EFFECTS OF ANIMATION TEACHING STRATEGY ON STUDENTS' ACHIEVEMENT, MOTIVATION AND GENDER IN THE LEARNING OF KISWAHILI READING COMPREHENSION IN PUBLIC SECONDARY SCHOOLS IN NJORO SUB-COUNTY, KENYA

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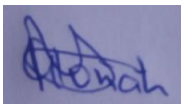
DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and has not been presented for the award of a degree, or diplomain this or any other institution.

Signature  Date: 07-08-2023

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Recommendation

This thesis has been submitted for examination with our approval as the University supervisors.

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DEDICATION

I would like to dedicate my work to my daughter Jhnelle, son Daryan, parents and siblings Seb, Ian and Leewin for their immense spiritual, emotional and material support during the entire study period.

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ABSTRACT

Kiswahili is one of the languages used for communication by a population of over 150 millionpeople all over the world. It is the *Lingua Franca* for Eastern Africa, the national and one of the official languages of Kenya. Additionally, it is among the compulsory subjects examined at public primary and secondary schools. Despite the importance of Kiswahili, its achievementhas been low. It has been suggested that poor performance may be associated with many factors, among them the use of inappropriate teaching strategies. The use of animations in teaching is reported to improve students' achievement and motivation to learn various other subjects. The purpose of this study was to determine the effects of animation in teaching on students' achievement and motivation to learn Kiswahili reading comprehension in public secondary schools in Njoro sub-county, Kenya. Solomon Four Non-Equivalent Control group design was used. Target Population comprised all 14,292 students in the public co-educational secondary schools in Njoro Sub County. The accessible population included the 4,745 Form Two students from public co-educational secondary schools in the Sub-county. A purposive sampling technique was used to select one Form Two class from each of the four co-educational secondary schools which provided the sample size of 188 students for the study. The four schools were randomly assigned to experimental and control groups. The instruments used in the study were Kiswahili Reading Comprehension Achievement Test (KRCAT**)** and the Students'Motivation Questionnaire (SMQ). The validity of the instruments was checked by supervisors and experts from the Department of Curriculum, Instruction and Educational Management of Egerton University. The reliability of the instruments was determined using Kuder -Richardson(K-R) 20 for the KRCAT and the Cronbach alpha for SMQ. A reliability coefficient of 0.76 and 0.73 was obtained respectively hence suitable for the study since they were above 0.7. Data was analyzed using the Statistical Package for Social Sciences (SPSS). Hypotheses weretested using t-test, ANOVA and ANCOVA at α 0.05 significance level. The findings indicated that students taught through animations achieved statistically significantly higher scores than those taught through conventional teaching methods. Their level of motivation was also statistically significantly higher compared to those taught through conventional teaching methods. However, there was no significant gender difference in motivation and achievement when boys and girls were taught through animations. This implies that the use of animations is suitable for teaching both male and female students.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
BBC	British Broadcasting Corporation
DVDs	Digital Versatile Disc
EFL	English as a First Language
ICT	Information and Communication Technology
KCPE	Kenya Certificate of Primary Education
KCSE	Kenya Certificate of Secondary Education
KICD	Kenya Institute of Curriculum Development
KNEC	Kenya National Examination Council
KRCAT	Kiswahili Reading Comprehension Achievement Test
MOEST	Ministry of Education, Science and Technology
NACOSTI	National Council for Science, Technology and Innovation
SMQ	Student Motivation Questionnaire
SPSS	Statistical Package for the Social Science
USA	United States of America

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Language is very essential to all forms of communication between persons (Chepkemoi & Wanyonyi, 2017). It is an important cultural tool since it is the main channel through which sharing and exchange of values, attitudes and aspirations occur (Amberg & Vause, 2006). Kiswahili is an African language of Bantu origin, which is spoken among several ethnic groups that live along the coastal region (Mugane, 2015).

Globally, Kiswahili is among the most influential and widely studied indigenous language of Africa, spoken by over 150 million people (Mazrui & Mazrui, 1993). In America and Europe, Kiswahili has dominated especially in schools where it is offered as a subject (Dzahene-quarshie, 2009). It has also been featured on some international radio stations (Okombo & Muna, 2017). Additionally, Kiswahili is taught as a subject of study in over 100 prestigious universities in the U.S.A (Hinnebusch, 2001). These universities include; Stanford, Harvard, Yale,Ohio and Cornell. The subject is also taught in Britain in Universities such as the famous School of Oriental and African Studies (SOAS), the University of London and York University (Mulokozi, 2002).

Kiswahili the *Lingua franca* of East and Central Africa is also one of the official languages of the African Union and the national language of the Democratic Republic of Congo, Uganda, Tanzania and Kenya (Mulokozi, 2002). In the Kenyan context, Kiswahili is a compulsory subject that is examined at both primary and secondary school levels. At the secondary school level, Kiswahili is examined under three papers; paper one (functional writing) paper two (grammar) and paper three (literature). It is also offered as one of the languages in all the Kenyan teacher training colleges and public universities, hence it is a career subject. Additionally, there are broadcasting stations that broadcast in Kiswahili and even newspapers written in Kiswahili for example, *Taifa Leo* (The nation today). With this, the use of Kiswahili, therefore, takes cognizance of its role in nation-building (Momanyi, 2009).

Although Kiswahili is important for nation-building, a decline in academic achievement among secondary school students in the subject has been reported in Kenya. This is contrary to the objectives of the Kiswahili syllabus which expect learners to listen, understand and express themselves logically and clearly in speech and writing. Additionally, they are supposed to read, comprehend correctly and communicate appropriately (Kenya National

Examination Council: KNEC, 2017). On the other hand, motivation is crucial for achievement to be attained. For students to achieve good grades in all the subjects, they need to be motivated to learn. The motivation to learn might arise from the availability of quality and enough resources, a friendly classroom environment and even the use of learner-centred teaching approaches whichactively involve learners (Rosen, 2009).

The use of teacher-centred approaches in Kiswahili classrooms is said to be among the main contributors to its poor performance. This is because, in using these methods, the teacher dominates the entire lesson thereby not allowing the students to discover knowledge on their own (Mackatiani *et al*., 2018). In the long run, students remain passive during the lesson (Adel *et al*., 2014). Kiswahili paper two has five sections; comprehension, summary writing, grammar and literature. Between the years 2012-2019, the performance of students at the Kenya Certificate of Secondary Education (KCSE) in Kiswahili Paper two which examines comprehension among other aspects, continued to be below average making it an issue of concern for the future of the language in Kenya as shown in Table 1.

Table 1: Candidates' Performance in Kiswahili KCSE Paper Two in the last eight years in Kenya

Year	Mean Score	Expected Score	Standard Deviation
2012	29.06	80	10.77
2013	29.92	80	12.68
2014	32.27	80	12.60
2015	36.12	80	13.50
2016	34.11	80	13.83
2017	25.45	80	11.79
2018	27.10	80	10.76
2019	29.07	80	12.58

Source: KNEC (2017)

Table 1 indicates that candidates performed poorly in paper two consistently. Since the year 2012- 2019, the mean score was below average which is 40 out of the possible 80 marks. The worst performance was in the year 2017 when the candidates had a mean score of 25.45, droppingfrom a mean score of 34.11 in 2016. Although they generally performed poorly in paper two overall, the Kenya National Examination Council (KNEC) Report singled out reading comprehension which is part of this paper, as the worst performed area by the majority

of the candidates (Francis, 2017; KNEC, 2017). It isbecause of this background that this study investigated whether an intervention, such as teaching through animations could lead to better performance in reading comprehension of Kiswahili.

Reading comprehension is compulsory and is tested every year hence no candidate can avoid it. It comprises a total of 15 marks out of the possible 80 marks in Kiswahili Paper Two. The skills tested in reading comprehension include: summarizing, skimming, scanning, sequencing, problem-solving, comparing and contrasting, drawing conclusions and distinguishing betweenfact and opinion.

Ouda (2012) describes reading comprehension as the ability to understand a written passage of text. It is what leads to the success of any reading text, whether it is reading for entertainment or research purpose. Without comprehension skills, it is difficult for students to grow academically since reading is the foundation of all academic subjects such as humanities, languages and sciences (Hulme & Snowling, 2019). It is in connection to this that Hansen concludes that to fully comprehend a passage of text, one has to read and understand the text (Hansen, 2016).

Kiswahili results in Njoro Sub-County have been poor and declining as evidenced by K.C.S.E performance over the last eight years as depicted in Table 2.

Table 2: Njoro Sub-County Student Performance in KCSE Kiswahili paper Two for the last eight Years (2012-2019)

Year	Mean score	Maximum score
2012	5.21	12
2013	5.40	12
2014	5.18	12
2015	5.62	12
2016	3.85	12
2017	3.30	12
2018	4.40	12
2019	4.21	12

Source: KNEC (2019)

Table 2 shows Kiswahili mean scores for the identified period, out of the maximum score of 12 points. The Table shows that schools in Njoro sub-county recorded below-average performance for eight years.

Despite the poor performance, it was also recorded that girls performed better than boys in the subject. Mooch *et al*. (2013) reported better performance in Kiswahili among girls than boys. This study intended to find out whether the use of animations in the teaching of Kiswahili reading comprehension can reduce the difference in achievement between boys and girls.

From the above concerns, Turuthi *et al*. (2016), affirm that poor performance in languages might be associated with; the use of teacher-centred methods which do not permit active participation of students during lessons, lack of appropriate resources, facilities and motivation. Additionally, KNEC Report attributed the poor Kiswahili results to theusage of inappropriate teaching strategies which rely too much on rote memorization rather than meaningful learning. This, therefore, calls for the need to try a different teaching strategy to determine whether learners' achievement in Kiswahili reading comprehension could be enhanced.

A teaching strategy refers to the system, procedure, methods, structure, processes and techniques that a teacher uses during instruction to facilitate learning (Kistner *et al*., 2015). In the context of this study, teaching strategies are practices adopted by teachers to facilitate the process of empowering learners to construct meaning from written text. Globally integration of technology in education is recognized as one of the appropriate strategies for transforming the education quality, by converting the classroom environment from teacher-centred to learner-centred. This is because the use of technology provides a variety of activities that effectively involve the students' compared to the use of chalk and talk (Miima, 2014). Animations as a form of technology may be of benefit in the teaching and learning of Kiswahili reading comprehension. According to Mayer and Moreno (2010), animations are defined as pictures and words that are intended to promote learning. To them, the words can be spoken or printed.

The use of technology in teaching and learning is dominating the educational scene as a tool for improving the teaching and learning process. This is because it provides a wide range of tools that can be used in the classroom environment. Additionally, it has components that aid the learning of abstract subject matter (Adegoke, 2010). Animations are increasingly being used in developed countries with most making their use compulsory during teaching (Querales, 2014). Szabo and Poohkay (2016) define animations as interactive multimedia in which the modules of media such as graphics, colour, video and audio have been integrated. Numgwo *et al.* (2010) define animation as the art of making objects into motion using a computer.

The animations in this study were used as advance organizers. They were used at the

introduction of the lesson to help the learners connect their prior knowledge and the new information taught. Advance organizers are chunks of information spoken, illustrated or written and presented before new material to help facilitate understanding and learning (Ausubel, 1978). They act as subsumers to assist in the retrieval of old information from long-term memory and connect to incoming stimuli to ease the comprehension of new knowledge (Ausubel, 1960). For students to learn well, they must discover meaning in what they are learning. Utilizing advance organizers is important since it enables students to connect prior knowledge to the new information being taught, making the learning process meaningful to them.

Animation is a teaching strategy that encourages the use of both the cognitive and affective dimensions of the teaching and learning process. Hence, bringing real-life perspectives to the classroom environment. For instance, if the comprehension is about how industries cause water pollution, the teacher and the students may not be able to visit the industries and see how they cause water pollution, but the teacher can have animations of the industries showing how they cause water pollution. In addition, animations are very realistic when it comes to showing a change in time (Szabo & Poohkay, 2016). They can also be used to introduce reading comprehension with text accompanied by sound, colour and motion that attract the students and makes them remember the characters and their roles throughout the story. This encourages motivation since it activates learners' imagination, prediction and high-order thinking skills (Ouda, 2012). The flexibility of learning through animation provides a wide range of stimuli, which increases students' engagement in learning, increasing their motivation to learn hence better performance. This can be a better way of embracing a change of emphasis towards a teacher-facilitated approach from a teacher-directed approach. Consequently, both students and teachers may take charge of the lesson as per their abilities (Aremu & Sangodoyin, 2015).

Globally, the use of animation in education has been significantly embraced in developed countries. This is because animation can easily be used to change complex processes and make them clear to the learners (Abdulrasaq *et al*., 2017). In Europe and USA, digital and networked technologies are dominantly used in the classroom whereby, there is a common use of animations and computer games. The outcome of these initiatives is more evident in improved student achievement (Livingstone, 2012). In Israel, the use of animations has been of great importance, especially in the teaching of science subjects. Rosen (2009) in a study that investigated the transfer of knowledge and motivation to learn science as affected by an animated learning environment, found that the learners performed better when instructed using animation.

Additionally, the study indicated that students developed a positive perception towards learning science and perceived themselves as key players during classroom interactions, which enhanced their learning interest and desire for regular use of animations.

