

**USE OF FLIPPED LEARNING IN TEACHING SOCIAL STUDIES AMONG
GRADE SIX LEARNERS IN PRIMARY SCHOOLS IN NANDI COUNTY,
KENYA**

BY

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**Thesis Submitted to School of Education in Partial Fulfillment of the
Requirements for the Award of Master's Degree in Information and
Communication Technology**

Moi University

2025

DECLARATION

Declaration by the Candidate

This research thesis is my original work and has not been submitted in any institution/college for the purpose of examination.

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Declaration by the Supervisors

This research thesis has been submitted with our approval for examination as the university supervisors

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DEDICATION

I wish to dedicate this research thesis to my Husband Mr William Kosgei and Children Edith, Sylvia and Amanda for their encouragement and support during my studies. I also wish to dedicate this thesis to my friends for providing a support throughout the study period.

ACKNOWLEDGEMENT

I am greatly indebted to my supervisor, for the scholarly guidance and assistance they accorded me throughout this thesis. I also wish to acknowledge my supervisors Prof. Ongeti and Prof. Susan and Moi University lecturers in the School of Education who successfully took me through the course.

ABSTRACT

Flipped classroom is an innovative learning model which promotes learning through myriad means but is universally defined through changing roles of the teacher and the learner. It fosters increased interaction between students and teachers, promoting personalized and autonomous learning experiences. The current study sought to determine the competence of teachers of social studies in Nandi County interpreted the model in teaching social studies to grade six learners. The study objectives included; assess teachers' competencies, evaluate instructional activities teachers designed in teaching Social Studies, assess the input of parents and caregivers, determine the resources used to support the teaching and examine the pedagogical challenges. The study adopted Len Vygotsky's social constructivism theory. The study adopted a mixed method approach with a descriptive research design. The main respondents for the study were grade six teachers of social studies selected from public primary schools in Nandi County and selected head teachers at primary schools. The target population of the study was 168 teachers and 18 head teachers. Teachers sample size was calculated using Yamens formulae. Public primary schools were stratified along the different sub-counties. A total of 118 schools out of 767 schools that were in existence at the time of the study were picked. From each school a social studies teacher who taught social studies in grade six was purposively picked. Data was qualitatively and quantitatively analyzed and presented along themes based on the study objectives. Based on the first objective majority of teachers 71(67.6%) indicated that they lacked the necessary and relevant skills to facilitate flipped classroom. The second objective showed that in-class activities included class discussions (58.1%), collaborative activities among learners (62.9%), games, simulations and quizzes (58.1%) individual problem-solving exercises (62%) and affinity grouping exercises (46.7%). Based on the third objective, qualitative data indicated that most parents were reported to be unsupportive either because of their economic status or their attitude. Findings from the fourth objective revealed universal use of materials that were easily available. These included mobile phones as a digital device and newspapers. Based on the fifth objective which was to examine the challenges that inhibited the use of flipped classroom as an instructional strategy, several challenges took many forms and were conveniently categorized as being either learner related, institutional related, home or family related and operational. The findings revealed several learner related challenges. These included: learners lack of familiarity with flipped classroom which made them treat personal learning more like home assignment. Instructional materials were regarded as boring or hard to relate with as well as failure to clearly follow instructions along with the failure to engage their parents. Despite many challenges such as unwilling parents, the study should broaden understanding of flipped classroom as a pedagogical model.

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CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

The flipped classroom represents a novel approach to instruction and educational engagement, whereby students engage with course material via a variety of mediums, particularly media, prior to formal instruction. Primarily technology-driven, this method involves a reversal of traditional classwork and homework dynamics. Nonetheless, this pedagogical model remains largely underutilized among educators specializing in the instruction of social studies at the elementary level. Within this section, a comprehensive examination is presented, encompassing the delineation of the research problem, establishment of objectives and research inquiries, rationale, significance, and the underpinning theoretical and conceptual framework.

1.2 Background of the Study

Emerging technologies have always been recognized for their role in driving innovation within the field of education. Innovation has particularly flourished in the realm of instructional models where learners utilize technology to access content. This model is carefully designed to enable educators to implement various pedagogical strategies to facilitate learning. The concept of the flipped classroom offers students numerous opportunities for active learning and higher-order thinking. It fosters increased interaction between students and teachers, promoting personalized and autonomous learning experiences.

The flipped classroom accommodates diverse learning modalities and styles. For instance, Bergman and Sams (2012) suggest that learners can watch videos to replace traditional in-class lectures, allowing for repeated viewings to enhance

comprehension. Moreover, students are granted autonomy to collaborate based on their individual requirements, enabling them to self-regulate their pace according to their interests and abilities. The flipped classroom environment also establishes supportive settings for learners in need of assistance. Scholars have noted that this approach enhances students' engagement, learning abilities, and satisfaction by nurturing creativity, confidence, and problem-solving skills. Its flexibility lies in the ability for learners to choose when and where they engage with the material.

In the flipped classroom, the conventional instructional method is inverted, assigning work for students to complete at home while utilizing class time to reinforce instruction. Various case studies on flipped classrooms worldwide serve as a foundation for current research endeavors.

The idea of flipped learning emerged in 2006 and has since developed impacting the terminological dimension of the word (Bond, 2020). Originally, flipped classroom was based on the use of video as a medium of content delivery, while the teacher was the centre of instruction. In the next developmental stage, the concept called 'the flipped mastery model' continued to focus on the teacher's transfer of knowledge, while focusing on the learner's pace through addition of more features to the videos (Howard, 2018). The final stage of evolution, bore the term 'flipped learning' aimed at learner-centered pedagogy for deeper and long-term understanding while using technology and media to capture content in form of audio, graphics, text or video for learners to access at their own convenience and present knowledge acquired. A teacher needs to know when, why and how to use technological tools and this requires prompt support, time to experiment and continuous professional development in order to improve pupils' academic achievement in science (Hennessy *et al.*, 2022).

Worldwide, substitutes to traditional learning are being implemented whereby technologies, discovery learning, teacher facilitation and learner collaboration have been integrated to promote pupils' academic achievement in science (Mohan, 2019).

For instance, Blended learning, an approach that combines multimedia tools such as electronic presentation support systems, world-wide web-based courses and online software with face-to-face classroom, has been widely used over a period of time (Spasova & Welsh, 2020). In the recent past, flipped learning as a pedagogical approach to blended learning where classroom activities and homework are swapped, is gaining popularity globally (Raju & Shailaja, 2024). Many educators are slowly adopting this novel learning approach to advance acquisition of concepts in diverse disciplines (science, humanities and medicine).

Gross *et al.*, (2016) explored this approach at West Point School, where teachers assigned videos and materials for home completion, reserving class time for instructional enhancement. Bergman and Sams (2012) similarly embraced flipped classrooms after observing students missing instruction due to extracurricular commitments. Consequently, teachers began recording their lessons for students to access repeatedly.

Numerous studies have delved into teachers' perspectives on flipped classrooms. For instance, Unal and Unal (2017) conducted an experimental study involving selected teachers in a graduate course to assess student performance and evaluate the perceptions of both educators and learners. Findings indicated a positive student attitude towards the model, accompanied by significant academic achievements. Moreover, teachers demonstrated enhanced instructional practices following the implementation of the flipped classroom model.

