolding. Most importantly, scholars, such as (Washburn 2020) and (Quaglio 2019) assert that Audio-visual, such as situation comedies, or simply sitcoms, and television talk shows, are the best source for training pupils' 'real life' oral skills.

Upon the introduction of the Audio-visual, it was observed that there was a significant improvement in the test scores and grades of the students in both the control and experimental group. This suggests that the use of Audio-visual in teaching Kiswahili oral skills can be an effective tool in enhancing students' understanding and proficiency in the language.

The experimental group, which had access to the Audio-visual, showed a greater improvement in their test scores and grades compared to the control group. This further supports the idea that visual aids, such as videos, can be a valuable addition to traditional teaching methods in language learning.

4.3.1 Comparison of Male and Female Students Scores after the use of Audio-visual as a learning technique

The male and female students in Girls' and Boys' schools were given the same pre-tests and post-tests in both the control and experimental group. The results are summarized in a bar plot in figure 4.4 below, the figure shows the mean scores plotted for the four sets of tests. Girls had a higher mean score in the pre-control test that is 50 as compared to boys with a mean score of 41. The boys control group performed slightly better than girls with a mean score of 56 compared to girls with a mean score of 54. For pre-treatment group the mean scores were almost similar. Girls performed very well in the post treatment tests as compared with boys in the similar group. Girls had a mean score of 60 compared to boys with mean of 45 as can be seen in figure 4.4 below. We can therefore generally conclude that the girls performed better and they had a huge improvement after the Audio-visual. In addition to the positive effects observed in both groups, (Yunus et al 2018) also found that the experimental group showed a greater improvement in their language skills compared to the control group. This further supports the notion that incorporating Audio-visual in language learning can lead to better outcomes. One possible explanation for this is that Audio-visual provide a more immersive and engaging learning experience compared to audio alone. With Audio-visual, learners are able to see and hear the language being used in real-life situations, making it easier to understand and retain the information. This is especially beneficial for language learners who may struggle with traditional teaching methods that focus solely on auditory input. Moreover, Audio-visual also offer a visual aid that can enhance the learning process. For example, learners can observe body language, facial expressions, and other nonverbal cues that are essential for understanding and communicating in a language. This is particularly important for languages with

complex grammar and intonation patterns, where visual cues can help learners grasp the nuances of the language more effectively.

Furthermore, the use of Audio-visual in language learning can also cater to different learning styles. While some learners may prefer auditory input, others may learn better through visual aids. By incorporating both audio and visual elements, Audio-visual can accommodate a wider range of learning preferences and provide a more well-rounded learning experience. Overall, the research conducted by (Yunus et al 2018) highlights the importance of incorporating Audio-visual in language teaching and learning. It not only confirms the effectiveness of Audio-visual in improving language skills, but also sheds light on why it should be utilized.

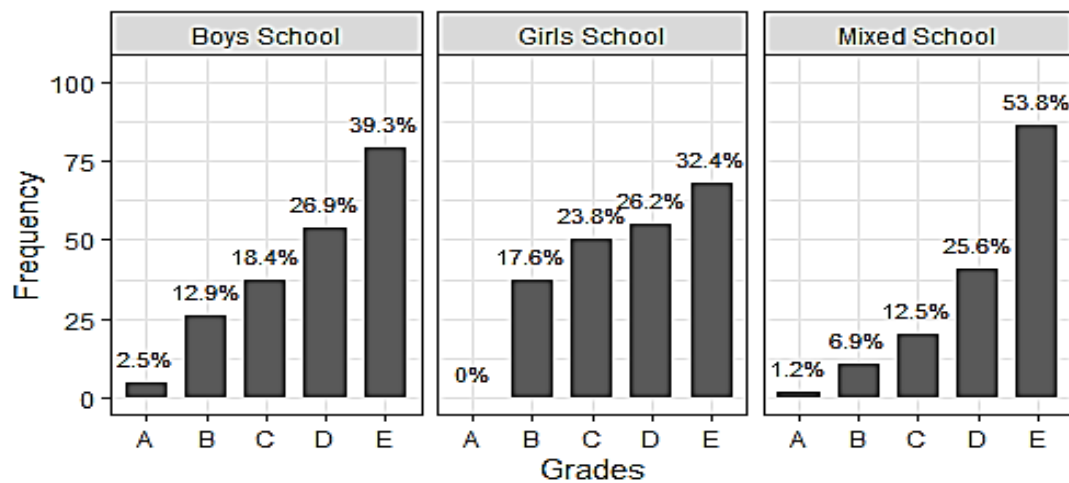


Figure 4.4 Test scores results for the pre-Audio-visual for the experimental group for the three types of schools

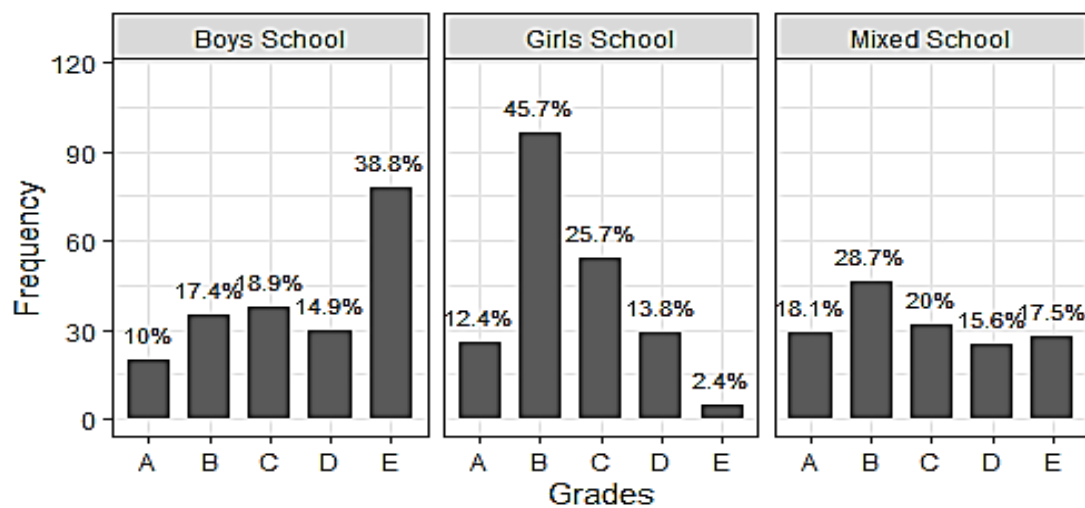


Figure 4.5 Test scores results for the post Audio-visual for the experimental group for the three types of schools

The independent sample t test was used to test the hypothesis that there are no significant differences between the performance of students taught using Audio-visual and those taught using the conventional methods as presented in bar plot below.

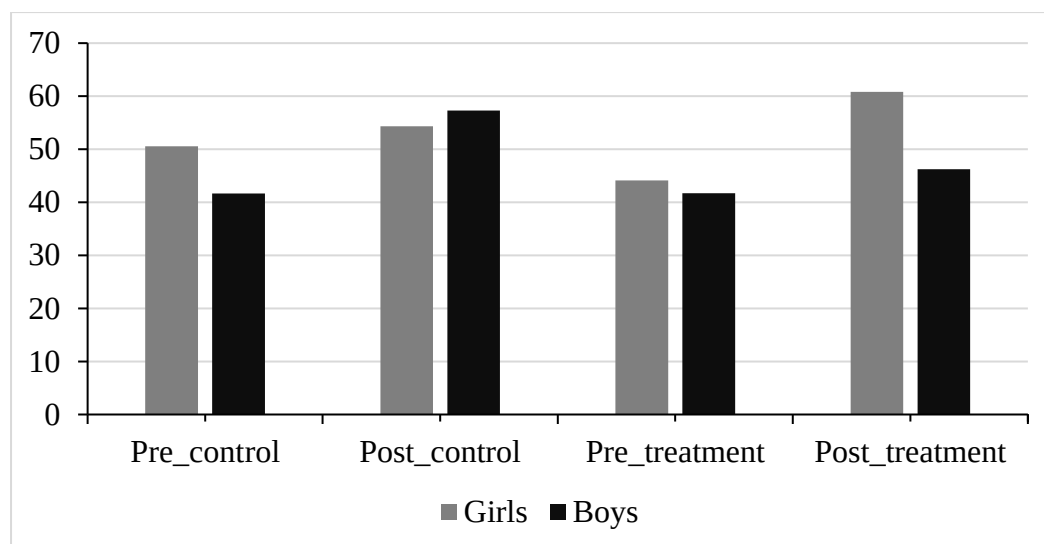


Figure 4.6 Test scores results for the pre and post video for the experimental group for the three types of schools: bar plot of mean scores of Girls and Boys

The figure 4.7 below shows the distribution of grades for boys and girls. We can see generally the girls had a smaller percentage of Es 16.7% as compared to the boys as they had a higher percentage of Es (43.3%) as shown below.