In the regional context, the study focused on previous studies that have been done concerningthe use of animations in learning in Africa. Although animation usage in the classroom in Africa is underdeveloped compared to European countries, some African countries are trying very hard to embrace it. For instance, in Nigeria, the Nigerian government gave priority to technology where it demonstrated commitment to providing the required infrastructure and held training that would promote the integration of multimedia in education (Adegbija & Falode, 2014). Bester and Brand (2013) from South Africa pointed out that achievement is very likely to improve if animations are used in a lesson to capture the attention of learners and to maintain their concentration. Adegoke (2010), conducted a study on integrating animations for improving Physics learning in Nigeria and found that, the Students who were taught while integrating animations, had significantly better performance in the subject compared to the ones taught using the conventional method.

In Kenya, the Ministry of Education introduced multimedia integration into the education system to ensure the delivery of quality and effective education. Hennessy *et al*. (2010) pointed out that East African Countries have initiated the employment of multimedia programs in the implementation of school curriculum including the teaching of languages to improve the quality of education. The departments of education in these countries have equipped learning institutions with multimedia programs and trained teachers on how to apply multimedia for instruction reasons, to improve the quality of education including the teaching of languages. Research has shown that animations are very effective in enhancing learner motivation and achievement in school subjects if well utilized. Since the government of Kenya provided the facilities required to implement this strategy, likely, teachers are not utilizing them. This may be one of the causes of poor achievement and lack of motivation in learning the subject. This study intended to investigate the efficacy of using animations in improving learner achievement and motivation in the learning of Kiswahili comprehension.

1.2 Statement of the Problem

Reading comprehension is a vital session in the Kiswahili curriculum in Kenya. It equips learners with competencies which are likely to lead to academic success. It is tested every year at KCSE as a compulsory question in Kiswahili Paper Two. Despite its importance, KNEC

reports on this language aspect indicate that students' performance has been persistently poor over the years, with a gender bias in favour of girls. This poor performance in comprehension contributes to the overall poor achievement in the subject. The poor performance may be associated with many factors, some of which are lack of motivation to learn by the students and the use of inappropriate teaching strategies by Kiswahili teachers. There is, therefore, a need to explore the use of other teaching approaches that have been found to enhance students' motivation and achievement in other subject areas. The use of animations has been credited with the enhancement of learners' learning ability, achievement and motivation to learn. However, there is insufficient documented material in research carried out in Kenya to investigate the effect of animation use on students' achievement and motivation to learn Kiswahili reading comprehension. This study, therefore, sought to fill this gap by investigating the effects of the use of animations in teaching on students' achievement and motivation in the learning of Kiswahili reading comprehension in public secondary schools in Njoro Sub-County, Kenya.

1.3 Purpose of the Study

The purpose of this study was to investigate the effects of animation in teaching on students' achievement and motivation to learn Kiswahili reading comprehension in public secondary schools in Njoro sub-county Kenya.

1.4 Objectives of the Study

The study was guided by the following objectives:

i. To determine the effects of using animations on students' achievement in Kiswahili reading comprehension between students taught through animations and those taught through conventional methods.
ii. To determine the effects on student motivation in Kiswahili reading comprehension between students taught through animations and those taught through conventional methods.
iii. To determine whether there is any gender difference in achievement between students taught Kiswahili reading comprehension through the use of animations and those taught through conventional methods.
iv. To determine whether there is any gender difference in students' motivation to learn Kiswahili reading comprehension between students taught through the use of animations and those taught through conventional methods.

1.5 Hypotheses

To achieve the stated objectives, the following hypotheses guided the study:

H_O1: There is no statistically significant difference in students' achievement in Kiswahili reading comprehension between students taught through animations and those taught through conventional methods.

H_O2: There is no statistically significant difference in students' motivation to learn Kiswahili reading comprehension between students taught through animations and those taught through conventional methods.

H_O3: There is no statistically significant gender difference in students' achievement in reading comprehension between students taught through animations and those taught through conventional methods.

H_O4: There is no statistically significant gender difference in students' motivation to learn Kiswahili reading comprehension between those taught through animations and those taught through conventional methods.

1.6 Significance of the Study

These study findings provide data on the effectiveness of using animations in motivating students thus improving their achievement in Kiswahili reading comprehension. This is likely to encourage the usage of animations in teaching reading comprehension.

The teacher training institutions will benefit by incorporating the use of animations in the training curriculum. The findings of this study may provide effective information to the Ministry of Education on the advantages of using animations in teaching reading comprehension and therefore recommend their use in schools. The findings may also be important to curriculum stakeholders at the Kenya Institute of Curriculum Development (KICD) to improve strategies for facilitating secondary schools with more computers that teachers can use to develop the animations that they can use during instructions.

1.7 Scope of the Study

The study was conducted in Njoro Sub-County, targeting public sub-county co-educational secondary schools that present candidates for the National Examination under the 8-4-4 system. The study specifically focused on the effects of animation in teaching on students' achievement and motivation to learn Kiswahili reading comprehension. The study only focused on the Form Two students since they are not a candidate class and school authorities do not allow candidate classes to be interfered with.

1.8 Limitations of the Study

i. This study involved secondary school students in Njoro sub-county co-educational schools. Therefore, the findings could only be generalized to students in co-educational schools in Njoro sub-county rather than to all the students in Kenya.

ii. The topic covered was reading comprehension in Kiswahili as presented in the syllabus. The generalizability of the findings will, therefore, be limited to reading comprehension rather than Kiswahili as a subject.

1.9 Assumptions of the Study

The study assumed that:

i. Teachers and students in the selected schools would cooperate during the study.

ii. The teachers in the experimental schools implemented the teaching module accurately as explained during the training period.

1.10 Definition of Terms

The following are the constitutive and operational definitions of terms according to their application in this study.

Achievement: Denotes the learners' capability to perform any task in the area of comprehension, recall, application and higher-order skills (Gronlund, 1981). In this study, achievement refers to the scores in the Kiswahili reading comprehension achievement test obtained by students.

Advance organizers: Advance organizers are chunks of material or information written, spoken, or illustrated, presented before new material is provided to help facilitate learning and understanding (Ausubel, 1960). In this study, advance organizers refer tothe animations that will be used during the introduction of the lesson.

Animations: An art of creating images on surfaces usually paper, using ink, cartoons or chalk choral. In this study, animations are coloured images accompanied by text and sounds that the teacher will project to the students during the introduction of the lesson to help them understand reading comprehension better.

Conventional method: The learning method where the teacher controls the learning with minimal learners' talk while instruction is either teacher or textbook-driven (Li, 2016)**.** In this study, the conventional method is an instructional approach characterized by chalk and talk as opposed to the use of animations during instruction.

Co-educational Secondary School: It is a secondary school in which boys and girls learn

together in mixed classes (MOEST, 2007). In this study, co-educational school refer tothe sampled schools in which male and female students learn together in the same class

Effect: It is the power to produce an outcome or achieve results (Wambugu & Changeiywo, 2008)**.** In this study, effect means the results or outcomes produced by the treatment.

Gender: Refers to the fact of being male or female (Joseph *et al*., 2015). In this study, gender will refer to a male or female student.

Lingua Franca: A language that is commonly used among speakers whose native languages different (Mazrui & Mazrui, 2019). In this study, Lingua Franca is a language thatis adopted as a common language between speakers whose native languages are different.

Motivation: This is a psychological drive to achieve a given goal (Adel *et al.*, 2014). In this study, motivation refers to students' drive based on their perceived probability of success and the relevance of Kiswahili reading comprehension

Reading Comprehension: This is the capacity to process text, clearly understand its meaning, andincorporate it with what the reader already knows (Hulme & Snowling, 2019). In this study, reading comprehension is the ability to understand a written Kiswahili passage.

Teaching strategy: Refers to the system, methods, structure, procedures, techniques and processes that a teacher uses during instruction to facilitate performance (Kistner *et al*.,2015). In this study, the teaching strategy is the use of animations adopted by the teacher to facilitate the process of empowering learners to construct meaning from written text.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on the use of animations in learning. In this section, the following areas are discussed: the importance of Kiswahili and its development in Kenya; the definition of animation; the use of animation in reading comprehension; effects of animations on students' performance; achievement and gender; the Influence of motivation to learn; advance organizers; the theoretical framework and conceptual framework.

2.2 Importance of Kiswahili and its Development in Kenya

Kiswahili is an African language of Bantu origin. It is also among the fastest-growing languages globally. It is also taught in many institutions of learning in Japan, the USA, Korea, Europe and Canada among others (Okombo & Muna, 2017). Globally, Kiswahili tops among the African languages taught in European and Asian institutions. Additionally, there are some Western countries which are more interested in Kiswahili than other languages. This is proved by the increase in the call for Kiswahili translators for organizations such as the American-based Language Line Incorporated and Pacific Interpreters. These organizations offer services which include immigration, law enforcement, hospitals and airline (Moshi, 2006).

Kiswahili is the national or official language of Tanzania, Kenya., the Democratic Republic of Congo and Uganda. Additionally, it is among the official languages of the African Union and the East African Community. It is a language of influence economically, socially and politically hence knowledge of it can deepen business relationships. Compared to other languages in East Africa, Kiswahili is commonly used in daily activities. It has great value within the economy since much trade in the East African region is steered in Kiswahili (Momanyi, 2009).Kenya is home to many communities that have different lifestyles. Kiswahili enhances social interaction between these communities hence getting rid of cultural identities (Moshi, 2006). Consequently, Kiswahili has helped in bringing about cohesion resulting in peace and stabilityinthe East African region (Otieno, 2017).

Normally, for effective communication to prevail, people must understand each other. In EastAfrica, Kiswahili has always been associated with enhancing the general communication of workplaces where people are from diverse backgrounds (Habwe, 2009). Kiswahili breaks and links any likelihood of communication breakdown, unlike the English language which is spoken mostly by educated people. For example, English language use in Tanzania is

significantly low. This is because the majority of the people who form the highest percentage of the workforce communicate in Kiswahili and as a result, the language gives the citizens some commonality (Habwe, 2009).

Kiswahili plays an important role in the education system in several African countries. In Tanzania, Kiswahili is the medium of instruction in most public primary schools. In Kenya, it is a compulsory subject at both primary and secondary school levels and teacher training colleges. This means that quality grade in the subject is a requirement for upward mobility in education, career choice and development (Ipara & Mbori, 2009). Before independence, there was less support for Kiswahili. The Beecher Report of 1942 recommended that the teaching of vernacular be emphasized and English takes the place of Kiswahili. The less support for Kiswahili was a defence mechanism from the colonialists since they knew that the use of Kiswahili would unite the Africans making it easy for them to fight for their independence (Timammy & Oduor, 2016). In the year 1957, the ministry of education formed a special centre in Nairobi with the specific aim of promoting English language teaching. This brought to an end the use of Kiswahili as a teaching language. It was only taught in schools but not examinable (Mazrui & Mazrui, 1993)

After independence in 1964, the Ominde Commission was formed (Republic of Kenya, 1964).It advocated for the teaching of Kiswahili as a compulsory subject in primary schools. This was to be in preparation for adopting it as a national language. It also recommended Kiswahili teachers be trained over the school holidays. Additionally, it proposed the creation of the Department of Kiswahili at the University College of Nairobi. During this period, Kiswahili was not examinable therefore it was never taught with the seriousness it deserved (Timammy & Oduor, 2016).

In 1976, Gachathi Report recommended Kiswahili be introduced as an examinable subject and mandatory at the secondary and primary levels (Republic of Kenya, 1976). These recommendations were recognized in the Mackay Report of 1984, which agreed that Kiswahili be made a compulsory and examinable subject in the country's primary and secondary schools. This was implemented in 1985 through the 8-4-4 system of education (Republic of Kenya, 1984).

On 27th October 2010, Kiswahili got its new status as an official language in Kenya (Kenya Constitution, 2010). Thus, it became an official as well as a national language of the republic. This is because it is used in daily life activities. Additionally, Kiswahili language is used

internationally in promoting and developing different spheres of life such as politics, culture and economy (Miima, 2014).

2.3 Common Teaching Methods used in the Teaching of Kiswahili

Teaching is either Teacher-centred or Learner-centered and each of these has advantages and disadvantages. To make an informed choice of teaching methods in the teaching and learning process, the teacher must be aware of the teaching methods available, the purpose eachserve, the strengths and weaknesses of each method, and how each method is used in practice (Nekesa, 2012). Ahmad and Aziz (2009) argue that teacher-centred is the conventional method of teaching where teachers are at the centre of classroom activities. They talk, teach and explain throughout the lesson. They also noted that, in conventional classrooms, learners have a fixed perception of their teachers' roles and their roles. Additionally, students' participation in teacher-centred learning is at a minimum, since the method is teacher-controlled and students are allowed to participate only when teachers deem it necessary. Teacher-centred approaches include lectures, demonstrations, chalk and talk method.

Ahmad and Aziz (2009) explain that in a learner-centred class, the teacher is only a facilitator and students take the lead in the role of discussion. Here, students hold a more active and participatory role compared to conventional methods. This teaching method encourages students' participation in all classroom activities. The teacher's role is just to instruct and direct the students' discussion. The students are allowed to explore and discover learning on their own.

The teaching methodologies utilized by the teacher are fundamental for a successful learning process. Learner-centred methods attempt to break the monotony of conventional methods ofteaching in which the students are receivers of information, listening to what the teacher says (Nekesa, 2012). Turuthi *et al*. (2016) attribute the poor performance in languages to the use of conventional methods which do not actively involve students in constructing their own knowledge and understanding by relating new learning to previously acquired knowledge and experience.