Gough et al., (2017) conducted an investigation into the viewpoints of educators regarding the approach, aiming to discern potential variations in these viewpoints based on academic level or subject area. The researchers outlined three advantages of flipped classrooms: facilitating student collaboration, fostering active learning, and promoting higher-order thinking skills. Additionally, it catered to students who were absent or struggling by allowing them to engage with course material at their convenience. Furthermore, an increase in parental participation in their children's education was noted, despite teachers highlighting technology access as a hindrance to the approach. Gough's research contributed significantly to the existing body of background of the study by scrutinizing educators' perspectives and highlighting the model's possible benefits.

Chen (2016) employed a mixed methodology to explore the impact of the approach on learners' attitudes and academic performance. The study identified three primary obstacles to the model's implementation: technical malfunctions, learners' initial resistance to the novel methodology, and the difficulty of sourcing or creating instructional resources for enhanced in-class interactions. Notably, no substantial variances in learners' academic performance were observed.

Leo and Puzio (2016) affirmed the effectiveness of the method in supporting students requiring additional attention. In a separate study, Algerio and Kazu (2022) assessed the preparedness of high school teachers for the flipped classroom model. Key aspects of readiness were analyzed, revealing that newly qualified teachers exhibited readiness in crucial areas such as classroom management, technological proficiency, and lesson planning for flipped classrooms. Teachers who possessed personal

computers and considered themselves adept in utilizing information technology expressed confidence in their ability to implement flipped classroom practices.

Chebotib, Too, and Ongeti (2022) delved into the impact of flipped learning on academic performance among high school students in Kenya, utilizing descriptive statistics. The researchers documented how students embraced collaborative learning and concept mapping techniques, leading to attitudinal shifts and ultimately improved academic outcomes. These findings underscored the positive influence of such approaches on students' scholastic achievements.

The use of flipped learning in teaching Social Studies explored various pedagogical facets of the flipped classroom methodology, encompassing educators' and learners' perspectives as well as its effects on academic performance. The cumulative findings from these works validate the flipped classroom model as a recognized pedagogical approach, underscoring the necessity for further investigations into its efficacy across diverse contexts, including its application in teaching specific subjects in primary schools in Kenya.

1.3 Statement of the Problem

The issue examined in the present research pertained to the lack of sufficient understanding regarding how primary school educators in Kenya exhibited their proficiency in utilizing the flipped classroom approach, as there was a noticeable scarcity of research investigating the efficacy of this model. Therefore, the necessity of gathering comprehensive data through various data collection tools documenting teachers' abilities to develop pertinent activities that enhanced the flipped classroom experience was deemed pedagogically appropriate. Additionally, in the research setting of Nandi County, there was a deficiency in empirical studies supporting the

success of the flipped classroom strategy in enhancing student learning. Research conducted internationally, excluding Kenya and specifically in Nandi County among high school and college students has presented proof of the model's effectiveness in boosting student learning. A gap is evident concerning the contexts related to Nandi County, particularly in the teaching of Social Studies in elementary schools.

Moreover, existing scholarly works illustrate that not all flipped classrooms lead to positive outcomes and satisfaction. This is due to the fact that although flipped learning may have shown beneficial results in a classroom, it does not automatically translate to effectiveness. This formed the foundation for examining the pedagogical factors of flipped classroom approaches that could assist in understanding the circumstances in primary schools within Nandi County.

1.4 Purpose of the Study

The purpose of the study was to examine the use of flipped learning in teaching social studies among grade six learners in primary schools in Nandi County, Kenya

1.5 Objectives of the Study

The objectives of the study were to:

- (i) To assess teachers' competencies in using flipped classroom in teaching Social Studies in Grade six in Nandi County;
- (ii) To value instructional activities teachers designed in teaching Social Studies using flipped classroom among Grade six learners in Nandi County;
- (iii) To assess the input of parents and caregivers in support of grade six learners in Social Studies in Nandi County
- (iv) To identify the resources used to support the teaching of Social Studies in grade six using flipped classroom in Nandi County

- (v) To examine the pedagogical challenges that inhibit effective use of flipped classrooms in teaching Social Studies to grade six learners in Nandi County.

1.6 Research Questions

The study sought to answer the following research questions in line with the research objectives:

- (i) What are the competencies of grade six Social Studies teachers in using the flipped classroom model?
- (ii) What instructional activities do teachers of Social Studies in Grade six design when using the flipped classroom model?
- (iii) How do input of parents and caregivers support grade six learners with their flipped classroom work?
- (iv) What are the resources that support flipped classroom model in the teaching of Social Studies in grade six in Nandi County?
- (v) What are the pedagogical challenges that inhibit effective use of flipped classrooms in teaching Social Studies to grade six learners in Nandi County?

1.7 Significance of the Study

The results of the study should be able to contribute to the development of successful praxis in the area of flipped learning in primary schools. The study produced valuable information that should aid informed decisions about flipped classroom instructional model. This is based on the understanding that flipped classroom model provides opportunities for engaging learners in active and higher order thinking as well as supports increased interaction between learners and teachers while allowing for more personalized and autonomous learning. The potential for learners' cognitive change through improved learning outcomes based on the findings of the current study is possible. The study should aid fill gaps in existing literature pertaining to the

implementation of the flipped classroom as a pedagogical model. Based on the consistent call by researchers studying flipped learning model for more research addressing its potential benefits and obstacles to its implementation. The current study should provide insightful thoughts.

1.8 Justification of the Study

Research justifies this study because multiple academic findings demonstrate that flipped classrooms enhance student academic results. Social Studies flipped classroom application stands as an effective methodology yet research for grade six primary schools in Nandi County remains scarce. Knowledge of flipped learning applications in this particular context is vital because researchers can use this opportunity to create empirical data about its effects specifically for local educational settings.

The research examines student engagement with social studies academic outcomes under this instructional approach to deliver guidance about purpose-driven teaching methods for grade six students. The research outcomes will guide the development of novel teaching methods that promote student active learning along with critical thinking development. The research outcomes will guide educational stakeholders together with curriculum developers to understand how flipped classrooms can advance primary school academic results.

1.9 Theoretical Framework

A theoretical framework is a blueprint that supports a study by relying on a formal theory. The current study adopted Len Vygotsky's Social Constructivism. Constructivism is a learning theory founded on the notion that individuals actively establish their understanding through experiences rather than passively accepting

information. Learners build learning through reflecting upon their experiences and add new details to pre-existing knowledge (Wertsch, 2000).

According to the principle of flipped learning, teachers who embrace constructivism encourage their students to explore and question the world around. Through active learning and discovery constructivism aids learners to develop a deeper and more meaningful understanding of concepts. In a learning situation each learner brings a unique experience to the classroom. The teachers guide the learners in the process of discovery by putting the learning experience on the hands of the learner and enable them make conceptual connections using special design building blocks.

The current study characterized flipped learning as an active pedagogy that sits within social constructivism, in which learners create cooperative learning environment through dialogue. In flipped classes learners create knowledge and understanding through external activities such as explorations, experiences and interactions. This principle informed the study's choice of instructional activities as one of the objectives of the study. The centrality of cognitive development relates to the manner in which learning actively takes place in the environment through guided instructional learning experiences geared towards helping students reach their own conclusions about the working of the concepts being studied.