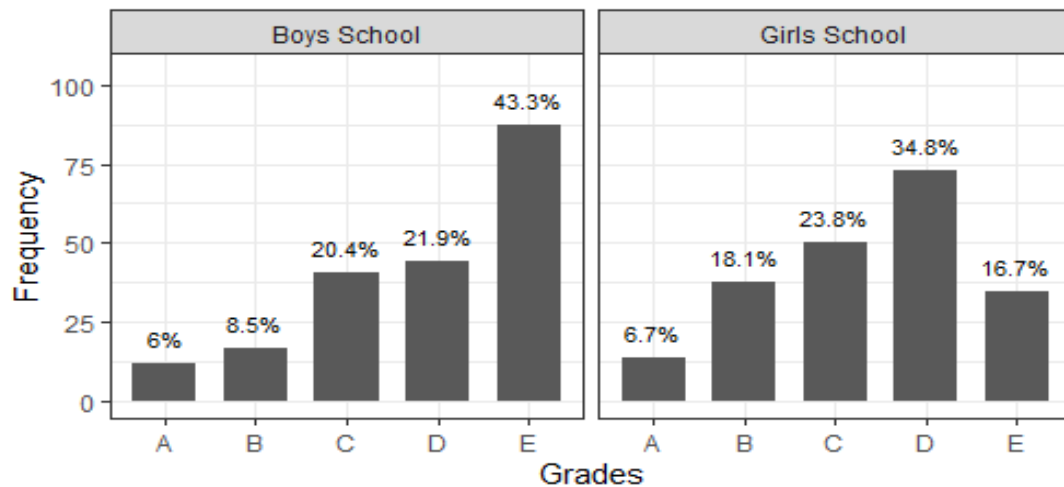


Figure 4.7: mean scores of Girls and Boys

4.4 Testing

Hypothesis testing is a form of statistical inference that uses data from a sample to draw conclusions about a population parameter or a population probability distribution. First, a tentative assumption is made about the parameter or distribution. This assumption is called the null hypothesis and is denoted by H_0

Two Null hypotheses were formulated for this study, namely;

H₀₁. There is no statistical significance difference between the Kiswahili performance of students taught using Audio-visual and those taught using conventional technique in public secondary schools in Kenya.

H₀₂. There is no statistical significance difference between the Kiswahili performance of the male students taught using Audio-visual and their female counterparts in public secondary schools in Kenya.

4.5 There is no statistical significance difference between the Kiswahili performance of students taught using Audio-visual and those taught using conventional technique in public secondary schools in Kenya.

Welch's t-test is a statistical test that is commonly used to compare the means of two independent groups. It is based on the assumption that the data from both groups are sampled from populations that follow a normal distribution. However, unlike other t-tests, Welch's t-test does not require the assumption that the two populations have equal variances.

This makes Welch's t-test a powerful tool when dealing with data that does not meet the assumption of equal variances, also known as homogeneity of variance. This is often the case in real-world scenarios, where data can be complex and unpredictable. In such situations, Welch's t-test allows us to accurately compare the means of two groups without compromising the validity of the results.

To understand the significance of Welch's t-test, the study aimed at comparing the academic performance of students who were taught using videos versus those who were taught using conventional methods. The researcher wishes to test the hypothesis that no statistically significant differences exist between the two groups.

To perform this test, the researcher first collects data on the academic scores of the students from both groups. They would then use a boxplot to visualize the distribution of the scores. This is an important step as it allows the researcher to identify any outliers or unusual patterns in the data.

Once the data has been visualized, the researcher then used Welch's t-test to compare the means of the two groups. This test takes into account the unequal variances. We first visualize the distribution of the scores using a boxplot below.

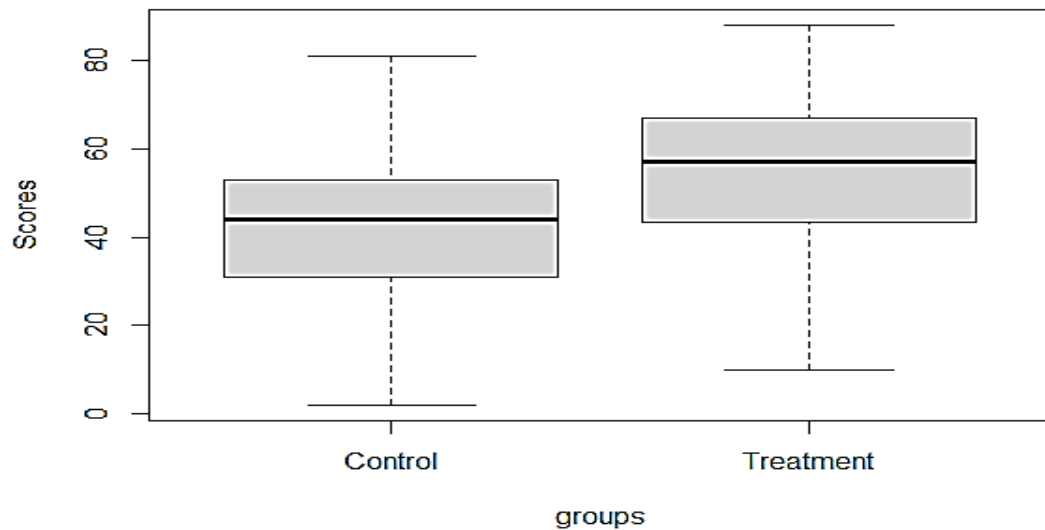


Figure 4.8 Distribution of the scores

In addition to being used to test the hypothesis of equal means between two populations, Welch's t-test has also been found to be effective in detecting differences in means between multiple groups. This makes it a valuable tool for researchers and statisticians, as it allows for the comparison of means in situations where traditional t-tests may not be suitable.

One of the main advantages of Welch's t-test is its ability to handle unequal variances in the two samples being compared. This is particularly useful in situations where the sample sizes are unequal or the data is not normally distributed. In such cases, using a traditional t-test may result in inaccurate or misleading conclusions, while Welch's t-test provides more reliable results.

Furthermore, Welch's t-test is considered to be more robust than Student's t-test, as it does not assume equal variances between the two samples. This is important because in real-world data, it is rare for two populations to have exactly equal variances. By not making this assumption, Welch's t-test is able to provide more accurate and meaningful results.

Another advantage of Welch's *t*-test is that it is not affected by outliers or extreme values in the data. This is because it uses a different formula to calculate the test statistic, which takes into account the unequal variances and sample sizes. As a result, the test is less influenced by extreme values and provides more reliable results.

It is worth noting that while Welch's *t*-test is a powerful tool, it is not suitable for all.

It is clearly seen that the treatment group has a higher mean score of the tests and lower variance in scores. To formally test whether or not the mean scores between the groups are significantly different, we performed Welch's *t*-test. Welch's *t*-test, or unequal variances *t*-test, is a two-sample location test which is used to test the hypothesis that two populations have equal means. It is named for its creator, Bernard Lewis Welch, is an adaptation of Student's *t*-test, and is more reliable when the two samples have unequal variances and possibly unequal sample sizes.

These tests are often referred to as "unpaired" or "independent samples" *t*-tests, as they are typically applied when the statistical units underlying the two samples being compared are non-overlapping. Given that Welch's *t*-test has been less popular than Student's *t*-test and may be less familiar to readers, a more informative name is "Welch's unequal variances *t*-test" or "unequal variances *t*-test" for brevity. The results are shown in Table 4.9 below.

Table 4.9 Means score of the tests

	Degree of freedom	t-value	p-value	Confidence interval
welch t test for the experimental group	1138.5	-13.013	< 2.2e-1616	-9.32,-5.56
welch t test for the control group	1126.9	-8.0255	0.0567	-14.98,-10.5

The mean scores in Control group were 41.7 (SD = 15.8), whereas the mean in Experimental group was 54.1 (SD = 16.3). A Welch two-sample t-test results showed that the observed difference was statistically significant, $t(1138.5) = -13.013$, $p < 2.2e-1616$. Therefore, the results of the first independent t test for Kiswahili scores indicated that indeed there is a significance difference between the mean of those students who used the conventional means and those students who used the videos. We therefore reject the null hypothesis that there is no significant difference between the mean of those students who used the conventional method and those students who used the videos and conclude that there is a significant difference between the mean of those students who used the conventional means and those students who used the Audio-visual. Further analysis of the study's results revealed that the use of Audio-visual as a teaching method had a significant impact on students' scores in Kiswahili. The experimental group, who were exposed to the videos, showed a higher mean score of 54.1 compared to the control group's mean score of 41.7. This difference was found to be statistically significant with a p-value of less than 0.05.

The results of the Welch two-sample t-test further confirmed the significance of the observed difference between the two groups. This finding indicates that the use of Audio-visual as a teaching tool can greatly improve students' performance in Kiswahili compared to the conventional teaching method.

This study's findings are consistent with previous research that has shown the effectiveness of multimedia tools in enhancing learning outcomes. The use of Audio-visual can provide a more engaging and interactive learning experience for students, leading to better retention and understanding of the material.

The results of this study hold important implications for educators and policymakers. It highlights the need for incorporating multimedia tools in teaching practices to improve students' academic performance. Additionally, it emphasizes the importance of continuously evaluating and updating teaching methods to keep up with the evolving needs of students in the digital age. The findings of this study provide strong evidence that the use of videos as a teaching method can lead to a significant improvement in students' scores in Kiswahili. This study adds to the growing body of research supporting the use of multimedia tools in education.

4.5.1 There is no statistical significance difference between the Kiswahili performance of the male students taught using Audio-visual and their female counterparts in public secondary schools in Kenya

The figure 4.9 below shows the boxplot of the mean scores between the female and the male students who used videos. It can be shown that the female students performed very well as compared to the males.