Kiswahili in Kenya is taught using explicit methodologies. Learners are made to cram vocabulary and expressions which they then use to write repeated compositions. Grammar is constantly corrected by the teacher either by assignment grading or by directional classroom engagement. Due to this, Kiswahili achievement remains low (Gakii, 2017). The lecture method is among the methods commonly used to teach Kiswahili in secondary schools. Here,

the teacher teaches verbally in the classroom without involving students in the process. He or she does the teaching according to a pre-planned scheme (Kamau, 2013).

Another method used to teach Kiswahili is question and answer. Here, the teacher and the student communicate verbally through questions for the entire lesson. The method is used to obtain feedback for both the student and the teacher. The limitation of this method is its nature of emphasizing recall only and failure to actively involve all the students (Kang'ahi *et al*., 2012). It is evident that the conventional methods used to teach Kiswahili contribute to its poor performance. Therefore, there was the need to explore other learner-centred methods of instruction such as the use of animations in teaching which has proved to be advantageous in other parts of the world.

2.4 Effects of using animation in teaching on students' achievement in Reading Comprehension

Reading comprehension is defined as the skill to read, understand and interpret a written text. To get information from a written text, reading skills must be mastered. Students are supposed to comprehend what they read since comprehension is what leads to the success of any reading text, whether it is reading for entertainment or for collecting information. Without comprehension skills, students will not be able to perform well in other subjects sincereading is the basis for all academic subjects (Hulme & Snowling, 2019). To fully understand a passage of text, one has to interact with the text and add meaning to it (Hansen, 2016). However, the majority of the students have difficulties in reading hence they cannot comprehend what they read. Khalidiyah (2015), observed that lack of vocabulary is a problemin reading English among students. When learners cannot read and understand a text because of new words, it is the role of the teacher to create activities that can enhance students' abilityin understanding information from a text. This, therefore, implies that teachers have the responsibility to use strategies and resources that can make students comprehend texts better.

There are many possible reasons why students cannot read and comprehend a text. Some have the belief that reading comprehension is difficult. Additionally, the strategies used by teachers to teach reading comprehension may be inappropriate or the schools lack adequate resources and facilities for making reading comprehension successful. Khalidiyah (2015) points out that most of the schools in Indonesia use methods which make the students passive learners. Secondly, multimedia use during lesson presentations has not been so effective. The majority of the teachers are still confused about coming up with the most appropriate teaching method

to be used during the lessons. Adegoke (2010) observed that animations use in lesson presentations in Nigeria, are being restricted to only privately owned institutions where children of the affluent attend. This means not all students and teachers have access to the use of animations hence they are not utilized in all schools. Benson and Odera (2013) in their study on the selection and use of media in teaching in secondary schools in Kenya, also confirmed the lack of adequate instructional and media from which teachers could select for teaching Kiswahili. Although the instructional media in schools are insufficient, it was noted that teachers do not utilize the available ones. This suggests that the use of animations in teaching and learning is not very much utilized in most cases.

Lack of adequate resources and usage of inappropriate teaching approaches might be the reason why learning reading comprehension becomes boring making students not motivated to learn.Consequently, the learning outcomes become negative. Several research studies indicate that learning can be made more effective by the use of animations (Bester & Brand, 2013; Hamzat *et al*., 2017; Kim *et al*., 2007; Rosen, 2009). Using animationsreleases the practical possibilities that somebody does not simply enjoy in words. Animation makes learning faster and more enjoyable. Additionally, it is an excellent teaching aid for teachers to use while teaching difficult subjects since it doubles the chances of the information being stored and retrieved because of its power to present information both visually and verbally. Ouda (2012) explains that animations help students in developing speaking, reading and listening skills. For reading skills and particularly vocabulary, the teacher can use animations and pictures to define them. This will help the students to acquire new vocabulary by linking the pictures and animations to the real world around them.

Ouda (2012) further argues that animation enhances learners' mastery of different subject matter and helps them solidify their understanding of abstract ideas. It is also more effective in students' retention of complex ideas. Ouda continues to argue that animation facilitates language learning by helping students create what they hear in their minds which increases comprehension level, leading to additional cognitive benefits, such as greater depth of information processing. Bengkulu (2016) in a study investigating whether the use of animations affects students' reading comprehension proved that animations are very effective in teaching reading comprehension. The study found that there was a statistically significant difference between the control and experimental groups in reading comprehension scores in favour of the experimental groups. The sample for the study was 52 students which were taken from two

classes. The experimental class received treatment by use of animated cartoon videos, while the control class was taught by using the lecture method. Bengkulu explains that using animation provides all students with appropriate pictorial incentives which enable them to create predictions and reflections hence giving teachers a smooth chance to stimulate their background knowledge.

In a study investigating whether the use of animations can improve students' reading skills, Khalidiyah (2015) realized that animated videos improved students' reading comprehension. Students also gave positive responses towards the use of animated videos which improved their reading comprehension and motivated them. In a similar study, Ouda (2012) confirmed that the use of animation in learning reading comprehension has a positive effect. The study investigated the effect of animated films, on enhancing reading comprehension skills. The study sought to determine whether there was a difference in reading skills between the experimental group who learned reading comprehension skills through using animated films and the control group who received reading comprehension classes through the traditional methods. The sample of the study was (62) students. The experimental group performed better compared to the control group. The better performance in the experimental group was linked to the use of animations which introduced reading comprehension texts provided with motion, sound and colour that attracted the students, and made them easily remember the characters and their roles. This is a strong type of motivation which facilitates learning and activates learners' imagination, prediction and high-order thinking skills.

Most of the studies done to establish how animation can improve reading comprehension in languages have been done specifically in the English language with most of them focusing onthe acquisition of vocabulary. There is lack of enough documentation on how the use of animations can improve reading comprehension in other languages apart from English. This study, therefore, intended to fill this knowledge gap by investigating the effect of animation in learning Kiswahili reading comprehension.

In the world today, the rapid growth in technology is affecting our daily lives in a major way, especially in the education sector. This is because technologies provide for both teachers and students more opportunities of adapting learning and teaching to individual needs (Ghavifekr & Hussin, 2011; Ilhan & Oruç, 2016; Mikre, 2011). Using animations has a great potential to engage students, accelerate, enrich and deepen skills in the teaching-learning process. This is because animations are more realistic. According to Mayer (2008), learning is

enhanced when words and pictures are used together. Therefore, effective teaching might take place if teachers use pictures and words during the teaching and learning process. Paivio (1986) confirms that people are likely to learn better when related information is presented concurrently via pictorial and verbal media than when it is presented via pictorial or verbal media alone.

The use of animations could enhance students' reading comprehension in Kiswahili. A study involving secondary school students investigated whether animation-based learning affects students' performance in physics subject. The study established that the experimental group which was taught using animations performed significantly better than those taught using the conventional lecture method (Adegbija & Falode, 2014). Further analysis indicated that the effect of animation was strongest on the weaker students. A study by Rosen (2009) on how an animated learning environment affects the transfer of knowledge in science learning indicated a great impact of animation. Rosen explains that during the experimental period, the classroom activities were dominated by the students whereby they played a key role in the lesson. This made them emphasize more on technology use and experiments during lessons. This, therefore, proves animation use improves performance. A similar study by Hamzat *et al*.(2017) found that learners instructed using computer animations got significantly higher scores than those taught conventionally.

Edo (2017) suggested that reducing the time used to retrieve information from long-term memory and then subsequently reconstructing it in short-term memory can be made possible by the use of animations. Edo further explained that animations facilitate thereconstructing process during retrieval by encouraging the organization of the information thuspromoting understanding. Mayer and Sims (1994) in their study noted that computer-based animations could be used to promote scientific understanding. This is because learners learn more from pictures and words which are presented simultaneously compared to words alone. It was also realized that students performed better on problem-solving and recall tests when both the visual and verbal systems were utilized. Additionally, animations supported with textdecreased the cognitive load of students. They also noted that animations accompanied by a textualdescription empowered students to utilize their ability to synthesize the information byactivating their visual skills hence decreasing verbal skills load.

A computer-based animation is a useful tool for instruction and meaning-making of the content to be taught. This strategy is such that during instruction, students view the animated

pictures as real objects. Thus, learners become interested to learn which in turn leads to increased understanding and hence improved performance (Edo, 2017). Ikwuka and Samuel (2017), in their study on the effect of computer animations on secondary school students' academic achievement in Chemistry, found that students taught using computer animations performed better than those taught using conventional methods. The statistically significant difference inthe performance was a result of the ability of the computer animation instructions to provide both visual and aural representations of the experimental procedures and the microscopic concepts, which were made visible by computer animation instruction. The use of computer animations in instruction has the potential of making students learn more because they are enjoyable which is a natural way of making students learn more. Therefore, improving the performance of students.

Iravani and Delfechresh (2011) noted that the purpose of animation in the teaching and learning process is to encourage students to learn by engaging their interest, increasing self-driven andpersonal responsibility for learning, development of higher order thinking skills and creativityin problem-solving. Additionally, they emphasized that the flexibility of learning through animations allows a wider range of stimuli thus increasing the students' engagement in learningwhich translates into an increased level of academic achievement and retention, which area priority of any educational system.

2.5 Influence of Animations on Motivation to Learn

Motivation is considered an important factor that affects human performance and behaviour. Inthe education system, researchers affirm that motivation is a key factor in improving student achievement (Orhan, 2018). Lin (2012) describes motivation as basic desires which are developed while learning and obtaining new information. According to Lai, motivation refers to the reasons that underlie behaviour that is characterized by choice and willingness (Lai, 2011). However, according to Karimi *et al.* (2018), motivation is referred to as a state where the individual demonstrates various attitudes voluntarily to achieve specific goals.

Deci *et al*. (2001) classify motivation into two; extrinsic and Intrinsic motivation. Intrinsic motivation is when an individual behaves in a certain manner that is independent of the drives outside of the individual. Interest and curiosity of the individual are the main sources of intrinsic motivation. Actions executed through intrinsic motivation are intrinsically rewarding for the individual, no extra motivation is needed. The individual is expected to display behaviours such as volunteerism, willingness and making a choice. Extrinsicmotivation on the

other hand is when the drive of the individual's behaviour is independent of him, that is it lies in their environment. The behaviour originates from external sources.Consequently, the individual is not motivated by an interest in the action but rather they are motivated by the benefits that the action brings.

Educational psychologists have recognized the importance of motivation in supporting students learning. They noted that motivation is a critical factor for language learning to be very effective. Additionally, teachers serve as one of the most influential factors in the motivational quality of the language learning process. This is because they can incorporate motivational strategies which fit their pedagogical settings and their students' needs using the available facilities (Karimi *et al.,* 2018). Effective teachers have the characteristics of motivating their students during the teaching-learning process. With the widespread use of technology, teachers need to employ strategies that would motivate the 21st-century generation who depend on technology in most of their classroom activities, for example, researching and typing (Monaco & Martin, 2007; Sutton, 2013).

Prior studies show that motivation plays a critical role in influencing learning and achievement (Barak *et al*., 2011). On the other hand, Amine *et al*. (2012) assert that students' motivation to learn can be increased by the use of multimedia technologies. This is because multimedia provides an easy way of presenting information through audio, text, video,graphics and images. A combination of sound, words and pictures always incorporates more information hence accommodating students who learn best by either visual, audio or both audioand visual.

With specific reference to language learning, Bengkulu (2016) noted a great impact on students' motivation in learning reading comprehension. In a similar study by Khalidiyah (2015) on theuse of animated videos in enhancing students' reading skills, the findings showed that animatedvideos improved learning outcomes. This was significantly contributed to by an increase in learner motivation brought about by the use of animation in the learning process.
Since motivation to learn is a competence which can be acquired through experience, it can also be encouraged through statements of expectation and appropriate methods of instruction. What is taught and the method used exert tremendous influence on the motivation of the students to learn (Wambugu & Changeiywo, 2008).

2.6 Achievement and Gender

The world currently encourages education for all genders, especially females. This is to make sure that both girls and boys have an equivalent opportunity to access education without

discrimination. Gender has always been a cause of concern to many researchers as to whether it affects achievement or not. Gender-related differences have categorized the education system in Kenya at all levels in favour of males (Republic of Kenya - Ministry of Education Scienceand Technology, 2007). For many years, male candidates have dominated the top one hundred positions at national, county and district levels. Female candidates have only dominated in a few districts (KNEC, 2011).

According to Moochi *et al.* (2013), there exist three schools of thought that explain gender differences. Firstly, is the school of thought. It explains that education differences are triggered by nature. The second attributes differences in education tosocialization and the last is a combination of nature and environmental factors. According to Kang *et al*. (2012), gender has a significant impact on how students learn the language. Girls exhibit higher language achievement than boys. This is associated with the fact that generally; girls mature faster than boys. Societies have particular perceptions about the capabilities of boys and girls. Some professions and vocations have been considered for men while others for women. As a consequence of this perception, society tends to view girls as the weaker sex. Hence many average girls grow up and go to school with these stereotypes (Joseph *et al.,* 2015). Nnamani and Oyibe (2016) argue that various comparisons indicate average scores of girls and boys to be at the same level on the general intelligence test. However, girls perform better on verbal tests than boys. A significant difference was marked on a mechanical test where the boys performed much better than the girls. They articulated that the difference might be related to the cultural influences in our civilization, which encourage boys to develop constructional, mechanical and physical interests. They concluded that many surveys demonstrate that the range and spread of ability are slightly more restricted in girls.