Furthermore, knowledge is constructed through active experience in which learners interact with materials in order to make personal interpretations and connections. This principle informed the researcher choice of learning resources as a study objective.

Finally, constructivism stresses the importance of creating supporting learning environment which could take various forms such as experiments, collaboration and dialogues. In this regard the study sought to establish how different actors such as

parents and teachers supported learners to benefit from the flipped experiences. This informed the study objectives on parental support.

The constructivist framework aided the researcher determine how the learners were engaged in terms of active learning and collaborative learning strategies to enhance content knowledge by merging technological tools such as smartphones and extension in terms of interpersonal, leadership and problem solving skills.

Generally the study used some of the aspects of social constructivism which were relevant to the research objectives. The purpose of the current study was to evaluate the interpretation and use of flipped learning in developing learners' knowledge. Through relevant elements of social constructivism the research was able to determine the teachers' competence in designing relevant experiences that guided learners in their quest of exploring and self discovery.

1.10 Conceptual Framework

A conceptual framework visually describes key concepts or variables considered in a study and how they might relate to each other. In the context of the current study a synthesis of reviewed literature yielded several elements that could explain flipped classroom which was the dependent variable of the study. In the current study the variables were grouped into three major categories namely those that fostered engagement, and enhancement leading to extension in terms of interpersonal leadership and problem-solving skills. The engagement and enhancement variables in this study were the independent variables whose manipulation determined learners' knowledge extension through flipped learning. The extension activities could thus be categorized or defined as being the desired outcome of flipped learning. The engagement of students in flipped classrooms in terms of the best strategies such as

problem-based learning, Cooperative Learning and share simulation and discussion aid learners to construed knowledge. Enhancement elements merge technological tools and other resources to aid develop students' knowledge.

The conceptual framework is in tandem with the constructivism theory on which the study was anchored.

INDEPENDENT VARIABLES

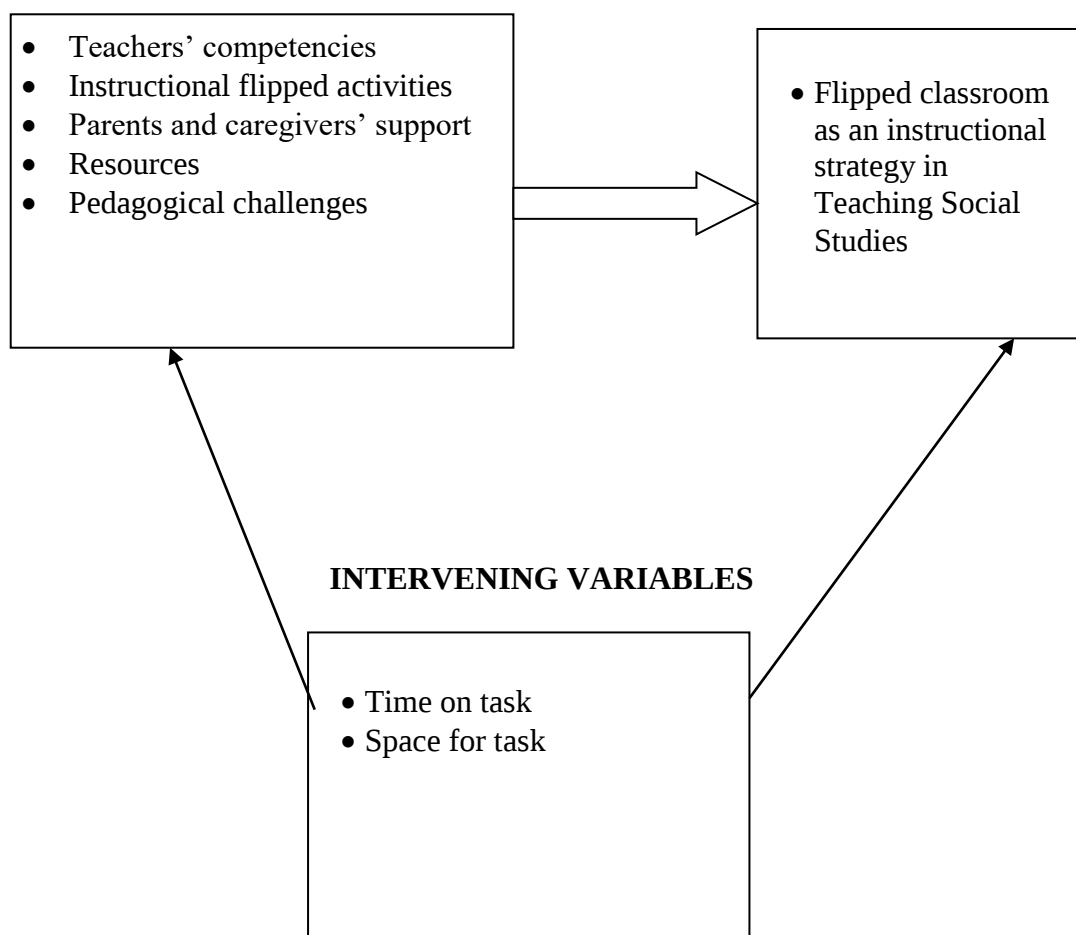


Figure 1.1 Conceptual Framework

1.11 Scope and Limitation

1.11.1 Scope of the Study

Scope refers to the boundaries of the study in relation to the content, sample and geographical spread. The study to examine the use of flipped learning in teaching

Social Studies among grade six learners in primary schools in Nandi County. The study specifically reviewed teachers' competencies, flipped classroom instructional activities, resources used in flipped learning by social studies teachers in Nandi County, parental and other caregivers support to learners and the challenges that inhibit the use of flipped learning.

The study targeted all teachers who taught Social Studies to grade six learners in public primary schools in Nandi County and head teachers of selected schools with a sample size of 18 head teachers 118 teachers of Social Studies took part in the study as participants. The study was conducted in the months of September 2023 to January 2024 where 15% of the schools were randomly selected for the study.

1.11.2 Limitations of the Study

The main limitation of the study was that the researcher depended on participants' ability to articulate events and make reference about actors who were not part of the study sample such as learners and parents. This study was conducted in Nandi County, which may limit the generalizability of the findings to other regions with different socio-cultural and educational contexts.

Additionally, the sample size was specific to Grade Six Social Studies classes, which might not fully represent the diverse experiences of all students and teachers. Time constraints also posed a limitation, as the study was conducted within a limited timeframe, which may have impacted the depth of data collection and analysis. Furthermore, variations in access to technological resources among schools could have influenced the effectiveness of the flipped classroom approach, thereby affecting the study's outcomes.

1.12 Operation Definition of Terms

Flipped classroom Refers to an approach to learning in which content acquisition and application is inverted in a manner that allows learners to gain knowledge before class whereas teachers guide the students to actively and interactively clarify and apply knowledge during class. Learners encounter information before class freeing class time for activities that involve higher order thinking

Learning activities Refer to tasks designed by the teacher to create relevant conditions that enable effective learning. Specifically, in the context of implementing the flipped classroom approach for teaching Social Studies in Grade Six in Nandi County, learning activities were structured to encourage active student participation and collaboration.