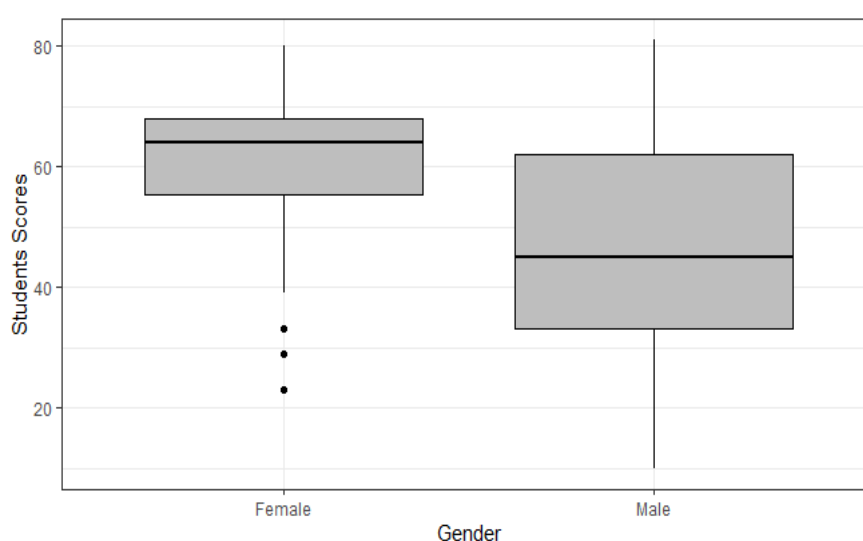


Figure 4.9 Mean scores between the female and the male students who used Audio-visual

The boxplot shows that the distribution of females and males is totally different. The females have a higher mean with small variance, while for male the mean score is smaller with a higher variability. The data for the two groups is slightly skewed.

The mean score for the male students was 46.2 (SD=17.9), while the female students had a mean score of 60.8 (SD=10.1). The lower standard deviation indicates that the scores are very similar to each other with little deviation from the mean that means the students scored very close to the average, indicating less variability and therefore a higher reliability.

We performed an independent t test to check whether the observed difference was statistically significant. The data conformed to the assumptions of the t test and therefore our results are acceptable for this study.

The Welch two-sample t-test results $t(312.19) = p < 0.0001$ and a 95% confidence level shows that the difference lies in the interval of [11.77187 – 17.44789]. We therefore reject the null hypothesis that there is no significant difference between the Kiswahili performance of the male students taught using Audio-visual and their female counterparts in public secondary schools in Kenya and conclude that there is a significant difference between the Kiswahili performance of the male students taught using Audio-visual and their female counterparts in public secondary schools in Kenya.

The boxplot reveals that the distribution of scores for both male and female students is slightly skewed, indicating that there may be some outliers in the data. This could be due to a variety of factors, such as individual learning styles, external distractions, or even testing conditions. However, despite these potential outliers, the overall trend is clear: female students tend to have higher scores and less variability compared to their male counterparts.

This could be attributed to a number of reasons. One possible explanation is that female students may have a stronger interest in the subject matter, leading to better performance. Another factor could be the teaching methods used, as the data shows that male students were taught using videos, while female students were not. This could suggest that the use of videos as a teaching tool may have a positive impact on female students' performance.

The results of the independent t-test further support our findings. The fact that the data conformed to the assumptions of the t-test and that the results were statistically significant at a 95% confidence level strengthens our conclusion that there is a significant difference in Kiswahili performance between male and female students.

The lower standard deviation for male students also indicates that their scores are more tightly clustered around the mean, suggesting a higher level of consistency in their performance. On the other hand, the higher standard deviation for female students suggests a greater range of scores and potentially more variability in their performance.

4.5.2 Spearman rank correlation between before and after Audio-visual

Spearman's correlation coefficient, (ρ , also signified by r_s) measures the strength and direction of association between two ranked variables. We first plot a scatter plot of the test scores for pre-treatment and post treatment to visualize their relationship. The figure 4.10 below shows the scatter plot.

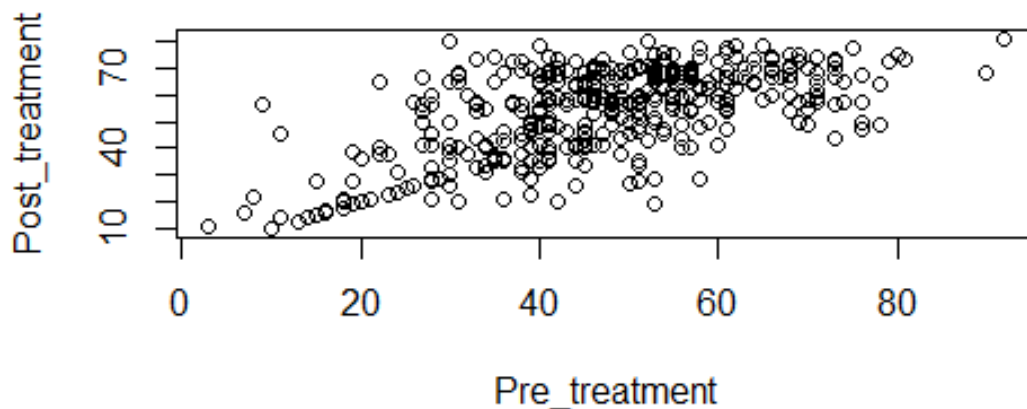


Figure 4.10 *The scatter plot of pre and post treatments*

From the figure 4.10 It is clear that there is a linear post relationship between pre-treatment scores and post treatment scores. We then performed the correlation test (Spearman) to test the strength and direction of the relationship.

The results of the test showed a computed Spearman's rank correlation $\rho = 0.5521$, with a p-value $< 2.2e-16$. Since the p-value is less than 0.05 this indicates a significant correlation between the pre-treatment scores and post treatment scores of students who were taught using Audio-visual. In other words, the individual students' scores before watching the Audio-visual were closely related to their scores after watching the Audio-visual.

Based on these findings, we can reject the hypothesis that there is no significant difference between the Kiswahili performance of male students taught using Audio-visual and their female counterparts. This supports the conclusion that there is indeed a significant difference between the Kiswahili performance of male students and female students in public secondary schools in Kenya when Audio-visual are used as a teaching tool.

This is an important finding, as it highlights the potential benefits of incorporating Audio-visual into the classroom for language instruction. Not only does it enhance students' understanding and retention of the material, but it also helps bridge the gender gap in academic achievement. Furthermore, this study adds to the growing body of research on the effectiveness of using Audio-visual in education.

4.6 The New Knowledge Contributed

The new knowledge contributed includes;

Empirical Validation of Audio-Visual Effectiveness in Kiswahili Oral Skills: The thesis provides strong empirical evidence, specifically within the context of Kenyan secondary schools, that the audio-visual resources significantly improve students' performance in Kiswahili oral skills. This moves beyond anecdotal evidence or general pedagogical theories by providing statistically significant data that demonstrates a marked difference in learning outcomes compared to conventional teaching methods. The study quantified this improvement, showing a higher mean score for the experimental group using audio-visuals (54.1) compared to the control group (41.7).

Gender-Specific Impact of Audio-Visual Aids in Kiswahili: A crucial piece of new knowledge is the finding that female students performed significantly better than male students when taught Kiswahili oral skills using audio-visual aids. This uncovers a gender-based disparity in the effectiveness of this specific pedagogical approach (females mean score 60.8 vs. males mean score 46.2), which can inform more targeted and equitable educational strategies.

Contextual Application and Confirmation of Mayer's Cognitive Theory of Multimedia Learning: The study applies and, in effect, confirms the applicability of Richard Mayer's Cognitive Theory of Multimedia Learning within the specific educational and

linguistic context of Kiswahili oral proficiency in Kenya. It provides evidence that the principles of dual-channel processing (visual and auditory) leading to deeper learning hold true in this real-world classroom setting, supporting the theory's generalizability and offering insights into its practical implications for language education in East Africa.

Quantification of the Baseline Challenge and Improvement: By conducting pre-tests and post-tests, the thesis precisely quantified the initial low ability of students in Kiswahili oral skills like high percentage of students getting grade E before intervention and subsequently demonstrated the extent of improvement achieved through the integration of audio-visual resources. This provides concrete data on the magnitude of the problem and the potential solution.

In essence, the study offers specific, localized, and statistically supported evidence for the effectiveness of audio-visual resources in a critical area of Kiswahili education, highlighting particular nuances like gender differences, thereby adding valuable, actionable insights to the field of educational technology and language pedagogy.

CHAPTER FIVE

SUMMARY OF THE FINDING, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The objective of this study was to investigate the effectiveness of Audio-visual to improve students' Kiswahili Oral skills. This chapter presents three main sections. They are summary of the findings, conclusions and recommendations. The discussion of each part is presented below.

5.1 Summary of the Findings

Research findings are an integral part of the research process and play a crucial role in advancing our understanding of various phenomena. They are the outcome of a systematic and scientific investigation, which involves collecting and analyzing data to answer a specific research question or test a hypothesis. The quality of research findings depends on the rigor and validity of the research process, including the selection of appropriate research methods and the careful analysis of data.

One of the key components of research findings is data analysis. This involves organizing, categorizing, and summarizing the data collected during the research process. Data analysis can be done using various techniques, such as statistical analysis, content analysis, or qualitative coding. The goal of data analysis is to identify patterns, trends, and relationships within the data, which can then be used to answer the research question or support the hypothesis. Once the data has been analyzed, the next step is interpretation. This involves making sense of the data and understanding its implications. Researchers need to carefully examine the data to identify any significant findings or themes that emerge. They also need to consider the context in which the

data was collected and any potential limitations or biases that may have influenced the results. The process of interpretation requires critical thinking and a deep understanding of the research study, Creswel (2023).

Evaluation is another crucial aspect of research findings. This involves assessing the validity and reliability of the data and the overall quality of the research process.

A picture is worth a thousand words; therefore, educational videos are an important tool for delivering content in Kiswahili classes. When teachers consider cognitive load, student engagement, and active learning, they can make better use of Audio-visual. The amount of mental effort required to process information is referred to as cognitive load. Presenting information in a visually stimulating and engaging manner, educational videos can help reduce cognitive load. Audio-visual can help students understand complex concepts and retain information more effectively by incorporating visuals, animations, and graphics.