In most parts of the country, it is believed that boys tend to perform extremely better in mathematical and computer-related subjects compared to girls. whereas girls perform betterin languages and humanities (Joseph *et al*., 2015). Moochi *et al*. (2013) in a study ondifferences and gender in Kiswahili creative writing confirmed that girls mostly outdo boys increative writing. Akinoso (2018) in a study on the effect of animation use in teaching Mathematics on students' performance revealed that there was no significant differencebetween boys and girls after the treatment. The KCSE results reveal that gender difference inthe performance of Kiswahili is dominant in favour of the girls. In a study by Mark, boys tend to have a slightly more negative attitude towards learning Kiswahili than girls (Mark, 2009). There is, therefore,

need to focus on ways of bridging the gap between the boys' and girls' achievement in Kiswahili. This study sought to find out if the use of animations in teaching Kiswahili reading comprehension would bridge the gap between boys and girls.

2.7 Use of Animations as Advance Organizers

Advance organizers are chunks of information written, illustrated or spoken, presented beforenew material to help simplify learning and understanding of new content presented (Ausubel, 1978). The purpose of an advance organizer is to provide a bridge between the existing cognitivestructures of the learners and the new content that they have to learn. There are two kinds of advance organizers: comparative and expository. The choice to use one or the other depends on whether the information is novel to the learners or similar to the information they already know. Expository advance organizers are suitable when learners have no knowledge similar tothe information being taught. Whereas comparative advance organizers are suitable when learners have existing knowledge similar to the information being presented (Ausubel, 1960).

The use of animations as advance organizers may help enhance students' understanding of reading comprehension. The type of advance organizers used for the study was expository. The animations provided new knowledge that students needed to understand comprehension. Mayer (2008) argues that an organizer presented before learning results in more effective learning than an organizer presented after learning. Mayer further explains thatan advance organizer categorizes new information by outlining, sequencing and arranging the mainideas of the new information based on what the learner already knows. Effective advance organizers should use concepts and terms that are familiar to the students for themto connect the prior knowledge to the new knowledge presented. This will aid in the process of transforming knowledge and creatively applying it in new situations. This process helps to store the new information in long-term memory. Advance Organizers should be simple and clear for easy understanding and easy relation to the new information (Mohammadi *et al.,* 2010).

Study findings have proved the greater effects of various types of advance organizers used to facilitate reading comprehension. Öztürk (2012) found that learners instructed using graphic organizers scored highly in a posttest testing recall and comprehension as opposed to low scores obtained by a group not exposed to graphic organizers. Another study by Sam and Rajan (2013) on how to improve reading comprehension skills using graphic organizers observed that its use greatly motivated students making them create their own graphic organizerfor the passages they

read and comprehended. This improved their creativity hence improving their comprehension skills.

2.8 Theoretical Framework

The theoretical framework for this study was anchored on the Paivio (1986) dual-coding theory. The theory was introduced by Allan Paivio (1986) in his influential book "*Mental representations*: A dual coding approach". This approach supports the use of non-verbal and verbal codes during instruction. It rests on the assumption that human beings have two coordination. One specializes in verbal information and the other specializes in non-verbal information. Paivio confirms that people seem to learn in a better way when information is presented simultaneously via pictorial and verbal than when it is presented via pictorial or verbal mode alone.

According to Paivio (1986), animations that combine the visual and verbal representation of information may help learners store more information in long-term memory better, thus facilitating easy retrieval processes. Several studies have confirmed that dual coding theory helps learners store information in long-term memory (Aksoy, 2012; Aremu & Sangodoyin, 2015; Szabo & Poohkay 2016). Additionally, they discovered that animations aid to prompt and therefore gain the learner's attention which influences an association between the verbal and visual components of the task and that the resulting association would improve performance. Studies conducted by Mayer confirmed that when pictures and words are presented together, students perform better both on retention and transfer, that is, the ability to apply what they have learned to solve a problem.

The theory was appropriate for the study since the students were exposed to animations with images, sound and texts, which enabled them to take great advantage of their competence to process the information on two levels of visual and audio hence enhancing performance.

2.9 Conceptual Framework

The conceptual framework illustrates the relationship between independent and dependent variables as relates to the effects of using animations in teaching on students' achievement and motivation to learn Kiswahili reading comprehension. The variables of the study have been conceptualized as presented in Figure 1.

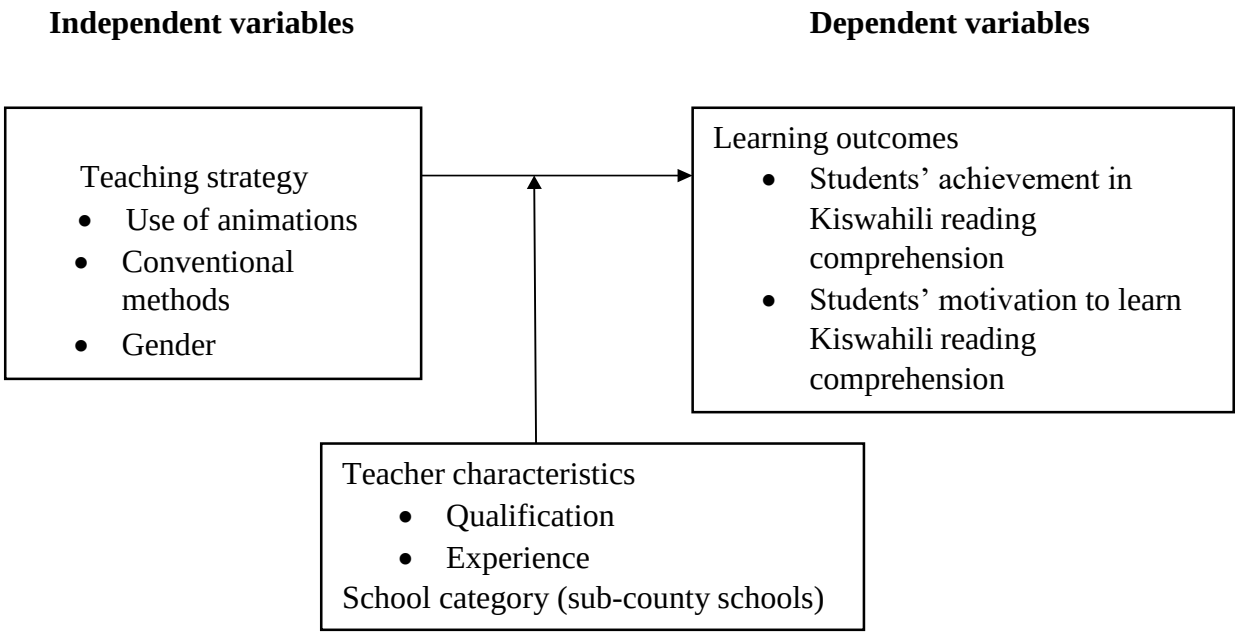

Figure 1: Conceptual Framework for the Study

The conceptual framework is represented diagrammatically in Figure 1. It indicates the relationship among the variables of the study. Under normal circumstances, the teaching strategies used would affect the learners' motivation and achievement to learn Kiswahili reading comprehension. However, the relationship between the teaching strategies and the learning outcomes may also be influenced by other factors such as the qualifications and experience of the teachers and the type of school. These are intervening variables which need to be controlled. To control for teacher qualification and experience, only the trained and qualified teachers with a minimum teaching experience of two years participated in the study. The school category was controlled by selecting public Sub-County co-educational secondary schools. This is because students in these schools have relatively similar entry characteristics.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methods and procedures that were followed in conducting the research. It comprises the research design, location of study, the study population, sampling procedures and sample size, the instruments that were used, validity and reliability of the research instruments, data collection and data analysis procedures and finally, ethical considerations that guided the study.

3.2 Research Design

This study used quasi-experimental research in which Solomon Four Non-Equivalent ControlGroup design was used. The quasi-experimental approach was used because secondary schoolclasses once constituted exist as intact groups and school authorities do not allow the classes to be broken for research purposes. The design has an advantage over others because it has thebest controls over the threats to internal validity (Fraenkel *et al.,* 2006). The study involved four groups. Group I, the experimental group, received the pre-test, the treatment (X) and the post-test. Group II control group, received a pre-test followed by a control condition and then the post-test. Group III the experimental group did not receive the pre-test but received the treatment (X) and post-test. Group IV control group received the post-test only. The design is considered suitable for achieving various purposes, for example, to assess the effects of treatment relative to the control (Wambugu & Changeiywo, 2008). The Solomon Four Non-Equivalent control group design is illustrated in Figure 2.

Group	**pre-test**	**treatment**	**post-test**
Group I	O_1	X	O_2
Group II	O_3		O_4
Group III		X	O_5
Group IV			O_6

Figure 2: Solomon Four Non-Equivalent Control Group Design

Source: Fraenkel *et al.* (2006)

KEY

Group I	-	Experimental group one
Group II	-	Control group one
Group III	-	Experimental group two
Group IV	-	Control group two
O_1, O_3	-	Pre-test scores
O_2, O_4, O_5, O_6	-	Post-test scores
X	-	Treatment

3.3 Location of Study

The study was carried out in Njoro Sub-county which is located in Nakuru County. The area of Njoro Sub-County is approximately 713.3 km^2 with a population of 208, 359 (County Government of Nakuru, 2017). The Sub County has forty-eight (48) secondary schools of which three (3) are extra-county secondary schools. Administratively, Njoro Sub-County is divided into five divisions Mau Narok, Mauche, Kihingo, Lare and Njoro. The Sub-County was selected because it has been recording low achievement in Kiswahili at Kenya Certificate of Secondary Education. Besides, from 2013-2019, no student in Njoro sub-county scored an A plain in Kiswahili (KNEC, 2017). Additionally, Njoro Sub-County is among the sub-counties with many co-educational schools out of the total number of schools found in the sub-county.

3.4 Population of the Study

The target population comprised students in the public co-educational secondary schools in Njoro Sub-County. It was approximately 14,292 students. The accessible population was Form Two students from the public co-educational secondary schools which were approximately 4,745students. Form Two Students were appropriate for the study because, at their level, they are supposed to have covered adequate content in comprehension. Additionally, the Form Two class is not an examination (K.C.S.E) class, as most administrators discourage research with such classes.

3.5 Sampling Procedures and Sampling Size

The sampling unit was secondary schools and not individual learners since students operate asintact groups. The sampling frame was a list of sub-county secondary schools in Njoro Sub-County. The technique used to select the four co-educational schools that formed the sample of the study was purposive sampling technique. This is because the researcher intended to have schools with working computers, projectors and electricity. Additionally, trained teachers with

a teaching experience of minimum two years were used for the study. Purposive sampling was also used to select schools with similar characteristics that are a distance from each other, so that the students from the experimental and the control groups do not interact during the study period hence causing errors in the results (Fraenkel & Wallen, 2000).

The four schools were randomly assigned to the treatment and control groups. For schools that had more than one Form Two stream, all the streams were taught using a similar method of teaching and then simple random sampling was used to pick one stream for the study. The sample size for the study was 188 students. This provideda reasonable sample size since it is recommended that at least 30 individuals per group are required for experimental research (Fraenkel *et al.,* 2006).

3.6 Instrumentation

Kiswahili Reading Comprehension Achievement Test (KRCAT) and Student Motivation Questionnaire (SMQ) were used to collect data.

3.6.1 Kiswahili Reading Comprehension Achievement Test (KRCAT)

A Kiswahili reading comprehension test was constructed using Secondary Kiswahili students'Book 2 (Kiswahili Kitukuzwe) and Secondary Kiswahili Book Two teachers' guide. The test was given before and after the treatment to establish the comparison between the pre-testand the post-test results. The reading comprehension test contained fifteen items with a maximum score of 15 marks and a minimum score of 0 marks. The scores were uniformly distributed to the fifteen items.

3.6.2 Student Motivation Questionnaire (SMQ)

To assess students' motivation in learning Kiswahili reading comprehension when taught usinganimation, a student motivation questionnaire was used. A questionnaire developed by Wambugu and Changeiywo (2008) was adapted and modified. SMQ was administered to E1 and C1 Groups as a pre-test. This established if the two groups were at the same level before the administration of the treatment. Thereafter, the items were readjusted and administered to all the groups as a post-test. The SMQ consisted of items that require positive and negativestatements of the students' feelings towards learning Kiswahili reading comprehension using animation. The SMQ consisted of 24 closed-ended questions constructed on a five-point Likertscale.

3.6.3 Development of the Teacher's Guide

Teachers' study guide was constructed based on the Form Two Kiswahili syllabus. This was

used by the teachers involved in the administration of the treatment (see Appendix III). The guide contained directions on the making of the lesson plans and lesson notes which were aligned with the topic objectives. Teachers from experimental groups were trained on how to use the guide for one week. The teachers then taught using animations as advance organizers on different reading comprehension. The teaching-learning materials that were used in the instruction were developed and organized per the current Form Two syllabus. The guide was used throughout the treatment period which took four weeks.