Parental support refers to the engagements that demonstrate a parent's involvement in their child's learning by being present, actively participating in educational activities, and providing helpful opportunities. Specifically, in the context of implementing the flipped classroom approach for teaching Social Studies in Grade Six in Nandi County, parental support played a crucial role in facilitating students' access to learning resources outside the classroom.

Social Studies Refers to part of school or college curriculum concerned with the study of social relationships and the functions of society. In the context of this study, it referred to school subjects that

included History, Government and Geography. It is an integrated study of multiple fields.

Teaching resources Refer to the materials used in educational contexts to aid learners in meeting their learning objectives or to supplement classroom instructions. Specifically, in the context of implementing the flipped classroom approach for teaching Social Studies in Grade Six in Nandi County.

1.13 Summary of the Chapter

In this chapter, background information of the study was provided. Similarly, the chapter presented the statement of the problem, the research objectives, research questions, the justification of the study and its significance among other aspects. In chapter two the researcher reviews literature related to flipped classroom along the themes of the objectives.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with literature on aspects that define flipped classroom experiences. The review reflects the major themes of the study as contained in the objectives and they include: flipped learning, technology use and the teaching and learning activities among others. The review is meant to aid in the analysis of data as collected in the field.

2.2 The Constructivist Theory of Learning

Montecillo, (2024) states that constructivist methods to teaching and learning have originated from the contributions of psychologists and educators such as Jerome Bruner, Jean Piaget, John Dewey, and Lev Vygotsky. There are two primary branches of the constructivist viewpoint, namely cognitive constructivism and social constructivism. While they differ in emphasis, they share numerous ideas on teaching and learning.

Constructivism is an epistemological philosophy that is grounded in empirical observation and scientific investigation, focusing on the process by which individuals acquire knowledge and understanding (MacLeod, Burm & Mann, 2022). This theory posits that individuals develop their own knowledge and comprehension of the world by actively engaging in events and subsequently reflecting upon them.

When learners are confronted with something unfamiliar, they must integrate it with their existing ideas and experiences, potentially by modifying their beliefs or disregarding the new or prior knowledge as inconsequential. Regardless of the situation, learners are proactive agents in constructing their own knowledge, engaging

in questioning and self-assessment. Koptseva, (2020) asserts that constructivism is an epistemological philosophy that posits that individuals derive knowledge and meaning from their personal experiences. Constructivism asserts that individuals have a greater capacity to comprehend knowledge when they have actively produced it themselves (Saleem, Kausar & Deebea, 2021).

Constructivism places significant emphasis on the significance of an individual's knowledge, beliefs, and skills in the process of learning. The process of constructing new understanding involves the integration of existing knowledge, new information, and a state of preparedness for learning (Cantor, Osher, Berg, Steyer & Rose, 2021). Individuals exercise agency in determining which novel concepts to embrace and how to integrate them into their preexisting cognitive frameworks.

Constructivism is a method in which information is constructed within a specific environment, rather than being acquired passively. Learners consistently evaluate hypotheses through social discussions. Every individual have a unique understanding and formation of knowledge. Mitry, (2021) posits that the constructivist perspective encompasses two key elements. Firstly, knowledge is actively constructed by learners rather than being passively acquired from the environment. Secondly, the process of acquiring knowledge involves adaptation, which is continually shaped by a learner's experiences with the world.

According to Subagia, (2020) the cognitive paradigm of constructivism has played a crucial role in transferring the responsibility for learning from the instructor to the learner. This paradigm no longer views the learner as passive or lacking power. A learner is considered an active participant in the creation of new knowledge and comprehension, whereas a teacher is regarded as a facilitator of the learning process

(Sharoff, 2019). In this scenario, constructivism can be perceived as a spiral, wherein learners engage in ongoing reflection of their experiences, resulting in the gradual enhancement of their ideas in terms of complexity and efficacy.

Consequently, they acquire progressively stronger skills to assimilate new knowledge. One of the primary responsibilities of a teacher is to foster the learning and reflection process. Learning is a constructive process in which learners construct an internal representation of knowledge and develop their own interpretation of experience. Lave, (2021) contends that a learner is not devoid of prior knowledge and cultural influences, but rather brings these elements to a learning situation.

Therefore, in order for meaningful learning to occur and be applicable beyond the confines of a school or training classroom, it is essential to situate the learning process within a comprehensive and authentic real-world context (Renzulli, Gentry & Reis, 2021). Key factors in the learning process include cognitive apprenticeship, which involves learning by observing and imitating problem-solving strategies used in real-world scenarios, as well as utilizing the available resources in problem-solving circumstances. The measure of learning is determined by how effective and helpful a learner's knowledge structure is in aiding thinking in the content field.

Shah, (2019) asserts that within the classroom setting, the constructivist perspective on learning can indicate several learning methodologies. Generally, it refers to the practice of motivating learners to employ active learning techniques, such as conducting experiments and solving real-world problems, in order to generate new information (Doyle, 2023). Subsequently, learners are encouraged to reflect on and discuss their actions and how their understanding is evolving. A social studies teacher

must ensure that they comprehend the pre-existing conceptions of the learners and then direct the activity to acknowledge and further develop these conceptions.

Shah, (2019) argues that constructivism stimulates the inquisitiveness of social studies learners regarding the world and the functioning of objects. Learners do not create the wheel, but instead strive to comprehend its rotation and operation. Engagement of learners is achieved by the application of their preexisting knowledge and real-life experiences, as they learn to formulate hypotheses, test their theories, and eventually derive conclusions from their results.

Steffe and Ulrich, (2020) notes that in the constructivist model of learning, when a learner is presented with new information, they assess it in relation to their existing cognitive structure. There are three possible outcomes: (i) The information aligns well with their prior knowledge and is therefore integrated into their understanding (It is congruent with their previous knowledge). Although it may require effort, the key is to discover the perfect match, similar to fitting a puzzle piece. Additionally, the information is incongruent with prior knowledge, causing dissonance. In order to accommodate new information, a student must modify their existing understanding. This process can be challenging. Alternatively, if the information does not align with their prior knowledge, it is disregarded. Unassimilated pieces of information may either not be absorbed by a student or remain in a state of suspension, awaiting the moment when the learner's comprehension has advanced enough to make sense of them.

Ley Vygotsky is renowned for his idea of social constructivism. He saw every student as a distinct individual with distinct requirements and background (Duque, Gairal, Molina & Roca, 2020). He perceived a student as intricate and multifaceted. Social

constructivism recognizes and values the distinctiveness and intricacy of a learner, while actively promoting, employing, and recognizing the learner as an essential component of the learning process (Mallows, 2020). Social constructivists highlight the significance of learners actively engaging in the learning process, in contrast to traditional educational perspectives where the obligation was on the teacher to educate and the learner had a passive, receptive role. According to the perspective of social constructivists, learners actively create their own understanding rather than passively imitating or reproducing what they read (Spivey, 2023). They seek significance and endeavor to discover patterns and structure in the occurrences of the world, especially when confronted with limited or incomplete data.