Additionally, videos have the ability to capture students' attention and engage them in the learning process. When students are actively engaged in their learning, they are more likely to stay focused, participate, and retain information. Audio-visual can be used to introduce new topics, provide real-life examples, or demonstrate practical applications of concepts, making the learning experience more interactive and memorable.

Active learning is another essential element that can be facilitated through the use of educational Audio-visual. Instead of passively absorbing information, students can be encouraged to actively engage with the content by answering questions, discussing ideas with their peers, or completing related activities. Audio-visual can serve as a

starting point for deeper discussions and critical thinking, allowing students to apply what they have learned to real-world scenarios. Practical ways teachers can use Audio-visual in the classroom include:

Flipped Classroom Approach: Assigning videos as pre-class material allows students to familiarize themselves with the content before coming to class. This frees up class time for more interactive activities, such as discussions, problem-solving, or group work.

Video Reflections: After watching a video, students can be asked to reflect on what they have learned and how it relates to their own experiences or prior knowledge. This encourages students to think critically and make connections between the video content and their own lives.

Video-based Assessments: Instead of traditional written assessments, instructors can incorporate video-based assessments where students create their own videos to demonstrate their understanding of a particular topic. This promotes creativity, collaboration, and active engagement in the learning process. Thus educational videos offer a valuable tool for enhancing student learning. By considering cognitive load, student engagement, and active learning, instructors can effectively use videos to deliver content, engage students, and foster deeper understanding. Incorporating videos into the classroom can create a more dynamic and interactive learning environment that benefits both students and teachers.

The first research objective about determining the ability of the learners before the utilization of instructional Audio-visual in teaching and learning of Oral Skills in Kiswahili in public secondary schools in Kenya, the researcher found out that video

could represent a real communicative situation to the students. For example, the students were able to learn how to pronounce certain words since they watched on the video itself. This was in line to the theory of Richard Mayer's Cognitive Theory of Multimedia which stated that the basic premise with multimedia learning is that we can learn more deeply from words and pictures together than we can learn from just words alone.

Exposing learners to models is not an end in itself. In today's digital age, the use of multimedia has become increasingly prevalent in education. With the rise of technology, educators have been incorporating various forms of media, such as videos and text, into their teaching methods. This has sparked a debate among educators about which form of media is more effective in aiding students' understanding and comprehension.

Arora, A. (2023), delved into this topic and found that while videos are beneficial in helping students comprehend complex concepts, text is crucial in providing them with in-depth knowledge and understanding. This can be attributed to the fact that videos are more visual and auditory, while text requires students to actively read and process information at their own pace. Furthermore, (Qiang et al. 2017) also supported this notion by stating that videos can be used as a tool to enhance students' oral skills. By watching and listening to videos, students can improve their pronunciation, vocabulary, and overall oral proficiency.

This is especially beneficial for students who are learning a second language, as videos provide a real-life context for them to practice their speaking skills. It is essential to note that both Audio-visual and text have their strengths and limitations in aiding students' learning, while videos can be engaging and visually stimulating, they may not

always provide students with the necessary depth of information. On the other hand, text may be more comprehensive, but it may not be as engaging for students. For example, discussions about films can successfully promote speaking. The teacher can ask pupils to watch a certain episode from a film with the sound removed and create their version of the possible dialogue. One should further take into consideration that films are a powerful tool for improving learners' pronunciation and intonation.

By incorporating videos into the teaching of oral skills in Kiswahili, students are able to engage with the language in a more immersive and interactive way. Audio-visual can provide learners with real-life examples of how the language is spoken, allowing them to observe native speakers and learn proper pronunciation, intonation, and rhythm.

This exposure to authentic language can greatly enhance their oral communication skills. Furthermore, videos can also be used to introduce new vocabulary and grammatical structures. Visually representing these concepts, students are able to grasp them more easily and apply them in their own speech.

Audio-visual also have the advantage of capturing and maintaining students' attention. The use of visual and auditory stimulation helps to create a dynamic and engaging learning environment, making the learning process more enjoyable and effective. To ensure the successful integration of Audio-visual in teaching oral skills in Kiswahili, teachers can follow some practical strategies. Firstly, they can carefully select Audio-visual that are relevant to the language learning objectives and align with the students' interests and abilities.

Teachers can incorporate interactive activities and discussions around the Audio-visual content to promote active learning and encourage students to express their thoughts and

opinions. Overall, the utilization of videos in teaching oral skills in Kiswahili has the potential to significantly improve students' performances. By taking advantage of multimedia instruction, teachers can create a stimulating learning experience that maximizes students' engagement and deepens their understanding of the language.

Learners relied solely on traditional methods of instruction such as textbooks, lectures, and practice conversations. While these methods were effective to some degree, they lacked the visual and auditory stimuli that videos provide. One of the main advantages of using videos in teaching Kiswahili oral skills is the ability to bring real-life situations into the classroom. With videos, learners are exposed to authentic language use and cultural context, which can enhance their understanding and retention of the language. For example, Audio-visual showing a conversation between native speakers in a marketplace can help learners understand how to use Kiswahili in a practical setting. Moreover, videos allow for repetition and self-paced learning. Unlike a live conversation where learners may feel pressured to respond quickly, videos can be paused and replayed as many times as needed for a better understanding. This also allows learners to practice and improve at their own pace, leading to a more personalized learning experience.

Another benefit of using videos in teaching Kiswahili oral skills is the incorporation of visual aids. These aids, such as subtitles and images, can help learners better understand the meaning and pronunciation of words and phrases. This is especially beneficial for visual learners who may struggle with traditional teaching methods. Furthermore, Audio-visual can make learning more engaging and interactive. With the use of technology, learners can participate in activities such as quizzes, games, and role-plays, making the learning process more enjoyable and effective.

The second objective was to examine the effects of Audio-visual in teaching and learning of Oral Skills in Kiswahili in public secondary schools in Kenya. The study reveals that after the students in the experimental group exposed to Audio-visual it was clear that the scores show a great shift from the right to the left, the frequency of lower grades that is C, D, E has tremendously decreased and an increase in the A and B grades. It was also unblemished for girl's school where there was no student who scored an A before the videos but after the Audio-visual the frequency of as was increased. A great shift was seen in girls' schools, with a great drop of those who attained grade E before the videos. After the videos also we saw that the majority of students in girls' school scored grade B and C as compared with pre videos results where majority of the students scored grade D and E.

The students in boys' school had a slight improvement of the overall grades; there was a slight reduction in the frequency of those who scored grade E. The frequency of students getting grade A also increased slightly. There was observed great improvement of learners in mixed schools after the videos with the highest reduction in the frequency of those getting grade E. The number of learners getting an A also had a huge increase. Generally, the distribution of grades for the three schools before the videos was negatively skewed, meaning more learners were performing poorly.

After the videos the data distribution behaved almost normally distributed, meaning most learners performed averagely which leads to the rejection of the Null hypothesis that there is no significant difference between the mean of those who used the conventional method and those students who used the Audio-visual and conclude that there is a significant difference between the mean of those students who used the conventional method and those students who used the video, this was in line with what Richard Mayer's cognitive theory of multimedia learning that the brain takes in

information and processes it in multiple channels, based on how that information is presented.

The first channel is for visually represented material and the second is for auditory represented material. When a learner is presented visual information, including pictures, videos, charts, or printed words, all of that information goes into the visual channel and is processed there. Auditory information includes spoken words in a narration and other non-verbal sounds, and these are processed by the brain separately from the visual. As a learner is learning, the new material first gets logged in their sensory memory. For a brief moment, the image is captured in its entirety, or the spoken words are logged in their entirety.

After that initial moment, the learner must begin to work with the information in order to process it and learn. This happens in the working memory and the students develops and increases personal understanding of the areas of learning when they experience a successful and pleasant learning in the classroom as supported by social learning Theory by Bandura that teacher has to choose videos with interesting and winsome qualities so as to capture the attention of the learners as well as enhance retention of the learnt information. Audio-visual tie actions and words to the appropriate setting in which they performed. As such, observers learn to analyze critical features in their environment as the Chinese say:

“When I am told I forget, what I see I remember and what I do builds a castle in my head” (Ellis, as quoted by Daniel 2020)

These findings also were supported by (Yousef et al., 2014) who found out some evidence that use of video-based learning saw improvements in teaching methods and learning outcomes. Furthermore, the visual benefits of video provide a vehicle for increasing access to practical demonstrations. However, it was contradicting with what

(Busà 2020) in his views states that listening to real people speaking about real-life experiences and interacting with other speakers in a natural way may be considered more stimulating than listening to actors reading scripts elaborated by EFL (English for Foreign Language) writers. A Audio-visual can be effective way to get students' attraction and increase their motivation which is very significant to this study because it clearly indicates the importance of the video in learning of second language.

The third objective was to assess the difference between the Kiswahili performances of the male students taught using Audio-visual and their female counterparts in public secondary schools in Kenya. The researcher found out that Girls had a higher mean score in the pre-control test as compared to boys. The boys in control group performed slightly better than girls. For pre-treatment group the mean scores were almost similar. Girls performed very well in the post treatment tests as compared with boys in the similar group. We can therefore generally conclude that the girls performed better and they had a huge improvement after the videos. This is in line with the theory of Mayer which accentuate that the learner integrates the visual model and the auditory model together with their prior knowledge and experiences. Once all the material has been combined in a functional way, the new knowledge can move into long-term memory.