3.6.4 Validity

Validity denotes the extent to which an instrument measures what is designed to measure (Kombo & Tromp, 2006). For a research instrument to be valid, its content is supposed to be appropriate and suitable for the achievement of the research objectives. The instruments were presented to specialists from the Department of Curriculum, Instruction and Educational Management to check for content and face validity. Their ideas and recommendations were integrated hence improving the effectiveness of the instruments. A pilot study was carried out inthe neighboring schools in Rongai Sub-County, which had similar conditions to the sample schools. Before the commencement of the actual research, validation of the instruments was done.

3.6.5 Reliability

Reliability refers to how consistently obtained scores are for each individual from the first administration of an instrument to another and from one set of items to another (Fraenkel *et al*., 2006). Reliability for this study was tested by conducting a pilot study in one co-educational school which was not part of the study. The reliability of KRCAT was estimated using Kuder Richardson 20. The method is appropriate when items have varying difficulty levels. The reliability of SMQ was estimated using Cronbach's alpha coefficient. Cronbach's alpha is a static coefficient used to provide a measure of the internal consistency of the instrument (Vinet &Zhedanov, 2011). The method is appropriate when the instrument has a range of scores constructed. According to Fraenkel *et al.* (2006), a reliability coefficient of 0.7 or higher is recommended. The reliabilities coefficients of KRCAT and SMQ were 0.76 and 0.73 respectively.

3.7 Data Collection Procedure

A written introductory letter from Egerton University School of postgraduate studies was sought to assist in obtaining a research permit from the National Commission for Science,

Technology and Innovation (NACOSTI). Thereafter, the researcher sought authority from the office of the Sub-County Education Commissioners in Njoro Sub-County to proceed with the collection of data. The principals and teachers from the schools that took part in the study were contacted in good time for permission and assistance. Permission was granted and the teachers from the experimental schools were trained in the process of using animation. A manual showing how the work needs to be covered was also issued to the teachers. Before the commencement of the study, the experimental and the control groups were given the KRCAT and SMQ. This was to establish their equivalence. The experimental groups were then taught Kiswahili reading comprehension using animations while the control groups were taught the same content using the conventional methods, afterwards, a post -test was administered to all in the groups.

3.8 Data Analysis

Data generated from the study was reviewed for errors. Thereafter, the data was organized before analysis. Statistical Package for Social Sciences (SPSS) was used to analyze data. Pre-test analysis was done using t-tests to determine the following: if there are differences in the academic achievement and motivation between the two groups before the commencement of the study, to determine if there is a gender difference in academic achievement and motivation both before and after the treatment, to test differences between two means because of its superior quality in detecting differences between two means (Fraenkel *et al.*, 2006). ANOVA was used to analyze whether there are statistically significant differences in the mean scores of the groups' post-test results. Prior to conducting the ANOVA, negatively phrased questions were reverse coded followed by scoring of all the questions measuring students' motivation on a five-point scale (very high extent=5; high extent=4; moderate extent=3; little extent=2; no extent=1). The scores were summed up for each student and ranged between 24- 120. To establish whether there were initial differences in the treatmentand control groups ANCOVA was used. It was also used to take care of any initial differencesin the control and treatment groups. K.C.P.E (Kenya Certificate of Primary Education) resultsof the participants were used as a covariate. All statistical tests were tested at α 0.05 significance level. The data analysis summary is given in Table 3.

Table 3: Summary of Data Analysis

Hypotheses	Independent variable	Dependent variable	Statistical procedures and tests
There is no statistically significant difference in students' achievement in Kiswahili reading comprehension between students taught through animations and those taught through conventional methods.	Animation use in teaching Conventional methods	Students achievement scores	ANOVA ANCOVA
There is no statistically significant difference in students' motivation to learn Kiswahili reading comprehension between students taught through animations and those taught through conventional methods.	Animation use in teaching Conventional methods	Students motivation	ANOVA.
There is no statistically significant gender difference in students' achievement in reading comprehension between students taught through animations and those taught through conventional methods.	Gender	Students Achievement scores	t-test
There is no statistically significant gender difference in students' motivation to learn Kiswahili reading comprehension between those taught through animations and those taught through conventional methods.	Gender	Students motivation	t-test

3.9 Ethical Considerations

The study was conducted in a manner that conformed to ethical standards for research. This was attained by observing the following guidelines for ethically acceptable research:

i. Ensuring that consent for conducting the study was sought before the beginning ofthe study.
ii. Ensuring that the respondents were well aware of the study they were participating in.
iii. Ensuring the confidentiality of the respondents' contribution.

CHAPTER FOUR
RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results and discussion of the findings of the study. Data was collectedthrough the administered tests and questionnaires. Data were analyzed using means, t-tests, ANOVA and ANCOVA. The findings are presented in form of Tables followed by an interpretation and discussion of the same. The four hypotheses of the study are restated and finally decisions are made to either accept or reject the null hypotheses at a 0.05 significance level. The results of this study are presented in the following sequence;

i. Results of pre-test
ii. Effects of animations on students' achievement in Kiswahili reading comprehension
iii. Effects of animations on students' motivation in learning Kiswahili reading comprehension
iv. Effects of animations on students' achievement in Kiswahili reading comprehension bygender
v. Effects of animations on students' motivation to learn Kiswahili reading comprehension by gender

4.2 The Pre-test Results

The research design used in this study was Solomon Four Non-Equivalent Control Group Design. The design permits the use of two groups (Experimental group 1 and Control group 1) to sit for the pre-test. This was to determine whether the groups used in the study had similar characteristics before the administration of the treatment. Additionally, it was used to assess the effects of the pretest relative to no pre-test. In the end, the students' mastery of the topic was assessed using a post- test. Students' pre-test scores are presented in Table 4.

Table 4: Summary on the Students' Pre-Test Scores

Schools in the study	n	Mean	Std. Deviation
Experimental 1	48	5.9167	1.47076
Control 1	46	6.0217	1.58450
Total	94	5.9250	1.52013

From Table 4, the mean values for pre-test scores were 5.91 and 6.02 for Experimental group 1 and Control group 1. According to these results, the mean score for Control group 1 was highercompared to Experimental group 1. However, to test whether the means were statistically significantly different, a statistical procedure was carried out using an independent sample t-test and the results are presented in Table 5.

Table 5: Independent Samples t-Test on Pre-test Scores CAT 1

		Levene's Test for Equality of Variance				
		f	Sig	t	Df	Sig. (2tailed
Pretest scores	Equal variances assumed	.028	.868	.333	92	.740
	Equal variances not assumed			.333	90.752	.740

Based on Table 5, the results indicate that there was no statistically significant difference in the two means t (92) = .333, p > 0.05 of the Control and Experimental groups. This implies that the levels of achievement before the administration of the intervention for the two groups were similar. That is, the groups were equivalent before the administration of treatment and therefore appropriate for use in the study.

4.3 Effects of animations on Students' Achievement in Kiswahili Reading Comprehension

The first hypothesis of the study was derived from objective one and it stated that there is no statistically significant difference in students' achievement in Kiswahili reading comprehension between students taught through animations and those taught through conventional methods. To test this hypothesis, an analysis involving ANOVA and ANCOVA was carried out on students' post-test scores to determine the effect of using animations in teaching on their achievement in Kiswahili reading comprehension. The means of post-test scores for the four groups involved in the study are presented in Table 6. This was mainly to find out if there were differences in the mean scores.

Table 6: Summary of Mean Scores on Post-test

Groups	n	Mean	Std. Deviation
Experimental1	48	9.7708	1.66102
Control 1	46	7.6739	1.99856
Experimental 2	49	99796	2.52665
Control 2	45	5.7111	2.18327
Total	188	8.1125	2.75404

From Table 6, the highest mean score was attained by Experimental Group 2, followed by Experimental Group 1, then Control Group 1 and the lowest was Control group 2. The students inExperimental groups 1 and Experimental 2 were exposed to animation use in teaching and theirmean score was higher than those in Control 1 and Control 2. This suggests that animations enhanced students' achievement. However, the results in Table 3 do not reveal if the groups were statistically significantly different. To establish this, a one-way Analysis of Variance (ANOVA) was carried out as shown in Table 7.

Table 7: One-way ANOVA of Post Test Scores

Scale	Sum of Squares	Df	Mean Square	f	Sig.
Between Groups	561.401	3	187.134	38.740	.000*
Within Groups	888.812	184	4.830		
Total	1450.213	187			

The difference in the post-test scores was statistically significant at 0.05 in favour of the experimental groups, $F(3,184) = 38.740$, $p < 0.05$. The results however did not indicate where the differences occurred. To find out where the difference existed, there was need for a Post-Hoc analysis to show this. The results of this analysis are presented in Table 8.

Table 8: Scheffé Comparisons of the Post- Test means for the four groups

(I)Category of school	Category of schoolJ	Mean Difference(I-J)	Sig
Experimental 1	Control 1	2.09692	.000*
	Experimental 2	-.20876	.974
	Control 2	4.05972	.000*
Control 1	Experimental 1	2.09692	.003*
	Experimental 2	-2.30568	.000*
	Control 2	1.96280	.001*
Experimental 2	Experimental 1	.20876	.974
	Control 1	2.30568	.000*
	Control 2	4.26848	.000*
Control 2	Experimental 1	-4.05972	.000*
	Control 1	-1.96280	.001*
	Experimental 2	-4.26848	.000*

Table 8 shows the results of Scheffé Post-Hoc comparisons of post-test mean scores. A statistically significant difference between the pairs of post-test means for groups E1 and C1, E1 and C2, and C1 and E2 and E2 and C2 respectively was noted. Therefore, this proved that the use of animations in teaching enhanced students' achievement in the experimental groups compared to those in the control groups. This study involved a non-equivalent control group designand since entry behaviour may affect performance it was necessary to run an Analysis of Covariance (ANCOVA) using the students' Kenya Certificate of Primary Education (KCPE) total mark as a covariate. It was also necessary to check whether their KCPE scores correlated closely with the scores obtained from this study. The results of this analysis were as indicated in Table 9.

Table 9: ANCOVA of the Post-test Scores with KCPE Total Mark as a covariate

Source	Sum of Squares	df	Mean Square	f	Sig.
Corrected Model	579.950a	4	144.988	30.488	.000*
Intercept	778.466	1	778.466	163.697	.000*
KCPESCORE	18.549	1	18.549	3.901	.096
Schools	578.017	3	192.672	40.515	.000*
Error	870.262	183	4.756		
Total	14528.000	188			
Corrected Total	1450.213	187			

Table 9 shows the results of ANCOVA of the post-test score with the KCPE total marks as theCovariate. However, the results in this Table reveal that the differences between the groups were statistically significant f (3,183) = 40.515, p<0.05). Scheffé Post-Hoc analysis was carried out to establish where the difference occurred among the groups. The results are presented in Table 10.

Table 10: Scheffé Post-Hoc analysis

(I)Name of school	(J)Name of school	Mean Difference(I-J)	Sig
Experimental 1	Control 1	2.177	.000*
	Experimental 2	-.232	.601
	Control 2	4.129	.000*
Control 1	Experimental 1	-2.177	.000*
	Experimental 2	-2.409	.000*
	Control 2	1.951	.000*
Experimental 2	Experimental 1	.232	.601
	Control 1	2.409	.000*
	Control 2	4.361	.000*
Control 2	Experimental 1	-4.129	.000*
	Control 1	-1.951	.000*
	Experimental 2	-4.361	.000*

From the results, the mean differences among the following groups E1 and C1, E1 and C2, E2and C, and E2 and C2 were statistically significant. This would, therefore, suggest that animationsenhanced students' achievement in the experimental groups compared to those in control groups who were taught using conventional methods. This implies that animations have a positive effect on achievement in Kiswahili reading comprehension. Consequently, H_{01} whichstated; There is no statistically significant difference in students' achievement in reading comprehension between students taught through animations and those taught through conventional methods was rejected.

This study proved that students taught through animations attained scores that were statisticallysignificantly higher compared to those taught using conventional methods. This implies that the use of animations in teaching was more effective in enhancing students' achievement. The findings of this study build on the existing knowledge of an earlier study by Osuafor *et al*. (2019) who found that the use of animated media in instruction was more effectivein enhancing student achievement than conventional methods. Additionally, they found that the use of animated media provided the students with a richer learning experience than they would have had when taught using conventional methods. There was a greater level of interaction with such learning materials which gave the learners more responsibility towards their learning.

Bengkulu (2016) argued that students taught through animations attained higher scores in reading comprehension than those taught through conventional methods since by watching the animations, they could see facial expressions, postures, gestures and details of the comprehension. He observed that the students would be willing to watch, even if their comprehension skills were inadequate. This means that learners would still have an interest in watching the animations although they got difficulties understanding the text. Therefore, by using animations in teaching reading comprehension, the students couldeasily get the idea by synthesizing what they read and connecting it with what they see, which improves their achievement.

Numgwo *et al*. (2017) conducted a study to investigate the effects of animations on students' achievement and retention in Basic Electricity. The results were similarto those of this study which proved that animation use in teaching was more effective in enhancing students' achievement compared to conventional methods. Therefore, the finding on poor performance in reading comprehension noted to exist among students in recent times could be attributed to

the use of traditional teaching methods (Francis, 2017). However as revealed by this study, this poor performance in reading comprehension can be reduced by employing an animation teaching strategy.

The results of this study proved that students taught though animations performed better than those taught through conventional methods. The statistically significant difference could be as a result of the ability of the animations to provide both visual and audio representations of comprehension. Additionally, animation has the potential of making students learn better because it is fun. Fun is a natural way through which students enjoy and actively participate in the lesson, therefore, improving their performance (Ikwuka & Samuel, 2017).