Social constructivists perceive learning as a dynamic process in which learners must independently uncover principles, concepts, and facts (Rannikmäe, Holbrook & Soobard, 2020). Therefore, it is crucial to foster speculation and intuitive reasoning in learners. However, according to the perspective of social constructivism, learners cannot find reality because it does not exist independently before they socially create it. It is formed by the actions of learners themselves, and learners, as members of a community, collectively create the characteristics of the world (Louis & Leithwood, 2021). Moreover, there is a contention that the onus of acquiring knowledge should progressively rest on the student.

Social constructivism promotes the idea that learners should develop their own understanding of the truth, which is shaped by their background, culture, and entrenched worldview (de Soto, 2022). As a member of a specific culture, learners inherit historical developments and symbol systems, such as language, logic, and mathematical systems. These are acquired throughout their lives. Social

constructivism also emphasizes the significance of a learner's social interaction with knowledgeable individuals in society. Acquiring the social meaning of major symbol systems and learning how to use them is impossible without engaging in social interaction with more knowledgeable individuals (Kirshner & Whitson, 2021).

Learners enhance their cognitive capacities through engagement with peers, adults, and the tangible environment. According to the social constructivist perspective, it is crucial to consider a learner's background and culture during the learning process. This is because a learner's background influences the knowledge and truth they create, discover, and achieve. Darling-Hammond, Flook, Cook-Harvey, Barron and Osher, (2020) emphasized the merging of social and practical aspects in learning, stating that the most important stage of intellectual development happens when speech and practical activity, which were previously separate, come together. By engaging in practical activities, a student develops a deeper understanding on a personal level, while speech serves as a bridge that connects this understanding to the broader social and cultural context shared by the learner (Cress, Collier & Reitenauer, 2023).

According to the social constructivist approach, educators must adjust their role to that of a facilitator rather than a teacher (Saleem, Kausar & Deeba, 2021). While a teacher delivers a didactic lecture to present the subject matter, a facilitator assists a learner in reaching their own comprehension of the information. In the first scenario, the student assumes a passive role, while in the second scenario, the learner takes on an active role in the learning process (Li, Ismail, Patra & Lami, 2024).

The focus shifts from the instructor and the topic to the student. The significant shift in responsibilities necessitates that a facilitator possesses a completely distinct repertoire of abilities compared to a teacher. A teacher imparts information, while a

facilitator encourages exploration; a teacher delivers lectures, while a facilitator offers assistance; a teacher provides predetermined answers, while a facilitator offers guidance for learners to reach their own conclusions; a teacher primarily speaks alone, while a facilitator engages in ongoing dialogue with learners (Doyle, 2023).

A facilitator should possess the ability to spontaneously adjust the learning experience by proactively guiding it towards the direction that learners desire in order to generate value. The social constructivist paradigm highlights the significance of the learner-instructor interaction in the process of learning (Wu, Hsieh & Wu, 2022). The literature study encompassed an examination of the constructivist theory of learning, focusing on the role of a constructivist teacher, the characteristics of a constructivist classroom, and the advantages of employing constructivism in the teaching and learning of social studies.

Despite criticism from conservative/traditional educators, constructivism does not disregard the active role of a teacher or the importance of expert knowledge (Bedford, 2023). Constructivism alters the role of teachers by guiding learners in constructing knowledge instead of simply memorizing a set of facts. A constructivist teacher facilitates learning by offering problem-solving and inquiry-based activities, enabling learners to develop and evaluate their ideas, make conclusions and inferences, and share their knowledge in a collaborative learning setting (Arega & Hunde, 2025). Constructivism shifts the role of the learner from a passive receiver of information to an engaged contributor in the learning process. Learners, under the guidance of a teacher, actively develop their knowledge rather than passively absorbing information from a teacher or a textbook.

Constructivist teaching involves a teacher who acts as a facilitator and guide, responsible for planning, organizing, guiding, and giving directions to a learner (Saleem, Kausar & Deebea, 2021). The learner is held accountable for their own learning. A teacher facilitates learners through ideas derived from routine tasks, challenges that stimulate creativity, and projects that foster autonomous thinking and novel approaches to acquiring knowledge.

Students strive to tackle difficulties and challenges in authentic contexts, which subsequently results in the development of a pragmatic solution and a wide range of student-produced outcomes (Brown, 2024). A constructivist teacher promotes the ongoing evaluation of how classroom activities contribute to the acquisition of knowledge by learners. Through self-reflection and evaluation of their approaches, students in the constructivist classroom strive to become proficient learners. The learners acquire more diverse resources to facilitate their ongoing learning within a carefully structured classroom setting.

In a constructivist classroom, learners are regarded as genuine individuals, with the ability to express their attitudes and emotions (Saleem, Kausar & Deebea, 2021). They are given the opportunity to select from a variety of viable choices, while the teacher assumes the role of a learning facilitator. The climate in this context is one that fosters support and discourages ridicule.

A framework of this nature is expected to provide learners with a sense of security, enabling them to effectively understand and apply concepts based on their personal experiences outside academic work and in many areas of the school. Le and Nguyen, (2024) posited that a constructivist classroom should offer a diverse range of activities to foster learners' acceptance of individual differences, enhance their readiness to

acquire knowledge, explore novel concepts, and develop their own understanding. Furthermore, Vygotsky proposes that a classroom should facilitate the development of an individual's personal understanding and ownership of information. This necessitates that educational learning occurs within a context that is relevant and connected to real-life experiences. In a constructivist classroom, the following occurs.

Firstly, students' independence and proactivity are acknowledged and fostered. Teachers foster learners' intellectual autonomy by valuing their ideas and promoting independent thought, enabling them to develop their own unique intellectual identity. Individuals who formulate inquiries and concerns and subsequently engage in examining and resolving them assume accountability for their own acquisition of knowledge and develop the ability to solve problems.

A teacher poses inquiries that do not have a single correct answer and provides ample opportunity for students to provide their solutions. Critical thinking requires a significant amount of time and is frequently based on the thoughts and feedback of others. The manner in which teachers pose questions and the manner in which learners reply will determine the effectiveness of learners' inquiry.

Promote a more advanced degree of cognitive processing. A constructivist teacher encourages learners to go beyond providing basic factual answers. The instructor motivates students to establish connections and consolidate their understanding of subjects through the processes of analysis, prediction, justification, and defense of their views.

Fourth. Students actively participate in discussions with both the teacher and their peers. Social discourse facilitates the modification or reinforcement of learners' views. Learners can construct a personal knowledge base that they comprehend by having

the opportunity to articulate their own thoughts and listen to the opinions of others. Meaningful classroom discourse will only occur when students feel sufficiently at ease to articulate their thoughts. The class utilizes unprocessed data, original sources, hands-on, tangible, and interactive materials. The constructivist approach engages learners in authentic experiences and facilitates their creation of abstract concepts that connect many phenomena.

Students are involved in activities that test assumptions and promote dialogue. When given the opportunity to create predictions, pupils frequently come up with different hypotheses regarding natural phenomena. Constructivist teachers offer abundant opportunity for learners to test their hypotheses, particularly through group discussions centered around tangible experiences.

Given this circumstance, it was necessary to examine the instructional and educational methods employed in primary schools for social studies, taking into account a constructivist standpoint.