This was also complimented by Bandura,s Theory of Social learning by stating the needed conditions for learning to take place that there are four conditions that Bandura proposed for the success of modeling: One is Motivation- having a good reason to imitate, Two is Reproduction- the ability to reproduce the image of interest in terms of physical capacity, three is Attention- various factors increases or decrease attention of the learner e.g. attitude, perceptual level, sensory capacities and finally Retention- the ability to remember what one paid attention to. Therefore, the Null hypothesis that there is no significant difference between the Kiswahili performance of the male

students taught using Audio-visual and their female counterparts was rejected and concluded that there is a significant difference between the Kiswahili performance of the male students taught using Audio-visual and their female counterparts in public secondary schools in Kenya.

The use of instructional videos in teaching has become increasingly prevalent in recent years, and for good reason. These Audio-visual provide an important tool for delivering content in a visually stimulating and engaging way. By incorporating visuals, animations, and graphics, Audio-visual can help students better understand complex concepts and retain information more effectively. This is especially true when considering cognitive load, or the amount of mental effort required to process information. By reducing cognitive load, videos can make the learning experience more manageable and enjoyable for students.

But Audio-visual offer more than just a way to present information. They also have the ability to capture students' attention and engage them in the learning process. This is crucial, as active engagement leads to better retention of information. When students are actively engaged in their learning, they are more likely to stay focused, participate, and retain information. Audio-visual can be used in a variety of ways to promote active learning, such as introducing new topics, providing real-life examples, or demonstrating practical applications of concepts.

One of the most effective ways to incorporate videos into teaching is through the flipped classroom approach. By assigning videos as pre-class material, students can familiarize themselves with the content before coming to class. This frees up class time for more interactive activities, such as discussions, problem-solving, or group work. Additionally, after watching a Audio-visual, students can be asked to reflect on what

they have learned and how it relates to their own experiences or prior knowledge. This encourages critical thinking and making connections between the video content and what is anticipated to learn in classroom.

The use of Audio-visual as a teaching tool has been gaining popularity in recent years, and for good reason. Not only does it provide a more engaging and interactive learning experience, but research has also shown that female students tend to perform better when taught using videos compared to their male counterparts. One reason for this could be that females are generally more visually oriented and therefore, Audio-visual are a more effective way for them to learn. This is because Audio-visual allow for the integration of both visual and auditory information, making it easier for females to process and retain the information being presented.

Moreover, Audio-visual also caters to different learning styles, such as kinesthetic and auditory learners. This means that female students who may not excel in traditional classroom settings, which often favor visual and verbal instruction, are able to thrive when taught through Audio-visual. In addition, videos also have the ability to capture and maintain the attention of students, especially females. This is due to the dynamic and interactive nature of videos, which keeps students engaged and interested in the subject matter. As a result, female students are more likely to stay focused and retain the information being presented in the Audio-visual.

Furthermore, Audio-visual also has the advantage of being easily accessible and available online. This allows female students to review and revisit the content at their own pace, which can be particularly helpful for those who may need more time to fully understand the material. It is also worth noting that the use of videos in education has been found to promote critical thinking and problem-solving skills in students.

The findings of this study matter for several crucial reasons, impacting various stakeholders in the education sector:

Informing Educational Policy and Curriculum Development: The statistically significant findings provide concrete evidence that audio-visual resources are effective. This is vital for curriculum planners and policymakers to advocate for and implement the integration of such resources into the Kiswahili curriculum. It moves recommendations from theoretical suggestions to evidence-based mandates.

Guiding Resource Allocation and Investment: For educational stakeholders like government bodies and Parents Teachers Associations (PTAs), the findings highlight where resources should be directed. Knowing that audio-visual aids lead to tangible improvements provides a strong justification for investing in the necessary technology and materials for schools. This ensures that limited resources are allocated to methods that genuinely enhance learning outcomes.

Enhancing Teaching Practice and Professional Development: For teachers, the findings demonstrate a powerful pedagogical tool. Understanding *that* audio-visuals work, and *how* they impact different learners like the gender-based differences, encourages teachers to adopt these methods. It also points to the need for professional development programs to train teachers in effectively utilizing these resources to maximize student engagement and performance.

Addressing a Persistent Educational Challenge: The study directly addresses the long-standing problem of poor performance in Kiswahili oral skills. The findings offer a proven, practical solution to this challenge, which is critical for students' overall language proficiency, academic success, and future communication abilities.

Contributing to the Body of Educational Research: By applying and confirming the Cognitive Theory of Multimedia Learning in a specific cultural and linguistic context (Kiswahili in Kenya), the thesis adds valuable empirical data to educational psychology and communication technology. It validates theoretical models with real-world results, enriching the global understanding of multimedia learning.

Promoting Equitable Learning Outcomes: The finding regarding female students performing significantly better with audio-visuals is particularly important. It suggests that these tools might help reduce gender disparities in learning, offering insights into how to create more equitable and effective learning environments for all students.

5.2 Conclusion

Conclusion wraps up what you have been discussing in your research. After moving from general to specific information in the introduction and body paragraphs, your conclusion should begin pulling back into more general information that restates the main points of your argument. Creswel (2023) Conclusions may also call for action or overview future possible research.

The study concluded that using Audio-visual as a teaching aid stimulates thinking and improves learning environment in a classroom therefore, effective use of Audio-visual substitutes monotonous learning environments and promotes students personal understanding of the areas of learning when they experience a successful and pleasant learning in the classroom. Students also find Audio-visual sessions useful and relevant when it has some direct relation to the course content.

Studies have shown that incorporating Audio-visual into classroom instruction has a positive impact on student performance. Not only does Audio-visual provide a dynamic and engaging learning experience, but they also allow for visual representations of

complex concepts that may be difficult to grasp through traditional teaching methods. In fact, research has found that students who are taught using Audio-visual have a higher level of understanding and retention of the material compared to those who are taught solely through lectures or textbooks. One reason for this is that videos stimulate multiple senses, making learning a more immersive experience. As students watch and listen to the information being presented, they are also able to see real-life examples and demonstrations, which help to solidify their understanding. This is especially beneficial for visual and auditory learners who may struggle with traditional teaching methods.

Furthermore, Audio-visual has the ability to cater to different learning styles and paces. Students can pause, rewind, and re-watch the Audio-visual as many times as needed to fully understand the material. This allows for a more personalized learning experience, as each student can progress at their own pace.

In addition, Audio-visual can also enhance critical thinking skills by presenting real-world scenarios and challenges for students to analyze and solve. This not only strengthens their understanding of the subject matter, but also prepares them for real-life situations where they may need to apply their knowledge. Moreover, videos have the potential to bridge the gap between classroom learning and the outside world. With the vast amount of educational Audio-visual available online, students can access a wide range of topics and perspectives

It means that in teaching Oral Skills, students who were taught by using Audio-visual had higher scores than those who were taught without Audio-visual. Based on the findings of the analysis it can be concluded that there was a significant difference in the speaking ability between the form two students of Turkana public county secondary

schools who were taught by using Audio-visual and those who were taught using conventional method. If urgent attention is given to see that visual aids are being used on a daily basis while teaching of Kiswahili oral skills in public secondary schools in Kenya, there will be an improved performance of student in Kiswahili knowledge. Again, twenty-first centuries which is a digital age will be embraced by these students which will be utilized by them. Students in public secondary school are active and vibrant and so enabling them to learn positively would farewell for all Kenyans generally and the education sector particularly.

The the use of Audio-visual as teaching media improves students' involvement and enthusiasm in the teaching and learning process. It is because video could spur students' interest and motivation therefore the use of Audio-visual as teaching media improves students' Oral ability because Audio-visual presents new words, phrases, and expressions. Video also provides a full context of language to help students improve their ability in speaking Kiswahili. Based on the findings, it can be seen that boring activities in the class affected students' motivation and score. Teachers must be selective and creative in designing media to improve Kiswahili teaching and learning. It is important to use various and interesting media to support class activities.

Video tutorials act as a flexible teaching medium. If a student does not understand a concept in one go, the teacher can pause the video any time and explain it again. Replaying the video again also solves many problems even without taking any help from the teacher. This feature provides an enhanced level of flexibility. An excellent teaching technique is to pause the Audio-visual in the middle and let the students predict the outcome of a particular situation. Problems can be easily demonstrated, and concepts can be repeated as and when required. Repeated experiments and demonstrations help students in understanding the concepts at a whole new level.

When teachers teach various subjects by using Audio-visual presentations in teaching, the students can get a more realistic experience. It is hard to remember facts about people that lived centuries ago, but video learning makes absorbing knowledge much easier. Another example is while studying the laws of motion or any other physics topic for that matter; students are able to get an insight into the space and movement of particles. As far as other subjects are concerned, it enables students to hear the actual sound and look at the exact figures that they have only read in books in action. When students encounter the diversity of different cultures on their computer screen, the understanding of geography increases to a whole new level. The ideas actually come alive, and this helps students expand their attention span.

One of the most important and amazing features of video lessons is that both the teachers and the students can access them anywhere. The use of Audio-visual -based instruction has been made easier with the development of mobile devices such as smartphones and tablets. All you have to do is ensure that the format of the lecture that you are about to watch is supported on the device that you use. The best thing to do is to play the Audio-visual in Flash & HTML5 format so that it is compatible with all devices and web browsers. Even if you are absent in class, you can send the link of the Audio-visual to your students and give them assignments based on it to save time.

Audio-visual lessons are normally accompanied by the support of effective video tools that are used to increase the ease of use. These tools enable a complete investigation and understanding of the topic. Online Audio-visual are also supported by an interactive glossary, thesaurus, dictionary, and online encyclopedia. Written notes used in combination with the 'Watch and learn' strategy is known to provide the maximum benefit as the advantages of both the techniques are availed in conjunction. Only a good learner can be an excellent teacher. When the teachers look at the educational videos,

they can improve upon their own presentation skills. It also increases the confidence of the teacher, which reflects positively on the results of the students.