4.4 Effects of using Animations on the Students' Motivation

The second objective of this study sought to determine the effect of using animation on students' motivation in learning Kiswahili reading comprehension. The students Motivation Questionnaire (SMQ) was used to assess students' motivation. The items were constructed on a five-point Likert-scale with a total of 24 items. At the beginning of this study, it was important to determine whether the groups were similar in this construct. An independent t-test was carried out to establish whether there were any significant differences in the means of the two groups. The results are indicated in Table 11.

Table 11: Independent t-test on Pre-test Scores

		Levene's Test for Equality of Variances				
		f	Sig	t	Df	Sig. (2tailed
Total pretest scores	Equal variances assumed	.978	.325	-.753	92	.453
	Equal variances not assumed			-.754	91.971	.453

The results in Table 11 showed no statistically significant difference in the mean scores of the two groups t (92) = 0.753, p>0.05. These results implied that the level of students' motivation in the two groups was similar before exposure to the intervention. Therefore, the two groups were appropriate for use in the study. At the end of the study, the Students Motivation Questionnaire (SMQ) was completed and the results were analyzed. The post-test sum, mean and standard deviation (SD) of the four groups are summarized in Table 12.

Table 12: Results of Post-test on Students Motivation Questionnaire

School	n	Mean	Std. Deviation
Experimental1	48	102.2500	7.58358
Control 1	46	53.3043	22.34663
Experimental 2	49	102.3673	16.93701
Control 2	45	52.1333	22.46573
Total	188	78.3085	30.73242

Table 12 indicates the mean scores obtained by the four groups for SMQ. The Table shows that the mean scores for Experimental groups 1 and 2 were higher than those of Control groups1 and 2. This indicates that the students who were taught through animations were more motivated to learn Kiswahili reading comprehension than those who were taught through conventional methods. However, a conclusion of either rejecting or accepting the hypotheses cannot be based on these results. Further analysis to prove the hypothesis was done using one-way ANOVA as indicated in Table 13.

Table 13: ANOVA of post test scores of SMQ

Scale	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	115466.779	3	38488.926	115.810	.000*
Within Groups	61151.327	184	332.344		
Total	176618.106	187			

To find out whether these means were statistically significantly different, One-way ANOVA was carried out. According to Table 13, the difference in the mean scores between the four groups was statistically significant at the 0.05 level, $f(3, 184) = 115.810$, $p<0.05$. This implies that there was a statistically significant difference in the motivation of students when taught using animations and when taught using conventional teaching methods. Scheffé Post-Hoc analysis was carried out to show where the difference occurred. The results are presented in Table 14.

Table 14: Scheffé post-hoc Comparisons of the Post-test SMQ for the four groups

(I)Name of school	(J)Name of school	Mean Difference(I-J)	Sig
Experimental 1	Control 1	48.94565	.000
	Experimental 2	-.11735	1.000
	Control 2	50.11667	.000
Control 1	Experimental 1	-48.94565	.000
	Experimental 2	-49.06300	.000
	Control 2	1.17101	.993
Experimental 2	Experimental 1	.11735	1.000
	Control 1	49.06300	.000
	Control 2	50.23401	.000
Control 2	Experimental 1	-50.11667	.000
	Control 1	1.17101	.993
	Experimental 2	-50.23401	.000

The results in Table 14 indicate that the differences in mean scores between groups E1 and C1,E1 and C2, E2 and C1, and E2 and C2 were statistically significant at 0.05 α-level. These results proved that the use of animations resulted in a higher students' motivation to learn Kiswahili reading comprehension than the conventional teaching methods. Hypothesis, H02 which stated: there is no statistically significant difference in students' motivation to learn Kiswahili reading comprehension between students taught through animations and those taught through the conventional methods was therefore rejected.

Motivation is at the centre of the academic achievement of students. Motivation in this study is students' drive based on their perceived probability of success and the relevance of the subject matter. For students to be motivated, something must trigger their interest (Ejimonye *et al.,* 2020). There must be something that would stimulate the understanding of the concept being presented during the teaching and learning process. The teaching methods employed by the teachers contribute a lot to students' motivation. Consequently, the type of teaching approach used by the teacher in the class will determine whether the students will be active in the class or not (Teygong *et al*., 2017). Therefore, for students to be motivated and actively participate in the learning process, the instructor should come up with an effective technique that will encourage active learning. Current views of learning underline that students' motivation is a crucial factor in successful learning and achievement (Ng'eno *et al*., 2014).

Motivated students dedicate more effort towards accomplishing learning tasks, persist when they encounter problems in learning, and regulate their learning (Ejimonye *et al.,* 2020).

The results of the study indicate that the use of animations in teaching Kiswahili reading comprehension resulted in higher students' motivation than the conventional methods. This could probably be attributed to the nature of animations that present information via both audio and visual formats which make it easier for the learners to comprehend even the complex ideas that might be difficult to understand when presented using the audio channel alone. These findings are in agreement with other studies that have documented significant improvements on students' motivation when animations are incorporated into the learning process (Amine *et al.*,2012; Barak *et al.,* 2011; Rosen, 2009).

Adel *et al.* (2014), found that students taught through animations were more motivated compared to those taught through conventional methods. This is because animations combine words and pictures rather than words alone resulting in more effective learning. Additionally, Oğuzhan *et al*. (2015) argue that animations used in learning should be simple and clear for easy understanding by the students. This would keep the students more attentive during the learning process and hence motivated them to learn. Further, Mayer and Moreno (2010) encourage the use of animations in learning since they foster meaningful learning without creating a cognitive load. This is because the information presented in words is accompanied by pictures instead of using words alone. Consequently, enhancing students' motivation to learn.

The findings of this study are supported by that of Benson and Odera (2013) who argued that if students were merely presented with concepts verbally; they may easily forget. But if they are given an opportunity to see the relationship between the concepts, they would easily remember. More importantly, if they practiced what they were told and shown, they would internalize it more. This is because media bridges the gap between theory and practice hence triggering students' motivation. However, most Kiswahili teachers in Kenya do not utilize media in instruction as compared to science and computer-related areas (Chepkemoi & Wanyonyi, 2017). This could be the reason why poor performance in Kiswahili is being experienced.

In a study conducted by Ilhan and Oruç (2016) on the effect of multimedia techniques on the academic achievement of students was analyzed. The findings indicated that the use of multimedia increased students' interest and motivation in the experimental groups compared

to the control groups. Among theexperimental groups, the materials used were attractive and enjoyable. Additionally, the students were attentive and actively participated in the lesson. However, in the control groups,students experienced difficulties in understanding abstract topics which made their learning process harder. Thus, it can be inferred that the use of animations improves students' motivation as compared to conventional methods.

4.5 Effects of Animation on Students' Achievement by Gender

The third hypothesis of this study sought to establish whether there was a difference in students' achievement in Kiswahili reading comprehension between boys and girls taught through animations**.** The achievement mean scores for boys and girls were analyzed and then compared. The results were as indicated in Table 15.

Table 15: Summary on Students' Pre-Test Scores by Gender

Gender	n	Mean	Std. Deviation
Male	50	6.0800	1.30681
Female	44	5.8409	1.73799
Total	94	5.9681	1.52013

The results in Table 15 show that before the intervention, the mean score for male students was 6.08 while that of their female counterparts was 5.84. Although the mean score for the male students was higher than the female means score, it was necessary to carry out a t-test to determine if the difference was statistically significant. The results were as indicated in Table 16.

Table 16: Independent Samples t-Test on Pre-test scores based on Gender

		Levene's Test for Equality of Variances				
		F	Sig	t	Df	Sig. (2tailed
Total pretest scores	Equal variances assumed	5.778	.018	.759	92	.450
	Equal variances not assumed			.746	79.222	.458

An Independent Samples t-Test was carried out to determine if the groups were at the same level before the treatment. Table 16 further indicates that no statistically significant difference existed between the two means before the treatment $t(92) = 0.759$, $p>0.05$. This implies that the groups used in this study demonstrated similar characteristics and were therefore suitable for the study.

To determine whether there was a statistically significant gender difference in achievement between boys and girls exposed to the use of animation in teaching, the analysis of post-test scores was done and the results were shown in Table 17.

Table 17: Summary on Students' Post-Test Scores by Gender

Gender	n	Mean	Std. Deviation
Male	95	8.2421	2.86102
Female	93	8.4409	2.71654
Total	188	8.3404	2.78481

Table 17 shows that after the intervention, the mean score for male students went up from 6.08 to 8.24 while that of their female counterparts went up from 5.84 to 8.44. This implies that the use of animation in teaching had a positive effect on the students' achievement. However further analysis was conducted to establish if the difference between scores was significantly different between boys and girls. The results were as indicated in Table 18.

Table 18: Independent Sample t-Test on Post-test scores based on Gender

		Levene's Test for Equality of Variances				
		f	Sig	t	Df	Sig. (2tailed
Total pretest scores	Equal variances assumed	1.431	.233	-.488	186	.626
	Equal variances not assumed			-.489	185.828	.626

The results in Table 17 indicate that girls' performance taught using animations was slightly higher than that of boys taught using the same approach. However, the results in Table 18 indicate that there was no statistically significant difference in the means scores of the two groups t (186) = -.488, p>0.05. This, therefore, means that there was no significant difference in achievement between boys and girls taught using animations. Therefore, H_{03} was accepted. The results of this study show that there is no statistically significant difference between achievement of boys and girls who were taught through animations. However, boys and girls taught through animations performed better than those who were taught through conventional methods. Therefore, the use of animations in teaching seems to be more effective in enhancing students' achievement compared to conventional methods.

The findings of this study agree with those of Kang *et al*. (2012) who noted that both boys

and girls were capable of performing better in Kiswahili since academic achievement in Kiswahili was not gender related. They argued that the achievement of students can be improved equally among students regardless of their gender as long as effective teachingand learning strategies were employed. The findings of this study further support those of Adegbija and Falode (2014) who found no statistically significant difference between the performance of boys and girls taught using an animated based instructional strategy. Consequently, the strategy has a positive effect on students' achievement since the informationto be learned can be easily presented to the learners in understandable, motivating and excitingways. Aremu and Sangodoyin (2015) who investigated the effects of computer animations on the academic achievement of Nigerian senior secondary school students also reported no gender difference in achievement between boys and girls taught using animations. This could be attributed to the animations used which are simple and practical in nature and involve the active participation of the learners.

The results of this study contrast those of Ikwuka and Samuel (2017) who found that boys achieved statistically significantly higher scores than girls when taught using computer animations. This may be due to the ineffective implementation of the animations by the instructor (Kost *et al*., 2009). Such a difference in performance may result from bias, where a researcher uses animations that are gender insensitive to girl students.

The findings of this study challenge the previous findings that found a statistically significant difference between the performance of boys and girls when animations were used. According to this study, if boys and girls were given equal opportunity and taught under the same conditions, they show a comparatively similar performance. The achievement of both boys and girls is enhanced when taught through animations as compared to when they are taught using conventional methods. It can therefore be concluded that animations bridge the gender gap in performance in Kiswahili reading comprehension.

4.6 Motivation to learn Kiswahili Reading Comprehension of Boys and Girls exposed to Animations in Teaching

The fourth hypothesis of the study sought to determine whether there is any statistically significant difference in students' motivation in learning Kiswahili reading comprehension among students exposed to treatment by gender. An Independent sample t-test based on gender was conducted to find out whether there were any statistically significant gender differences in the means of the two groups before treatment. The result of this analysis is presented in Table

19.

Table 19: t-Test Results of the Pre-test Scores on SMQ by Gender

Gender	n	Mean	SD	df	t-value	p-value
Male	62	47.9355	17.68195	92	.576	.566
Female	32	50.1250	17.02702			

Table 19 indicates that the mean for male students was 47.93 while that of the female studentswas 50.12. t-test results indicate that there was no statistically significant difference in the motivation to learn Kiswahili between the two groups t (92) = 0.576, p>0.05 before treatment.This, therefore, means that the groups used in this study exhibited similar level of motivation before treatment and were therefore suitable for the study. To establish the effects of animationsin teaching with regard to gender, the post-test mean scores of the SMQ were analyzed. Table 20 shows the t-test results.

Table 20: t-Test Results of the Post-test Scores on SMQ by Gender

Gender	n	Mean	SD	df	t-value	p-value
Male	108	81.1389	29.77469	186	1.472	.143
Female	80	74.4875	31.76775			

The results in Table 20 indicate that there was no statistically significant difference in motivation to learn Kiswahili reading comprehension of boys and girls who were exposed to the use of animations in teaching t (186) = 1.472, p> 0.05. However, the motivation to learn Kiswahili reading comprehension by both boys and girls taught through animations was higher than that of boys and girls taught through conventional methods. Consequently, the null hypothesis, H_{04} was accepted.

One of the most vital factors in learning is motivation. For effective teaching and learning to take place, the learners must be willing to be involved in the process. Motivation to learn givesthe students the direction which stirs their drive to learn (Odera, 2011). Teachers need to employ strategies that can enhance learners' motivation and increase their active participation in learning. Learners who are naturally motivated will work harder and learn more effectively because of their interest in the content being taught. The use of educational media and technology is considered to motivate learners during teaching –learning situations (Odera, 2011). The author further argues that most students drop out of school due to poor performance which is related to lack of interest and motivation to learn. Thus, to increase students' interest in learning and reduce the rate of school dropout, teachers need to use audio, visual and audio-

visual techniques to increase students' attention and encourage active participation during the lesson.