2.3 Flipped Teaching: Experience and Implications

In recent years, there has been a utilization of technological advancements in the field of education by educators to establish a more efficient learning environment. This environment aims to extend beyond the constraints of traditional classrooms, allowing teachers to shift from predominantly delivering lectures during class time to adopting tutorial roles. Simultaneously, students are encouraged to assume diverse roles and actively participate in the learning process (Könings, Mordang, Smeenk Stassen & Ramani, 2021).

One instructional model that aligns with this technology-centered approach to learning is flipped learning. This model leverages technological resources such as pre-

recorded lessons and videos to enhance the learning experiences of students. Essentially, in flipped learning, the conventional roles of teachers and students are altered. The emphasis is placed on reducing direct instruction by teachers in class and maximizing the collaborative input of students during lessons (Jian, 2019).

The concept of flipped classrooms involves reversing the typical classroom activities. Assignments traditionally completed in class are designated as homework, which students then finalize during class time. Instead of passively receiving lectures in class and working on assignments at home, students watch instructional videos and engage in what was conventionally considered homework in the presence of the instructor (Kay, MacDonald & DiGiuseppe, 2019).

Flipped learning represents a pedagogical strategy that shifts direct instruction away from collective learning spaces. It transforms the learning environment into an interactive domain where the teacher facilitates student comprehension and involvement in the subject matter (Muhammad, 2019). The primary aim of the flipped classroom model is to optimize in-person interaction between teachers, students, and learning materials, leading to enhanced knowledge acquisition among students (Dikilitas & Fructuoso, 2023).

The necessity to incorporate technology as an innovative educational tool has prompted educators and educational institutions in recent years to explore new teaching methodologies that cater to the evolving needs of contemporary learners (Haleem, Javaid, Qadri & Suman, 2022). A critical segment of education is vocational training, which prepares students for their future professional endeavors in the job market (Okolie et al., 2020). Flipped learning holds particular relevance in vocational

education, which emphasizes practical application and experiential learning (Chen, 2021).

Within vocational education, there is a heightened importance for instructors to prioritize practical instruction over theoretical concepts (Lund & Karlsen, 2020). According to CEDEFOP (European Centre for the Development of Vocational Training), vocational education is designed to equip individuals with the necessary knowledge, skills, and competencies for specific occupations or broader employment sectors (European Centre for the Development of Vocational Training (Powell & McGrath, 2019). Consequently, the flipped classroom methodology is well-suited for vocational education, enabling more personalized and practical learning experiences for students.

By implementing flipped learning, educators can optimize classroom time by relocating theoretical content outside of class hours and utilizing in-person sessions for hands-on activities (Dikilitas & Fructuoso, 2023). Innovative models such as flipped learning can help improve the quality of vocational education, motivate students, and thus reduce the number of dropouts (Zhou, 2023).

The approach of the flipped classroom provides an avenue to transition from summative assessment methods rooted in theory towards practical activities and assessments aimed at enhancing students' real-world skills (Zainuddin, Chu & Perera, 2024). In vocational education, learning occurs through practical application, thus the flipped classroom model may afford educators increased face-to-face interaction time with students to concentrate on work-related scenarios (Anderson, 2020).

In the realm of education, technology is currently considered a pivotal element. According to Bonfield, Salter, Longmuir, Benson and Adachi, (2020) the evolution of

technology has substantially transformed instructional practices and education. The incorporation of technology into educational settings necessitates educators to reassess their methodologies to achieve objectives and enhance learning outcomes. The flipped classroom has garnered attention from numerous researchers with the goal of improving learners' performance in educational settings (Al-Samarraie, Shamsuddin & Alzahrani, 2020). Bredow, Roehling, Knorp and Sweet, (2021) emphasized the effectiveness of the flipped learning approach in utilizing technology to bolster educational success. Ushatikova, Konovalova, Ling, Chernyshev and Dmitrieva, (2019) categorized flipped learning as a form of blended learning, where it merges e-learning with didactic (face-to-face) instruction. They distinguished blended learning as more conventional and flipped learning as more digitally-oriented. Additionally, collaborative and cooperative learning methods can be integrated into flipped learning approaches (Arias Chulco, 2024). The incorporation of cooperative and collaborative learning within a flipped classroom setting is still in the developmental phase, lacking definitive data on its outcomes (Barbee, 2020). Cooperative learning within a flipped classroom environment has shown positive effects on students' academic achievements (Jian, 2019).

The four pillars of flipped learning, flexible environment, learning culture, intentional content, and professional educators, serve as a practical guide for implementing the flipped learning approach (Dikilitas & Fructuoso, 2023). Flipped classrooms accommodate various learning modes, often necessitating educators to reorganize their physical learning spaces to suit activities such as group work, independent study, research, performance tasks, and evaluations. The flexibility in the learning environment alleviates students' tension and allows them to seek assistance from peers

or teachers at their convenience, rather than feeling pressured to absorb all information during a lecture (Doyle, 2023).

Students are actively engaged in the learning process, shifting from passive recipients of knowledge, thereby influencing the learning culture (Peled, Pundak & Weiser-Biton, 2020). Thimmaraju, (2024) highlighted the importance of intentional content in optimizing classroom time for the implementation of diverse instructional methods like active learning, peer instruction, problem-based learning, mastery learning, or Socratic methods, tailored to grade levels and subjects. Professional educators as another pillar of flipped learning decide on the content, adapt the materials, choose the strategies, and maximize classroom interaction time (Dikilitas & Fructuoso, 2023).

Colomo-Magaña *et al.*, (2020). emphasized that the utilization of flipped learning represents a suitable methodology for educational purposes. Within the framework of flipped learning, students engage proactively in self-directed study of the provided materials before the scheduled class time, while collaborative activities, problem-solving tasks, and practical exercises are conducted during the face-to-face sessions as outlined by Khodaei, Hasanvand, Gholami, Mokhayeri and Amini, (2022). Khodaei *et al.*, (2022) indicated that the preparatory self-learning stage allows learners to access the educational content, previously curated by instructors, within their personal environment, utilizing online platforms and multimedia resources to enhance their understanding through videos and associated exercises outside of the classroom setting. The scholars highlighted that the flipped learning approach promotes flexibility concerning both temporal aspects (allowing for repeated access to materials at the learner's convenience) and spatial considerations (enabling viewing from any

location). Additionally, they underscored the potential for group work and interactive activities during in-person class sessions. Furthermore, Chowdhury, (2020) expounded on how the flipped learning approach redefines the roles of educators and students within the educational setting, requiring learners to take an active role in structuring their learning journey and engaging with peers and instructors to assimilate knowledge during class time.

Hence, the pivotal elements of the flipped learning approach involve transferring content delivery outside the classroom environment and utilizing in-class time for more advanced activities such as application and analysis of previously acquired knowledge, as articulated by El Miedany and Miedany, (2019). Garcia-Ponce and Mora-Pablo, (2020) affirmed that the blended learning characteristics of the flipped learning approach entail shifting conventional classroom tasks to external platforms. Wang, (2023) drew a comparison between the passive instructional methods observed in traditional classrooms and the active student-centered approach characteristic of flipped classrooms, emphasizing the learner's central role in the educational process. They differentiated between flipped classrooms and flipped learning, highlighting the adaptability of courses, materials, or lectures in flipped classrooms to suit individual learning paces, while flipped learning combines traditional face-to-face teaching with online educational components.