Audio-visual is composed of both audio and visual elements. This stirs the problem-solving capability of the brain and encourages the student to think harder and more creatively. This is known as multi-sensory learning, where more than one senses are involved in learning. When a learner attempts to understand the concept with the help of multiple senses, it strengthens the cognitive conditions and enhances the problem-solving ability of a student. They understand concepts from a different and unique perspective, which enhances the ability to think faster and at a deeper level. All students study in class and just before the exams. But the ones who are able to remember all the points in various subjects during the time of the examination succeed academically. The trick behind these students scoring good marks is a better retention capacity. Of course, that is not God-gifted. A topper adopts various tricks that ensure maximum learning in a minimum amount of time and helps the students retain information in their minds for a longer duration. One of those tricks is watching video tutorials on different topics. When a student visualizes a concept and hears it at the same time, it becomes easier to retain that information in mind. It gets absorbed at a deeper level, and complete excellence is then a sure thing.

In addition to improving students' oral skills, the use of Audio-visual as a teaching aid also has a positive impact on their overall academic performance. This is because Audio-visual provides a more engaging and interactive learning experience, which can lead to improved understanding and retention of information. When students are actively involved in the learning process, they are more likely to retain the knowledge and apply it in different contexts. Furthermore, the use of Audio-visual in the classroom can also promote critical thinking skills. Instead of simply memorizing information,

students are encouraged to analyze and interpret the content of the Audio-visual. This not only helps them to develop a deeper understanding of the subject matter, but also prepares them for real-world problem solving.

Moreover, Audio-visual can be a valuable tool for students who may struggle with traditional teaching methods. For visual learners, Audio-visual provides a more accessible and effective means of learning. They can also be beneficial for students with learning disabilities, as they provide a multi-sensory learning experience that caters to different learning styles. In addition, the use of Audio-visual in the classroom can also bridge the gap between theory and practice. By presenting real-life examples and scenarios, videos help students to see the practical applications of the concepts they are learning. This not only makes the learning experience more interesting and relevant, but also prepares students for their future careers. Furthermore, videos can also be a useful tool for promoting cultural understanding and global awareness. By incorporating videos from different cultures and countries into the curriculum, students are exposed to diverse perspectives. Audio-visual have become an increasingly popular tool in the field of education, with teachers and students alike recognizing the numerous benefits they offer. From enhancing engagement and retention to promoting critical thinking and creativity, videos have revolutionized the way we teach and learn.

One of the main advantages of using videos in teaching is their ability to capture students' attention and keep them engaged. With the rise of digital media and technology, students are becoming increasingly accustomed to fast-paced, visual content. As a result, traditional teaching methods that rely solely on textbooks and lectures can often fall short in terms of capturing students' interest. Audio-visual, on the other hand, offer a dynamic and interactive learning experience that is more likely to hold students' attention. Moreover, videos have been proven to enhance retention of

information. Studies have shown that students are more likely to remember information presented in a visual format compared to text-based material. This is because videos stimulate both the visual and auditory senses, making it easier for students to process and retain information. Additionally, Audio-visual can be paused, rewound, and replayed, allowing students to review and reinforce their understanding of the material at their own pace.

Another benefit of using videos in teaching is their ability to promote critical thinking skills. By presenting information in a narrative or story format, Audio-visual encourages students to think critically and make connections between different concepts. This can be particularly beneficial in subjects such as history, where Audio-visual can bring past events to life and encourage students to analyze and interpret the significance of these events

5.3 Recommendations

1. The Ministry of Education, in collaboration with the Kenya National Examinations Council (KNEC) and teacher training institutions (KICD), should develop and standardize a Kiswahili Oral Skills Proficiency Rubric for public secondary schools. This tool must specifically isolate and measure the components of oral ability and communicative competence to establish a scientifically sound and comparable pre-intervention baseline for all future studies of this nature.
2. The Ministry of Education (CDE/SCDE) should establish a continuous professional development (CPD) program for Kiswahili teachers focused on the effective pedagogical integration of Audio-Visual (A-V) technology in teaching oral skills.

3. Longitudinal study should be conducted to track the Kiswahili performance (specifically Oral Skills) of the students from the experimental group over their subsequent academic years up to KCSE.

5.4 Areas for Further Research

The study suggested the following areas for further research:

- i. Further studies need to be done on the effect of using Audio-visual to teach other Kiswahili language topics such as listening, writing and reading skills. There are several videos on reading and writing that can be accessed.
- ii. One can investigate if the input provided by the videos can help learners in acquiring knowledge.

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APPENDICES

Appendix A: Consent Letter

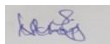
Chepkemai Naumi,
Moi University,
P.O.Box 3900,
Eldoret.

Dear Respondent

I am a post graduate student in the school of Education, Department of Curriculum Instruction and Education Media. I am currently conducting a study on enhancing oral Kiswahili proficiency through instructional audio-visual resources: a study of secondary schools in north rift region, Kenya, I kindly ask for your consents. I promise that the information provided will be treated with utmost confidentiality and will only be used for academic purposes.

Thanks for your acceptance.

Regards.



Chepkemai Naumi.
Moi University

Appendix B: Pre-Test

MTIHANI WA KISWAHILI

MTIHANI WA KIDATO CHA PILI

SHULE.....

MUDA: SAA 2 ½

SEHEMU A; INSHA ALAMA 20

Andika ratiba ya siku ya wazazi shuleni

UFAHAMU

Soma makala yafuatayo kisha ujibu maswali.

Nairobi, mji mkuu wa Kenya ,ni jiji la maajabu na mastaajabu chungu nzima.Nadhari ya mtu anayewahi kuingia jiji hili kwa mara ya kwanza huvutiwa na huo msheheneko wa majumba ya fahari, marefu ajabu ,kiasi cha minazi mitano-sita ,iliyounganishwa kuelekea juu mbinguni.

Jumba linalowavutia watu wengi ni lile la makongamano ya kimataifa liitwalo kwa Kiingereza Kenyatta International Conference Centre Jumba hili,hadi miaka michache iliyopita, ndilo lililokuwa refu zaidi mjini Jumba lenyewe- lina ghorofa ishirini na tisa hivi ,usipohesabu hilo pambo kama kofia kileleni mwake,linalojulikana kama mwavuli. Hata hivyo, miaka michache iliyopita jengo hili lilipitwa urefu na Mnara wa Nyakati (Times Tower).Mnara huo hasa ni jumba linaloafiki lakabu yake ya kikwaruza mawingu.Jumba hili lina ghorofa zisizopungua thelathini na mbili.

Mbali na majumba haya mawili ,kuna majumba mengine zaidi ya ishirini katikati ya jiji ambayo ,japo mengine ni mafupi kiasi ,yana maumbo ya kustaajabisha kweli kweli.Hebu zingatia mwenyewe jumba liitwalo “mdomo wa kengele” au “bell —bottom” ambalo ni vioo vitupu ,toka chini hadi juu.Fauka ya ,umbo lake ni la kipekee ulimwenguni kote. Jumba hili lina kama miguu, kisha kiuno mithili ya kinu hivi japo si mviringo.Linapaa juu ,mbali sana ,likichukua umbo pana kuliko lilivyo chini;umbo la fua pana kama kengele.

Halafu rudia barabara .hizi hazina hesabu katikati ya jiji na ni pana, tena safi sana.Magari yanayotumia barabara hizi ni kochokocho,ya kila ama yanashindania nafasi,

Ajabu kubwa ya Nairobi hata hivyo ni idadi ya watu.Hakuna hasa anayejua idadi kamili ya watu wa Nairobi ,lakini sio kupiga chuku ninaposema kwamba ,hasa nyakati za kuelekea kazini asubuhi ,kwenda kula chakula cha mchana ,kuelekea nyumbani baada ya kazi na kuvuka barabara wakati wa msongamano, watu hukanyangana .Mtu anayesema kwamba watu wa Nairobi ni wengi kama chungu ,au kama mchanga wa ufuo wa bahari, hatii chumvi.

Watu wa Nairobi, kwa tabia na mavazi, si kama watu wa kwingineko nchini Kenya. Watu hawa huvalia nadhifu sana. Wanawake ni warembo ajabu na hutengeneza nywele zao mithili ya hurulaini peponi. Wengi huvaa suruali ndefu. Kucha zao na midomo yao hupaka rangi maridadi sana. Huzungumza Kiswahili na Kiingereza takriban wakati wote. Wanawake wengi ajabu huendesha magari yao wenyewe, jambo ambalo litakushangaza mara tu uingiapo jijini, hasa kama ulilelewa ukidhani maskani mwafaka ya wanawake ni jikoni peke yake; yaani kuzingatia ile falsafa kuwa “kuoa ni kupata jiko”. Wanaume nao huvaa suti safi, maridadi na shingoni wamefunga tai stahiki yao. Wanaume hao huendesha magari na kuyaegesha karibu na afisi zao. Huvingia afisini mwao kwa maringo na madaha, huku funguo za magari yao zikining’inia vidoleni. Hawa nao husema na Kiingereza kupitia puani, utadhani ni waingereza hasa.