In another study, Akinoso (2018), found that there was no statistically significant difference inmotivation among boys and girls who were taught through animations. However, the students in the experimental group were highly motivated and actively participated in the learning process compared to the ones in the control group, who taught through traditional methods. This was related to the fact that the boys and girls in the experimental group used animations whichwere enjoyable and increased their attention during the lesson. Further, Barak *et al*. (2011) oninvestigating the effect of animated movies on students' thinking and motivation observed that,gender did not affect students' motivation. According to their study, there was no statistically significant gender difference in motivation towards learning among secondary school students exposed to animated videos.

However, the findings of this study contrast those of Turuthi *et al.* (2018) in their study on the effect of video-mediated teaching on students' motivation, attitude and achievement in learning Kiswahili proverbs in secondary schools. The findings indicated that there was a statistically significant gender difference in favour of the males on the Instrumental Dimension of Listening motivation. They argued that the difference is largely attributable to the fact that boys become more attentive and put extra effort and time into their studies in the presence of new technology as compared to girls.

The findings of this study are in line with the findings of Chung (2017) on the effect of gender on motivation and student achievement in digital game-based learning. According to the studythere was no statistically significant difference in motivation. Digital-based game learning effectively enhanced the motivation for both boys and girls to learn in the same way. The findings of this study indicated that students taught through animations understood the difficulttext and ideas in a much simpler and easy way. Additionally, the students were able to relate the animations they watched to the characters in the comprehension which made them remember the concepts in the comprehension for a longer time, making them be motivated to learn more as compared to the conventional methods.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions and recommendations originating from the results of this study, whose purpose was to find out the effects of using animations in teaching on students' achievement and motivation to learn Kiswahili reading comprehension. The results are presented based on the hypotheses of the study:

5.2 Summary of the findings of the study

The first hypothesis investigated the effects of using animations in teaching on students' achievement in Kiswahili reading comprehension between students taught through animations and those taught through conventional methods. The results of an independent t-test on thepre-test scores showed no statistically significant difference in the means of the two groups. Therefore, the level of students' achievement before the administration of the treatment for the two groups was similar; that is the groups were equivalent before the administration of treatment and therefore suitable for the study. The study findings showed a statistically significant difference in academic achievement in Kiswahili reading comprehension between the students taught through animations and those taught through conventional methods. Therefore, this indicates that animations are more effective than conventional methods in improving students' academic achievement in Kiswahili reading comprehension. Students taught through animations had higher scores on the achievement test as compared to those taught through conventional methods.

The second hypothesis investigated the effects of using animations on student motivation to learn Kiswahili reading comprehension between students taught through animations and those taught through conventional methods. The results of the students' motivation questionnaire (SMQ) showed that there was no statistically significant difference in the means of the two groups; Experimental 1 and Control 1. These results imply that the level of students' motivation was the same before exposure to treatment. The results of the post-test on SMQ revealed that the mean scores for the four groups were statistically significantly different. These results, therefore, indicated that animations have a positive effect on students' motivation to learn Kiswahili reading comprehension. The findings of the study showed a statistically significant difference in motivation in Kiswahili reading comprehension between the student taught through animations and those taught through conventional methods.

The third hypothesis investigated whether there is any statistically significant gender difference in achievement between students taught Kiswahili reading comprehension through the use of animations. The results of the analysis of the post-test indicated that the mean scores for both male and female students went up after exposure to the treatment. Although the results indicated thatgirls' achievement improved slightly higher than that of the boys due to the effect of animations, t-test analysis showed that there was no statistically significant gender difference in the means of the two groups. Therefore, this means that there was no difference in achievement between boys and girls taught through animations.

The fourth hypothesis examined whether there is any gender difference in motivation between students taught Kiswahili reading comprehension through the use of animations and those taught through conventional methods. The groups were therefore suitable for the study. The results of the post-test of the SMQ by gender indicated that the level of motivation for both male and female students went up for those that received the treatment. However, there was no statistically significant gender difference in motivation when students are taught through animations.

5.3 Conclusions of the study

Based on the results of this study, the following conclusions have been reached;

i. The use of animations in teaching Kiswahili reading comprehension can enhancestudents' achievement.
ii. The use of animations in teaching results in higher students' motivation to learn Kiswahili reading comprehension than the conventional teaching methods.
iii. Gender does not affect students' achievement in Kiswahili reading comprehensionwhen they are taught using animations.
iv. Gender does not affect students' motivation to learn Kiswahili reading comprehension when they are taught using animations

5.4 Recommendations

Students taught using animations performed better than those taught using conventional methods regardless of gender. This indicates that the use of animations would be suitable for teaching both male and female students. Therefore, Kiswahili teachers should be encouraged to use this method.

Education stakeholders should encourage language teachers to use animations in the teaching of comprehension, particularly at the secondary level since it can address poor

performance in the subject**.**

The ministry of education and other professional bodies should organize workshops for teachers to train them on how to develop short and easy animations that they can use in their daily teaching without only relying on the ones provided by the government.

Teacher education curriculum developers should include the teaching of languages using animations as part of the teacher education syllabus during the training of the language teachers.

5.5 Suggestion for Further Research

This study indicates that the use of animations has a positive influence on achievement and motivation in Kiswahili reading comprehension. However, some areas call for further investigations such as the following:

i. There is a need for more research to test further the effect of animations as a teaching strategy on achievement and motivation using other areas in Kiswahili subjects other than the one used in the present study.

ii. Research is needed to explore the challenges of using animations in language teaching in secondary schools.

iii. A long term research involving the use of animation in different schools including more comprehension lessons should be undertaken to determine whether the resultson the effectiveness of animation use may persist over time.

iv. There is a need to investigate the impact of animation use on teachers' motivation and their attitude towards teaching Kiswahili reading comprehension.

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APPENDICES

Appendix I: Kiswahili Reading Comprehension Achievement Test

JINA ……

SHULE ……

DARASA ……

UFAHAMU KWA KIDATO CHA PILI: (Alama 15)

MAAGIZO: Soma kifungu kifuatacho kisha ujibu maswali.

Ulimwengu unatakiwa kuzua mbinu za kulitatua tatizo la ufukara ambao ni kikwazo kikuu chajuhudi za maendeleo. Ufukara unayakabili mataifa mengi yanayoendelea na kuyatosa kwenyeshida nyingi huku mataifa ya magharibi yakizidi kupiga hatua kubwa za kimaendeleo. Tofautiiliyopo kati ya mataifa yanayoendelea na yaliyoendelea inaendelea kuongezeka kila siku. Miongoni mwa sababu zinazochangia katika ufukara huu ni pamoja na ufisadi, uongozi mbaya,turathi za kikoloni na uchumi unaotegemea kilimo ambacho hutegemea mvua isiyoweza kutabirika. Vilevile, mataifa yanayoendelea yana idadi kubwa ya watu inayoupiku uwezo wa mataifa husika. Pamoja na haya, mataifa haya hayana uwezo wa kuwakomboa raia wake kutoka katika lindi la umaskini huu unaokithiri. Ukosefu wa elimu na nafasi adimu za kazi huchangia pia katika tatizo hili.

Ni wazi kuwa ufukara una athari hasi kote ulimwenguni. Aghalabu, ufukara huchipuza matendo mabaya. Ni rahisi kuwashawishi wananchi maskini kushiriki katika uhalifu ili kujinasua kutoka kwenye lindi la kimaskini. Udhaifit huu huweza kuzaa mbegu ya kuatika maovu ya kila aina ukiwemo ugaidi. Mataifa yaliyoendelea yanatakiwa kuyaburai madeni yanayoyadai mataifa yanayoendelea kama njia moja ya kupambana na ufukara. Mataifa haya maskini hutumia asilimia kubwa ya mapato ya kitaifa kuyalipia madeni haya. Hali hii imeyafanya mataifa haya kushindwa kujikwamua kutoka kwenye minyororo ya ufukara. Njia nyingine ya kuyasaidia mataifa haya ni kukubali kutoa ruzuku za kimaendeleo badala ya mikopo kwa nchi husika.Mataifa yanayoendelea nayo yanatakiwa kuchukua hatua katika kuwanusuru raia wake kutokakwenye dhiki hii. Ni sharti yaibuke na mikakati kabambe ya kupambana na ufukara. Itakua na faida kubwa iwapo mataifa haya yataunda sera zinazotambua ufukara kama tatizo kuu linalozikabili na kuweka mikakati ya kuwaokoa raia wake kutoka kwenye tatizo hili. Pamoja na mikakati hii ni kuzalisha nafasi za kazi, kuimarisha miundo msingi, kuendeleza elimu inayolenga kutatua matatizo maalumu katika jamii na kupanua viwanda. Kuna pia haja ya viongozi kuwa waangalifu ili mfumo wa soko huru ambao

unaendelezwa na mataifa yaliyondelea usiishie kuwa chanzo cha kufa kwa viwanda asilia. Maamuzi yote ya sera za kiuchumi sharti yauzingatie uhalisia wa maisha ya raia wa mataifa haya.

MASWALI

1) Kwa nini umaskini unatawala mataifa yanayoendelea? (alama 4)
2) Athari kubwa ya madeni kwa nchi zinazoendelea ni nini (alama 1)
3) Eleza athari uliyotaja katika swali la pili (alama 1)
4) Kwa kifupi eleza mwandishi anatoa pendekezo lipi kwa mataifa yanayoendelea katika kutatua tatizo la ufukakra? (alama 1)
5) Mataifa ya magharibi ni mataifa yapi? (alama 1)
6) Mfumo wa soko huru una madhara gani kwa mataifa yanayoendelea? (alama 2)
7) Taja visawe vya maneno yafuatayo kama yalivyotumika katika kifungu.

i. Turathi za kikoloni (alama 1)

ii. Kuatika (alama 1)

8) Kwa kutumia mifano eleza maana ya maneno yafuatayo.

i. Kuyaburai (alama 1)

ii. Chipuza (alama 1)

9) Unajifunza nini kutokana na ufahamu huu (alama 1)

Appendix II: Student Motivation Questionnaire to Learn Kiswahili Reading Comprehension

I am Ritah Gloriah Minishi a graduate student of Egerton University carrying out research on the Effects of Animation in Teaching on Students' Achievement and Motivation to Learn Kiswahili Reading Comprehension in Public Secondary Schools inNjoro sub-county, Kenya. You have been identified as a useful informant to assist me to achieve this mission. Your participation is highly appreciated and you are assured that the information you provide will be treated with confidentiality and used for the sole purpose of research.

Thank you.

SECTION A: DEMOGRAPHIC DATA

Please indicate the correct option as honest as possible by ticking (√) one of the options provided. In cases where you are required to write down your response (s) or comments,write them in the spaces immediately after the questions. Be brief and precise. Kindly respond to all questions.

1. Please indicate your gender

   Male ☐ Female ☐

2. Class _____

3. Student admission number _____

The purpose of this questionnaire is to find out what you think about the teaching of Kiswahili reading comprehension. Kindly indicate what you think about each item.

INSTRUCTIONS

1. Read the items carefully and understand them before choosing what truly agrees with yourthoughts.
2. Circle the letter that corresponds to your feelings towards Kiswahili reading comprehension.

KEY

NE No Extent

LE Little Extent

ME Moderate Extent

HE High Extent

VHE Very High Extent

NOTE: There is no correct or wrong answer in this test

To what extent has learning Kiswahili reading comprehension:

Made you like reading comprehension	NE	LE	ME	HE	VHE
Made reading comprehension frustrating	NE	LE	ME	HE	VHE
Made you not like reading comprehension	NE	LE	ME	HE	VHE
Made reading comprehension interesting	NE	LE	ME	HE	VHE
Highly motivated you to work hard in reading comprehension	NE	LE	ME	HE	VHE
Helped you discover new skills in reading comprehension	NE	LE	ME	HE	VHE

To what extent can you rate the following after attending reading comprehension lessons:

I find it hard to work independently	NE	LE	ME	HE	VHE
I expect to rarely be able to understand comprehension	NE	LE	ME	HE	VHE
I do not expect to score highly on comprehension questions	NE	LE	ME	HE	VHE
I am now acquiring further knowledge about comprehension	NE	LE	ME	HE	VHE
I can now study and answer comprehension questions on myown	NE	LE	ME	HE	VHE
I expect to perform well in the Kiswahili subject	NE	LE	ME	HE	VHE
I can apply the content in comprehension outside the classroom	NE	LE	ME	HE	VHE
I expect to score highly in comprehension tests	NE	LE	ME	HE	VHE
I find understanding comprehension helpful	NE	LE	ME	HE	VHE
I am now satisfied with the way I learn comprehension	NE	LE	ME	HE	VHE
I no longer feel uneasy during comprehension lessons	NE	LE	ME	HE	VHE
I am dissatisfied with my participation in classroom activities	NE	LE	ME	HE	VHE
I am satisfied with the way reading comprehension was taughtin the classroom	NE	LE	ME	HE	VHE
I am now satisfied with my performance in reading comprehension questions	NE	LE	ME	HE	VHE

I now enjoy Kiswahili lessons	NE	LE	ME	HE	VHE
I am not sure whether I enjoy Kiswahili lessons	NE	LE	ME	HE	VHE
I now find comprehension lessons meaningful	NE	LE	ME	HE	VHE
I discover most of the content in comprehension is about our daily lives	NE	LE	ME	HE	VHE

Appendix III: Teachers Guide to Planning and Using Animations in Teaching Kiswahili Reading Comprehension

This guide is meant to assist teachers of Kiswahili to plan and implement teaching Kiswahili reading comprehension using animation as an advance organizer. A four-week module using animation in teaching Kiswahili reading comprehension is designed to supplement the normal methods used in teaching comprehension. The focus of the module will be on reading comprehension. The course content is based on the Kiswahili syllabus. The module will be used by the teachers from the experimental groups. The animations in this study will be used as expository advance organizers. They will be used during the introduction of the lessons to providenew knowledge that the students will need to help them understand comprehension.