Mbaye, (2024) asserted that the flipped learning approach empowers learners to become independent agents, capable of excelling in observational, cognitive, and higher-order tasks. Drawing on Bloom's revised Taxonomy, the flipped learning approach enables the application of active learning techniques both within and beyond the classroom environment, as discussed by Li, Lund and Nordsteien, (2023).

Consequently, the flipped learning approach emerges as an instructional strategy that fosters active student engagement, facilitates teacher and peer support for homework completion, and allows for increased classroom interaction, as highlighted by Li *et al.*, (2023). The efficacy of the flipped learning approach extends to various stakeholders, including students, educators, and parents.

Flipped Learning is underpinned by a variety of theoretical underpinnings. The initial basis is constituted by blended learning, a concept that converts traditional in-person lectures into online formats and incorporates in-person interactions (Singh, Steele & Singh, 2021). The second foundation is rooted in constructivism theory, positing that learning takes place when a student collaborates with a more knowledgeable individual to tackle challenges slightly beyond their current skill level (Doyle, 2023).

The fundamental tenets of constructivism encompass the notions that learning is self-centered and self-driven, an active rather than passive process, and that instructors play a pivotal role in fostering critical thinking and facilitating the application and deeper comprehension of novel ideas (Deel, 2024). Within constructivism, knowledge is perceived as actively constructed by the learner, as opposed to being passively absorbed from external sources. Learning is viewed as an activity undertaken by the learner, rather than being imposed upon them (Koçoglu & Tekdal, 2020). The utilization of the flipped learning approach, which aligns with constructivist principles, aims to empower learners to participate in interactive, creative, and cooperative tasks while constructing knowledge (Jiang, Shen, Zhang & Wang, 2023).

This approach necessitates learners to be actively involved in constructing knowledge, engaging in cooperative and collaborative learning, reflecting on their learning process, and ultimately acquiring meaningful educational experiences to enrich their

learning outcomes (Johnson & Johnson, 2018). Vygotsky's theory of mediation in digital learning represents another theoretical construct within this framework, suggesting that technology can influence psychological and cognitive states. Educational programs, as highlighted by Wu, Hsieh and Wu, (2022) should take into account the role and consequences of technological advancements on the learning process.

The concept of technological mediation, drawing inspiration from Vygotsky's (1986) theory of tool mediation, seeks to elucidate how technology actively shapes the interaction between individuals and their environment through various mediating influences. De Boer et al., (2018) elucidate that this perspective on technological mediation underscores "the significance of the interconnectedness between the emotional states of individuals, technologies, and the environment" (p. 300). Lastly, the final foundation rests on active learning (Peng & Jia, 2023) which underscores the importance of student participation and engagement in the educational journey.

Flipped learning has garnered considerable attention in vocational and technical education recently (Sein-Echaluze, Fidalgo-Blanco, Balbín & García-Peñalvo, 2024). The approach involves moving theoretical content delivery outside the classroom, thus utilizing class time for practical activities, benefitting both educators and learners. The integration of innovative models like flipped learning has the potential to enhance the overall quality of vocational education, foster student motivation, and ultimately decrease dropout rates (Köpeczi-Bócz, 2024).

In order to adapt to the rapid technological advancements and evolving instructional methodologies, educators must continuously update their practices to engage learners who may find traditional teaching methods uninspiring (Renau, 2023). One such

approach that holds promise is the flipped learning model, which has been shown to enhance learners' motivation and positive emotions according to recent studies (Cevikbas & Kaiser, 2022). This surge in student engagement during in-class discussions within flipped classrooms may be attributed to their satisfaction with the learning experience. Additionally, existing literature highlights the positive impact of flipped learning on learners' self-efficacy levels and emotional regulation. Consequently, it can be inferred that flipped learning offers students increased opportunities for success by fulfilling their basic cognitive needs for competence, autonomy, and social interaction (Yoon, Kim & Kang, 2020). Furthermore, research indicates that learners in technology-integrated classrooms exhibit heightened self-efficacy, autonomy, and confidence through active participation and interaction in such environments.

Moreover, flipped learning has been found to boost learner engagement, encourage positive collaboration, peer teaching and learning, as well as enhance enjoyment, participation, and student-teacher relationships (Bond, 2020). Notably, cognitive skills of vocational learners, including critical thinking, problem-solving, creative thinking, learning skills, strategies, and communicative knowledge, can be positively influenced by flipped learning (Zhou, 2023). As such, mastering the principles of flipped learning is imperative for educators, as previous studies underscore its significance as a contemporary and future-oriented pedagogical approach that necessitates the development of tailored learning activities for flipped classrooms.

This literature review holds pedagogical implications for learners, teachers, and parents alike. Learners stand to benefit from this review by identifying and aligning their learning strategies with the principles of flipped classrooms (Dikilitas &

Fructuoso, 2023). They can ask instructors to provide materials that they like and matches their learning strategies in flipped classrooms in order to increase engagement, creative thinking, motivation, and critical thinking (Pang, 2022). At the same time, they can practice extending their preferences to be able to take more advantage of the presented materials.

2.4 The Integration of ICT in Teaching and Learning

Many educational institutions prioritize the instruction and acquisition of the English language due to its status as a global language and its vast wealth of knowledge (Salomone & Salomone, 2022). Efforts have been made to improve the instruction of the subject and make it more sophisticated. Academics have proposed the perspective that the utilization of ICTs enhances the effectiveness and achievement of English language teaching and learning.

Liang and Fung, (2021) argue that English as a topic encourages critical thinking in regards to innovative approaches to reading and writing. They also highlight the educational benefits of collaborative work and the potential for a revival of learning facilitated by information and communication technology (ICT). This is mostly due to the fact that information and communication technology (ICT) resources, such as web 2.0 applications, can be effectively utilized to benefit students who are studying English language and literature. These technologies offer a range of learning opportunities, including the ability to explore, investigate, compose, create, and reflect through performing, communicating, and collaborating.

Alemán de la Garza *et al.*, (2019) argue that ICT digital technologies are potent educational instruments that have a transformative impact on pedagogy. The integration of pedagogy and technology allows learners to effectively utilize

technology for the purpose of acquiring integrated language skills. Shadiev and Yang, (2020) highlights the benefits of integrating technology into language instruction in this particular situation. These benefits encompass cognitive enhancement through the provision of visual stimuli, motivational enhancement through enjoyable experiences, and interactional enhancement through the convenience of sharing.

Moreover, according to Selfa-Sastre et al., (2022) ICTs offer chances to investigate the communicative abilities of language learners by including them in the exploration of literary texts and other interactive activities in stimulating ways. The reason for this is that the activities carried out using ICT resources, such as computers, promote engagement and collaboration, while also offering chances for the improvement of learners' spoken and written language skills. Zhao, (2023) agrees with this perspective by stating that a range of technologically advanced devices can establish an engaging educational setting that fosters learners' independence and substantial learning. These offer a substantial level of immersion in the language.