Kwa upande mwingine, watoto ni nadhifu kweli kweli hasa watoto wa shule. Hawa huvalia sare zilizofuliwa na kunyoshwa vizuri kwa pasi. Wake kwa waume, shingoni huvalia tai. Watoto wa shule za Nairobi huongea Kiswahili, Kiingereza na sheng, ambayo ni “lahja” yao waliyoibuni. “Lahja” hii ni mchanganyiko wa Kiswahili, Kiingereza na msamiati mchache wa lugha nyingine za Wakenya zisemwazo jijini Nairobi na vitongoji vyake.

Kwa jumla, watu wote wa Nairobi hutembea kasi sana. Hawana hata wakati wa kutembea polepole na kuangazaangaza huku na huko. Iwapo wewe ni mgeni jijini, ukizubaa utapigwa kumbo na waendeleo na hamsini zao kama vile hapakutokea jambo. Hili linapojiri, usidhani limefanywa maksudi. La, hashu. Ni vile tu kwamba Wanairobi hawana muda wa kupoteza.

Maswali

- (a) Kwa nini majumba ya jiji la Nairobi yana majina au lakabu za Kiingereza? (ala 2)
- (b) (i) Baadhi ya maajabu ya Nairobi ni barabara safi, msongamano wa magari na majumba marefu. Ongezea maajabu mengine matatu. (ala 3)
- (ii) Watu wa Nairobi wanajipenda kweli kweli, Fafanua (ala 3)
- (c) (i) Je, Unadhani watu wa Nairobi kweli hukanyagana? Eleza ni kwa nini msimulizi ametoa maelezo hayo (ala 1)
- (ii) Unafikiri ni kwa nini hasa wanawake wa Nairobi wanaonekana nadhifu? (ala 2)
- (d) Kwa nini neno “lahja” limewekwa alama za mtajo? (ala 1)
- (e) Eleza maana ya maneno na tamathali za usemi zifuatazo. (ala 3)

- (i) Nadhari
- (ii) Linaloafiki
- (iii) Waendelea na hamsini zao

2. UFUPISHO

Kiswahili nchini Kenya kilisambazwa kwa njia ya biashara kutoka upwa wa Kenya kwenda bara yake, ingawa si kwa wingi sana kwa sababu wenyeji wa upwa wa Kenya —Mombasa, Siu na Pate walikuwa katika vita vya kupigana na utawala wa Kisultani wa Seyyid Said, Sayyid Majid na Seyyid Bargash. Hata hivyo kuna baadhi ya misafara iliyokwenda bara na kueneza Kiswahili. Kwa mfano, Waswahili wa kutoka Jomvu na Mvita walifanya biashara na Wakamba. Baadhi yao walioa Ukambani na mpaka wa leo kuna milango ya Waswahili ambao nyanya zao wanatoka Ukambani. Wafanyabiashara wengine Waswahili walifika mpaka Umaasaini.

Utawala wa kikoloni ulikitweza sana Kiswahili. Waingereza walitilia mkazo utumiaji wa lugha za kikabila kwa vile walisema kwamba mtu angeeleza hisia zake vizuri kwa kutumia lugha yake ya kwanza. Kiswahili kilitweza na kuchukuliwa kuwa ni lugha ya maboi. Wajerumani walikitweza sana nchini Kenya. Wamisheni pia walikipiga Kiswahili kwa sababu ya ufungamano na Uislamu,

Hata hivyo, Kiswahili kilikuwa kinatumika katika mawasiliano, kwa hivyo wakakata shauri kwamba kitumike katika kufundashia shuleni. Lugha za makabila zilitumiwa katika madarasa ya chini Kiswahili katika madarasa ya kati, na Kiingereza katika madarasa ya juu. Mtihani wa Kenya African Preliminary Examination (KAPE), ulikuwa ukifanywa katika lugha ya Kiswahili nchini Kenya, uliondolewa,

Kiswahili kilitumika katika kuwaunganisha wakenya katika shughuli za ukombozi wa nchi na pia kama lugha ya umma. Mnamo mwaka wa 1964, Tume ya Ominde ilipendekeza kwamba Kiswahili kitumike kwa vile ndiyo lugha ya kumuunganisha Mwafrika, na pia ingetwezesha kuwasiliana na nchi zingine za Afrika Mashariki na Kongo,

Mnamo mwaka wa 1969, chama cha Kenya National Africa Union (KANU), kilifanya Kiswahili kuwa lugha ya taifa, Raisi wa kwanza wa KANU alikuwa akitolea hotuba zake nyingi katika lugha ya Kiswahili, na alitoa kwa Kiingereza kwa ajili ya mabalozi tu. Fasihi ya Kiswahili ilianzishwa mwaka wa 1973, na kwa hivyo wanafunzi wakaanza kuifanya katika kidato cha nne na cha sita.

Ingawa Kiswahili kilitweza sana na Waingereza, bado kinatumika na watu wengi kama lugha ya mawasiliano. Mwaka wa 1968, Berndt Heine alifanya uchunguzi na aliona kwamba asilimia 85.25 ya Wakenya hutumia Kiswahili kama lugha yao ya pili na ndiyo lugha ya mawasiliano. Hivi sasa lugha ya Kiswahili imepewa kipaumbele; ni lugha ya taifa na pia lugha rasmi. Katika sekta ya elimu,

Kiswahili ni somo la lazima katika shule za msingi na za sekondari. Ni somo ambalo linanaendeelezwa hata katika vyuo vikuu vya Kenya.

Ni muhimu kutaja kuwa Kiswahili hakikuenea katika bara ya Kenya kama kilivyoenea Tanganyika. Kiswahili kilienea sana Tanzania kwa sababu ya wakoloni, yaani Wajerumani, waliosisitiza matumizi ya Kiswahili; lakini Waingereza walikitweza katika nchi ya Kenya

Licha ya hayo, nchi ya Tanzania ina lugha 120, na Kenya ina lugha kama 41. Nchi ikiwa na lugha nyingi na watu wachache wanaoitumia kila mojawapo ya lugha hizi, ni rahisi kukuza au kuinua lugha moja kuwa lugha ya taifa inayotumiwa na watu wengi. Hoja hii ilifanya Kiswahili kisienee sana Uganda na Kenya, lakini kikaenea sana Tanzania.

Kiswahili hakikuenea sana nchi ya Kenya kwa sababu biashara haikufana sana katika pwani ya Kenya kama mji wa Unguja. Wanyamwezi na Wayao waliokuwa wakishughulika na biashara huko Tanzania walieneza Kiswahili katika bara, jambo ambalo Wakamba walioshughulika na biashara Kenya hawakushughulika nalo. Wakamba hawakuiga lugha ya watu wa pwani, Wamaasai waliogopwa sana na wafanyabiashara, na kwa hivyo biashara haikufana sana.

(a) Bila kupoteza maana iliyokusudiwa fupisha aya ya kwanza na ya pili (maneno 50-60) (ala 7)

Nakala chafu

Nakala safi

b) Kwa kuzingatia aya za mwisho, eleza mambo muhimu yanayoshughulikiwa na mwandishi (maneno 60 – 70) (ala 8) Nakala chafu.

Nakala safi

MATUMIZI YA LUGHA

(a) (i) Eleza tofauti kati ya sauti /z/ na /d/

(ala 1)

(ii) Toa kigezo chochote kimoja cha kuainishia konsonanti. (ala 1)

(b) Sentensi ifuatayo ina maana mbili tofauti. Zieleze.

(ala 2)

Huyu amekuja kutuliza.

(c) Ikanushe sentensi ifuatayo kwa udogo. (ala 2)

Nyumba yenyewe ilijengwa bondeni karibu na mto.

(d) Onyesha shadda katika maneno yafuatayo:

(ala 2)

(i) Mbono (mti)

(ii) Barabara (sawasawa)

(e) Andika sentensi kuonyesha matumizi mawili ya:

(i) Kinyota

(ala 2)

(ii) Ritifaa .

(ala 2)

(f) Tunga sentensi mbili tofauti zinazobainisha maana tofauti kati ya (ala 2)

(i) Nduni

(ii) Duni

(g) Taja aina zozote mbili za sentensi. (ala 2)

(h) Andika sentensi ifuatayo iwe katika hali ya kukanusha (ala 2)

Tukilala sana tutachelewa kwenda shuleni.

(i) (1) Eleza maana ya nomino. (al2)

(2) Tambua vihusishi katika sentensi zifuatazo. (al2)

(a) Hassan anacheza vizuri kuliko Kiprini.

(j) Taja ngeli za nomino zifuatazo (ala 3)

(1) Ujinga

(2) Ugonjwa

(3) Kucheza

(4) Sukari

(5) Barua

(6) Mti

(k) Tunga sentensi ukitumia nomino ifuatayo pamoja na kivumishi kisisitizi cha mbali kidogo,

Mgomba (ala 2)

(l) Tunga sentensi mbili ukitumia neno kisabuni kama: (ala 2)

(i) Nomino

(ii) kielezi

(m) Andika visawe vya (ala 2)

(i) Hidaya

(ii) Ngeu

(n) Iandike sentensi ifuatayo upya ukitumia ‘0’ rejeshi tamati (ala 2)

Chumvi iliyochafuka si ile unayoizungumzia.

(o) Onyesha vitenzi katika sentensi ifuatayo

(ala 2)

Mwanasiasa shupavu aliyewachochea wananchi amekamatwa.

(p) Yakinisha sentensi ifuatayo katika umoja

(ala 2)

1.Nyuzi zisingekatika zisingepotea.

2. Maji yakimwagika hayasoleki

(q) Taja aina mbili za mofimu

(ala 2)

4. ISIMU JAMII

a. Taja sababu mbili zinazomfanya mzungumzaji kutumia zaidi ya lugha moja katika mazungumzo (ala 2)

b. Kwa kutoa mfano, eleza maana ya uwingi lugha. (ala 2)

c. Fafanua mambo sita yanaoweza kuifanya lugha yeyote ife,
(ala 6)

Appendix C: Post-Test

MTIHANI WA KISWAHILI

MTIHANI WA KIDATO CHA PILI

MUDA: SAA 2 ½

SHULE.....