Before the lesson begins, the teacher should make sure that the projector and the computer to be used are in order. This is to avoid inconveniences during the lesson which might interfere with theresults. Thereafter, students will be given a broad idea of the lesson by the teacher, what the lessonobjectives are and what they will be expected to gain after watching the animation. That is, in every lesson the learners will be told to note down the main ideas and what they have learned fromthe animations. The teachers and the learners will be expected to work together throughout the lesson to ensure effective teaching and learning. For effective implementation, the teachers will beexpected to follow the following steps:

i. Show the animation to the students. The teacher will display the animation to the students using the projector.
ii. In groups of five, students will discuss what the animation was about and exchange the notes they would have made while watching the animations.
iii. Discuss the new words. The teacher will lead the students in discussing the new words in the comprehension relating it to the animation. Participation from all the students should be encouraged. The teacher should guide the students to draw their ideas from their prior knowledge and experience. At this stage, the teacher must help the studentsby showing them the link between the animation and the content of the lesson increasing the chances that students find the connection between the old and the new information.
iv. Reading the comprehension. The students will then read the comprehension silently on their own connecting what they have watched to what they read.
v. Answering the questions. Finally, the students will be expected to answer the reading comprehension questions

The basics of effective teaching

For effective teaching to take place, the instructor must plan the content, method to be used and the teaching-learning activities to be involved to achieve the desired results. This is where the instructor defines where the learners should be at the end of the teaching-learning process.

Instructional objectives

They refer to the desired outcome of the teaching- learning experience that describes what the students will be able to do after completing a prescribed instruction. They should clearly describethe end behaviour learners are expected to demonstrate.

The importance of instructional objectives

a) They specify clearly to the learner what is to be learned and how they are to demonstrate learning.This saves the students the frustration of trying to guess what the teachers expect from them.
b) Objectives aid the teacher in establishing criteria for the measurement of classroom achievement.
c) Prompt the teacher to determine the most significant aspect of the subject matter to be learned.
d) They assist in the choice of teaching and learning resources.

MAANDALIO YA SOMO KIPINDI CHA KWANZA

KUSOMA KWA UFAHAMU: Uchafuzi wa mazingira

Shabaha: Kufikia mwisho wa funzo mwanafunzi aweze:

i.) Kusoma kwa matamshi bora

ii.) Kueleza madhara ya uchafuzi wa mazingira

iii.) Kujibu maswali kwa usahihi

iv.) Kutunga sentensi sahihi kwa kutumia msamiati na fani za lugha kifunguni

Marejeleo:

Chemchemi za Kiswahili 2 Kitabu cha wanafunzi uk 146-148

Mwongozo wa mwalimu uk 101

Uhuishaji ambao utatumika wakati wa mafundisho katika makundi ya majaribio yatawasilishwa kwa diski mweko. Diski mweko hizo zitakuwa na uhuishaji ambazo zitatumika katika masomo yote ya kusoma ufahamu wa Kiswahili wakati wa majaribio. Uhuishaji utatumiwa kama mratibu wa mapema. Utatumika wakati wa kuanzishwa kwa masomo ili kutoa ujuzi mpya ambao wanafunzi watahitaji kuelewa ufahamu. Kabla ya somo kuanza, mwalimu atawapa wanafunzi wazo kubwa la somo. Mwalimu atawaambia wanafunzi ni nini malengo ya somo na ni nini watakayotarajiwa kupata baada ya kutazama uhuishaji. Walimu na wanafunzi watatarajiwa kufanya kazi pamoja katika somo ili kuhakikisha kufundisha na kujifunza kwa ufanisi. Kwa utekelezaji wa ufanisi, walimu watatarajiwa kufuata hatua zifuatazo:

i. Onyesha uhuishaji kwa wanafunzi. Mwalimu ataonyesha uhuishaji kwa wanafunzi kutumia projector.

ii. Katika makundi ya tano, wanafunzi watajadili kile kilichozungumziwa katika uhuishajina baadae kubadilishana maelezo.

iii. Kujadili maneno mapya. Baada ya kutazama uhuishaji, mwalimu atawaongoza wanafunzi katika kujadili maneno mapya katika ufahamu wakilinganisha na yale ambayo wametazama katika uhuishaji.Ushiriki kutoka kwa wanafunzi unapaswa kuhimizwakutokana na ujuzi waliokua nao kabla ya kutazama uhuishaji. Katika hatua hii, ni muhimu kwamba mwalimu awasaidie wanafunzi kwa kuwaonyesha uhusiano iliopo kati ya uhuishaji na maudhui ya somo. Hivyo mwalimu ataongeza nafasi ya wanafunzi kupata uhusiano kati ya habari zamani na mpya.

iv. Kusoma ufahamu. Wanafunzi watasoma ufahamu kimya kimya huku wakijaribu kuunganisha wao wenyewe uhuisaji walioutazama na ufahamu wanaousoma.

v. Kujibu maswali. Hatimaye, wanafunzi watatarajiwa kujibu maswali ya ufahamu waliousoma.

KIPINDI CHA PILI

KUSOMA KWA UFAHAMU: Mwanamke ana Haki

Shabaha: Kufikia mwisho wa funzo mwanafunzi aweze

i.) Kusoma ufahamu kwa ufasaha na kupata maadili yaliyomo.

ii.) Kueleza mabadiliko katika jamii ya kuleta usawa wa jinsia.

iii.) Kujibu maswali ya ufahamu kwa usahihi na kueleza msamiati

Marejeleo

Kitabu cha wanafunzi uk 121

Mwongozo wa mwalimu uk 85

Hatua zitakazofuatwa ili kufanikisha somo ni kama zifuatavyo:

i. Onyesha uhuishaji kwa wanafunzi. Mwalimu ataonyesha uhuishaji kwa wanafunzi kutumia projector.

ii. Katika makundi ya kumi, wanafunzi watajadili kile kilichozungumziwa katika uhuishajina baadae kubadilishana maelezo

iii. Kujadili maneno mapya. Baada ya kutazama uhuishaji, mwalimu atawaongoza wanafunzi katika kujadili maneno mapya katika ufahamu wakilinganisha na yale ambayowametazama katika uhuishaji.Ushiriki kutoka kwa wanafunzi unapaswa kuhimizwa kutokana na ujuzi waliokua nao kabla ya kutazama uhuishaji. Katika hatua hii, ni muhimu kwamba mwalimu awasaidie wanafunzi kwa kuwaonyesha uhusiano iliopo kati ya uhuishaji na maudhui ya somo. Hivyo mwalimu ataongeza nafasi ya wanafunzi kupata uhusiano kati ya habari zamani na mpya.

iv. Kusoma ufahamu. Wanafunzi watasoma ufahamu kimya kimya huku wakijaribu kuunganisha wao wenyewe uhuisaji walioutazama na ufahamu wanaousoma.

v. Kujibu maswali. Hatimaye, wanafunzi watatarajiwa kujibu maswali ya ufahamu waliousoma.

KIPINDI CHA TATU

KUSOMA KWA UFAHAMU: Lambwina kidumwe-dumbwe mageuzi

Shabaha: Kufikia mwisho wa funzo mwanafunzi aweze

i) Kusoma kwa sauti na matamshi bora

ii) Kufafanua madhara ya uongozi mbaya

iii) Kutumia msamiati mapya kutunga sentensi

iv) Kujibu maswali kwa usahihi

Marejeleo

Kitabu cha wanafunzi uk 181-183

Mwongozo wa mwalimu uk 126

Hatua zitakazofuatwa ili kufanikisha somo ni kama zifuatavyo:

i. Onyesha uhuishaji kwa wanafunzi. Mwalimu ataonyesha uhuishaji kwa wanafunzi kutumia projector.

ii. Katika makundi ya kumi, wanafunzi watajadili kile kilichozungumziwa katika uhuishajina baadae kubadilishana maelezo

iii. Kujadili maneno mapya. Baada ya kutazama uhuishaji, mwalimu atawaongoza wanafunzi katika kujadili maneno mapya katika ufahamu wakilinganisha na yale ambayowametazama katika uhuishaji.Ushiriki kutoka kwa wanafunzi unapaswa kuhimizwa kutokana na ujuzi waliokua nao kabla ya kutazama uhuishaji. Katika hatua hii, ni muhimu kwamba mwalimu awasaidie wanafunzi kwa kuwaonyesha uhusiano iliopo katiya uhuishaji na maudhui ya somo. Hivyo mwalimu ataongeza nafasi ya wanafunzi kupata uhusiano kati ya habari zamani na mpya.

iv. Kusoma ufahamu. Wanafunzi watasoma ufahamu kimya kimya huku wakijaribu kuunganisha wao wenyewe uhuisaji walioutazama na ufahamu wanaousoma.

v. Kujibu maswali. Hatimaye, wanafunzi watatarajiwa kujibu maswali ya ufahamu waliousoma.

KIPINDI CHA NNE

KUSOMA KWA UFAHAMU: Ubabe wa fumo liyonga

Shabaha: Kufikia mwisho wa funzo mwanafunzi aweze

i.) Kusoma kwa sauti na matamshi bora

ii.) Kutunga sentensi kwa msamiati na misemo kifunguni

iii.) Kujibu maswali ya ufahamu kwa usahihi

Marejeleo

Kitabu cha wanafunzi uk 196-199

Mwongozo wa mwalimu uk 138

Hatua zitakazofuatwa ili kufanikisha somo ni kama zifuatavyo:

i. Onyesha uhuishaji kwa wanafunzi. Mwalimu ataonyesha uhuishaji kwa wanafunzi kutumia projector.

ii. Katika makundi ya kumi, wanafunzi watajadili kile kilichozungumziwa katika uhuishajina baadae kubadilishana maelezo

iii. Kujadili maneno mapya.Baada ya kutazama uhuishaji, mwalimu atawaongoza wanafunzikatika kujadili maneno mapya katika ufahamu wakilinganisha na yale ambayo wametazama katika uhuishaji.Ushiriki kutoka kwa wanafunzi unapaswa kuhimizwakutokana na ujuzi waliokua nao kabla ya kutazama uhuishaji. Katika hatua hii, ni muhimu kwamba mwalimu awasaidie wanafunzi kwa kuwaonyesha uhusiano iliopo kati ya uhuishaji na maudhui ya somo. Hivyo mwalimu ataongeza nafasi ya wanafunzikupata uhusiano kati ya habari zamani na mpya

iv. Kusoma ufahamu. Wanafunzi watasoma ufahamu kimya kimya huku wakijaribukuunganisha wao wenyewe uhuisaji walioutazama na ufahamu wanaousoma.

v. Kujibu maswali. Hatimaye, wanafunzi watatarajiwa kujibu maswali ya ufahamu waliousoma.

Appendix IV: Research Permit

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This is to Certify that Miss. Ritah Mitishi of Egerton University, has been licensed to conduct research in Nakuru on the topic: Effects of Animations in Teaching on Students' Achievement and Motivation to Learn Kiswahili Reading Comprehension in Public Secondary Schools in Njoro sub-county, Kenya for the period ending: 07/November/2020.

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Appendix V: Publication in a peer reviewed journal

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Effects of Animations on Students' Achievement in Kiswahili Reading Comprehension in Public Secondary Schools in Njoro Sub -County, Kenya

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Abstract
The study aimed at investigating the effects of using animations in teaching Kiswahili reading comprehension on students achievement among secondary school students' in Njoro Sub- County Kenya. Solomon Four Non-Equivalent control group design was used in the study. Target Population comprised all 14,292 students in the public co-educational secondary schools in Njoro Sub County. The accessible population included the 4,745 Form Two students from public co-educational secondary schools in the Sub-county. Purposive sampling technique was used to select one form two class from each of the four co-educational secondary schools which provided the sample size for the study 160 students. The four schools were randomly assigned to experimental and control groups. For the experimental group, animations were used during the lessons while conventional methods were used for the control groups. Data was collected using Kiswahili Reading comprehension achievement test, whose reliability coefficient of 0.76 was attained using Kuder -Richardson 20 (KR-20). The null hypothesis was tested at 0.05 level of significance. Data was analysed using t-test, ANOVA and ANCOVA. Before the treatment, a pre-test was administered then after four weeks a post-test. The findings proved that after the treatment, the students in the experimental groups attained higher scores compared to the ones in the control groups. This signifies that the use of animations in teaching had an effect on students' achievement in Kiswahili reading comprehension. Therefore, teachers are encouraged to incorporate the use of animations in teaching Kiswahili reading comprehension in attempt to improve achievement in Kiswahili subject.

Key words: Animation, Achievement, Kiswahili
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