SEHEMU YA B: UFAHAMU: (ALAMA 15)

Soma shairi lifuatalo kisha ujibu maswali yafuatayo.

MAVAZI REKEBISHENI

Vazi njema kivaliwa, huongezeka heshima,

Staha mtu kapewa, poteendapo daima,

Mavazi duni si sawa, kina dada ninasema,

Mavazi rekebisheni usherati umezidi.

Longi kwa nyuma kushika, na mapajani kubana,

Chupizilipowafika, dhahiri kuonekana,

Buremunaibika, na kujishusha maana,

Mavazi rekebisheni, usherati umezidi.

Kifuanikujikaza, maziwayaning'inie,

Kitu gani munawaza, hamna bahari nyie,

Ni ashikimwasambaza, sikizeniniwambie,

Mavazi rekebisheni, usherati umezidi.

Msichana ni hatia, magoti ikufichuka,

Hivyo basi kuvalia, rinda lisoyafunika,

Huenda zusha hisia, maovu yakawafika,
Mavazi rekebisheni, usheratiumezidi.

Sitakosa kuzitaja, skati mnazovaa,
Zaisha kwa mapaja, kikirikuchuchumaa,
Iko wazi nyonga moja, mkatoulivyokaa,
Mavazi rekebisheni, usheratilumezidi.

Wazi nitawasomea, nguo hizi nguo gani?
Dada zetumwakosea, kuzivaahadharani,
Ndizo hizo huchochea, usherati mitaani,
Mavazi rekebisheni, usheratiumezidi.

Nguo chini zishusheni, mwilini mzipanue,
Heri kuingia deni, za heshima mnunue,
Kuigiza za kigeni, ni utumwamtambue,
Mavazi rekebisheni, usheratiumezidi.

Betيسانamaliza, kalamunaweka chini,
Iwapo wajiuliza, nakereketwa ni nini?
Ni stahanahimiza, sio wake kuhaini,
Mavazi rekebisheni, usheratiumezidi.

MASWALI YA USHAIRI

(a) Shairi hili ni la aina gani? (alama 2) (b) Eleza vina vya beti za kwanza mbili (alama 2)

(c) Toa kibwagizo cha shairi hili kisha ufafanue maana yake. (alama 2)

(d) Eleza maana ya misamiati hii kama ilivyotumika katika ushairi. (alama 4)

Staha –

Dhahiri –

Shani –

Duni –

(e) Shairi hili liko katika bahari zipi? (alama 2)

(f) Uhuru wa mshairi unadhihirikavipi katika shairi hili? (Alama 3)

MATUMIZI YA LUGHA (AL 30)

1. Pambanua sauti hizi kama ni ghuna au si ghuna. (al 1)

/Z/

/K/

2. Eleza maana ya kiimbo. (al 1)

3. Eleza maana ya shadda. (al 1)

4. Eleza maana ya mofimu.(al 2)
5. Andika kwa wingi sentensi hizi. (Al.2)
 - i. Goti la mtoto liliumia.
 - ii. Ukwato wa ngamia ni mpana.
6. Bainisha nomino hizi ni za aina gani. (al.2)
 - i. Sukari.
 - ii. Mapenzi.
7. Tumiavivumishi vya sifa katika mabanokukamilisha sentensi zifuatazo. (al 2)
 - i. Mtoto Yule ni _____ (nene)
 - ii. Bei ya meli ni _____ mno (ghali)
8. Jazapengo kwa kiulizi sahihi kisha uandike sentensi kwa wingi (al 2) Ni mpishi _____ aliyepika.
9. Fafanua maana ya misemo ifuatayo. (al2)
 - i. Kula mate.
10. Andika katika ukubwa. (al 2)
 - i. Jiji hili litapanukaupesi.
 - ii. Jizeelililokosa adabu limekaripiwa.
11. Geuza sentensi zifuatazo katika hali ya usemi halisi. (al 2)
 - i. Ruhenialishauliwa na kasisiaache tabia mbaya.
 - ii. Mwalimu alimwabiapremjiafanye bidii katika masomo yake.
12. Andika vitenzi vifuatavyo katika hali ya kutendeshana. (al 2)
 - i. Penda .
 - ii. Endesha.

13. Tambua kikundi nomino (KN) na kikundi tenzi (KT) katika sentensi zifuatazo. (al 2) i. Anatembea kwa madaa kama tausi.

14. Kanusha sentensi zifuatazo. (Al) 2

i. Mimi nilicheza.

ii. Wewe huchora.

15. Kamilisha methali zifuatazo ?(al 1)

i. Cha kuvunda. ____ 16. Andika kinyume cha maneno yafuatayo. (al 2)

i. Tandika ii. Umba

17. Pambanua sentensi ifuatayo kwa njia ya mstari. (al 2)
Naimba huku nafanya kazi.

ISIMU JAMII (ALAMA 5)

Eleza sifa za lugha ya hotelini

FASIHI SIMULIZI (al 10)

a) Taja aina nne za hadithi.

b) Eleza umuhimu wa hadithi.

Appendix D: County Secondary Schools in Turkana County :

School Code	School Name	Category	Type
1	A	County	Girls
2	B	County	Mixed
3	C	County	Boys
4	D	County	Girls
5	E	County	Boys
6	F	County	Boys
7	G	County	Girls
8	H	County	Boys
9	I	County	Girls
10	J	County	Boys
11	K	County	Girls
12	L	County	Mixed
13	M	County	Mixed
14	N	County	Boys
15	O	County	Girls
16	P	County	Boys
17	Q	County	Mixed
18	R	County	Boys
19	S	County	Mixed
20	T	County	Mixed
21	U	County	Boys
22	V	County	Girls
23	W	County	Boys
24	X	County	Boys
25	Y	County	Mixed
26	Z	County	Girls
27	A1	County	Mixed

Appendix E: Photos of Student During A Video Class





Appendix F: Photos of Student During A Pre Test







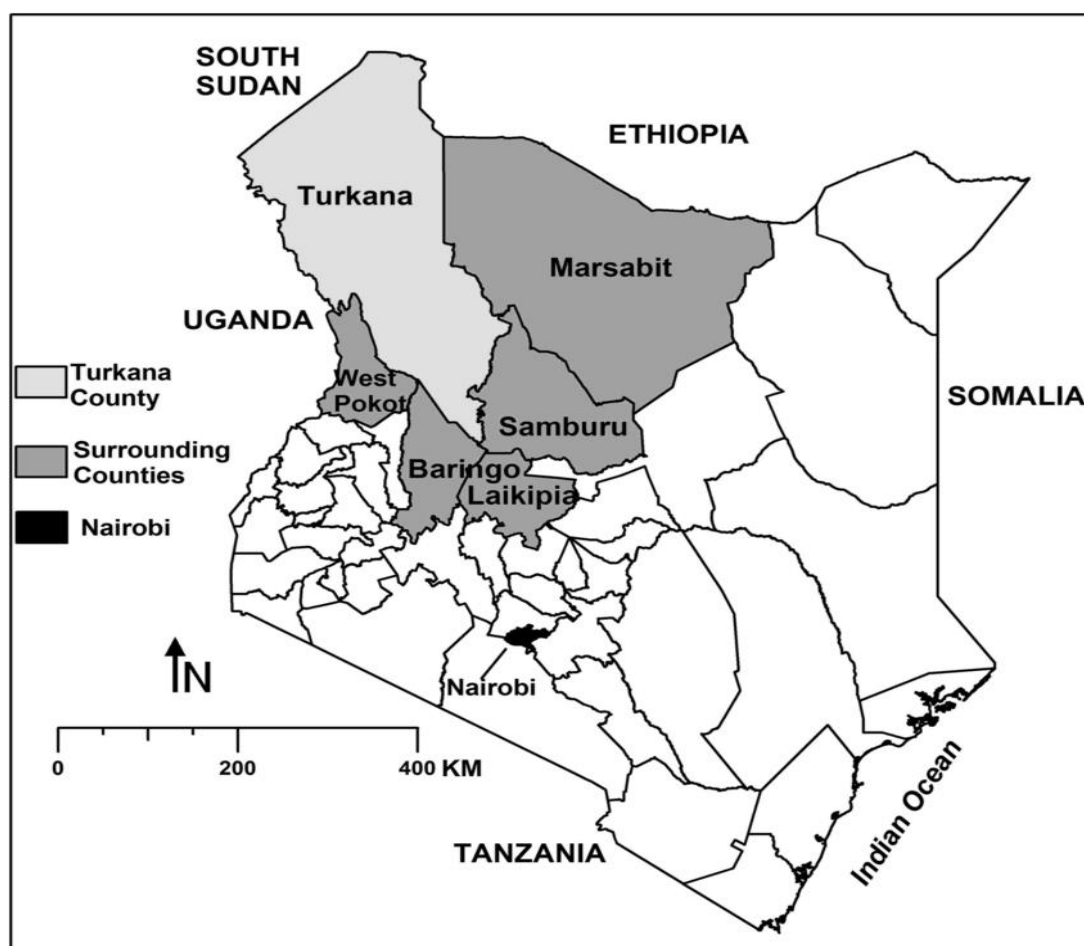
Appendix G: Photos of Students During A Post Test







Appendix H: Location of Turkana County



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Word count:54181

Awarded by

Prof. Anne Syomwene Kisilu
CERM-ESA Project Leader Date: 16/07/2024