ICT advancements have fundamentally transformed the way subjects are taught and learned, leading to a significant change in the traditional approach (Akour & Alenezi, 2022). This has observed the substitution of the conventional teaching and learning model with a reformed pedagogy. An exemplary illustration of pedagogical transformation is the promotion of learners' involvement in creative learning as opposed to rote learning (Istance & Paniagua, 2019). Additional examples of paradigm shifts include transitions from teaching methods rooted in behavioral habit formation to those grounded in rationalism and cognitive approaches, shifts from teacher-centered approaches to learner-centeredness, and a move from psychometric-structuralist testing to psycholinguistic-sociolinguistic testing (Evans, 2023).

Language learning has been facilitated and enhanced by a range of language learning platforms and methodological advancements (Shadiev & Yang, 2020).

In Kenya, English is both taught and learned as a second language. It is a fundamental component of the high school curriculum (Mandillah, 2019). Analysis has revealed that the standard of English instruction is comparatively unsatisfactory. Integrating ICTs is a method for enhancing the quality of the subject. However, there have been reports of delayed integration, which makes it a subject worthy of further exploration.

Alerasoul, Afeltra, Hakala, Minelli and Strozzi, (2022) has categorized the ICT area into four distinct groups that are associated with different learning orientations. ICT serves as both an instructor and a tool in the media arena. ICT primarily focuses on the dissemination of information, whereas media is responsible for its utilization. Bates, (2023) establish a connection between using ICT as a tutor and the principles of behaviorism. Consequently, learning activities in this field are characterized by repetition, such as learners acquiring new vocabulary through repetitive exercises (Schmitt & Schmitt, 2020). Although learning in this arena contradicts recent research teachings about learning, it is consistently valued by learners.

ICT is mostly associated with cognitive and constructivist learning theories. ICT is utilized in this particular situation to enhance knowledge acquisition by extracting information from diverse resources, such as the internet (Hammad, Khan, Safieddine & Ahmed, 2020). The field of ICT is based on theories of learning that focus on the social and cultural aspects, as well as the cognitive aspects (Stahl & Hakkarainen, 2021). ICT applications in this domain rely heavily on interaction and communication. Instant messaging with students exemplifies the utilization of ICT as a platform.

ICT has emerged as a fundamental cornerstone of contemporary civilization. In 2002, UNESCO classified ICT (Information and Communication Technology) as an essential component of education in contemporary society, alongside reading, writing, and numeracy. Currently, numerous countries prioritize the acquisition of fundamental ICT skills as an integral component of education. In order to achieve this goal, Sailer, Stadler, Schultz-Pernice, Franke, Schöffmann, Paniotova and Fischer, (2021) suggested that teachers should acquire the skill of instructing technologically proficient students, stay updated on technology-related matters, utilize technology in their teaching, recognize the advantages of technology, and incorporate these elements into classroom instruction to enhance students' academic performance and prepare them for the expanding multimedia technological landscape.

The utilization of multimedia and technology in English language schools has demonstrated a favorable influence on teaching and learning, highlighting their significance as integral components of Information and Communication Technology (ICT) (Abraham, Arficho, Habtemariam & Demissie, 2022). The reason for this is that multimedia offers a greater amount of information and educational resources, while also increasing learners' motivation and preserving their ability to communicate effectively. In their study, Zhao and Lai, (2023) examined the indispensability of multimedia technology in language instruction and discussed the challenges encountered when using technology into English language teaching. The researchers determined that technology enhanced learners' interests, bolstered their communication skills, expanded their knowledge for deeper comprehension, and enhanced the effectiveness of teaching by allowing flexibility in course content (Quintana Pacheco, 2024).

Various technical domains have the potential to make significant contributions to the field of education (Granić & Marangunić, 2019). Extended learning refers to the enhancement of traditional teaching and learning through the use of communication technologies or social networking sites like Facebook, Twitter, blogs, Wikis, and instant messaging. Within this particular context, the process of imparting knowledge and acquiring knowledge is not limited to the traditional classroom environment. Students participate in interactive platforms that enable cooperative dialogue, sharing of viewpoints, and analytical reasoning (Blyznyuk & Kachak, 2024). The second phenomenon, commonly referred to as ubiquitous wireless, pertains to the widespread adoption of wireless networks, which enables learners to have greater flexibility in their learning process by utilizing portable devices such as mobile phones, laptops, and tablets (Olabisi, Orijì & Abe, 2024). The third form of contribution is intelligent seeking. It allows learners to efficiently search, organize, and retrieve data. Education Gaming comprises games and simulations. These learning tools have an impact on motivation, communication, critical thinking, and problem-solving skills (Hursen, 2021).

According to Kathirvel and Hashim, (2020) ICT is mostly utilized to provide instructional materials that assist in teaching English to individuals who are not native speakers. The materials utilized enhance the learners' proficiency in speaking, listening, reading, and writing. Kassab, DeFranco and Laplante, (2020) enumerate several benefits in the pedagogical process. In addition to giving multimodal experiences, ICT enhances learners' motivation and facilitates collaboration, hence promoting language development through interactive learning opportunities. Similarly, Information and Communication Technology (ICT) offers teachers the chance to tackle matters of fairness and availability (Barakabitze et al., (2019).

ICT facilitates the language and conceptual growth of learners by providing support to individuals who have diverse learning styles. This is due to the ability to generate genuine and significant experiences. Technology facilitates cultural comprehension as learners engage and actively partake in their education while acquiring language proficiency and cultural sensitivity. The utilization of technology in education is not entirely advantageous. Miskiah, Suryono and Sudrajat, (2019) attributes the increased workload of teachers to the implementation of ICT integration in order to cater to the students' needs. Extensive learner training is necessary as it may not be suitable for all learners in every situation. Rykard, (2020) also identified additional obstacles such as classroom management, distractions, and students' tendency to utilize abbreviations.

According to Bright, (2021), ICT is responsible for instances of plagiarism and the inclination to directly copy and paste extensive amounts of information from the internet. This behavior ultimately results in learners being unable to properly complete their written assignments. Ultimately, the incorporation of ICT in the classroom is inevitable. Remache and Belarbi, (2019) noted that ICT is a potent and adaptable tool that is necessary and sought after to address the difficulties of globalization, enhance a country's economic position, and inspire and support student learning. Haque, (2024) emphasized that technology has a significant impact on both home and classroom learning, since computer-assisted learning and interactive media technologies enhance the conventional use of chalk and board. Computers and the internet offer abundant resources of genuine spoken examples that assist learners in developing native-like pronunciation skills and provide support to teachers who lack confidence in their own language abilities.

2.5 Active Teaching and Learning Strategies

Active teaching and learning refers to many instructional strategies that emphasize learners' accountability for their own learning. It is a cognitive process in which learners actively participate in doing tasks and reflect on their actions and thoughts in the educational setting (Chen, Hwang & Chang, 2019). Engaging in active teaching and learning fosters a sense of purpose in the learning process. Collaboration is a key aspect of this educational approach, requiring both the instructor and learners to actively participate and contribute to the learning environment. In this situation, learners work together with the instructor to successfully meet educational goals (Benninghof, 2020).

Effective teaching and learning techniques necessitate that a teacher abandons their role as the exclusive provider of information and instead consistently evaluates curriculum development and instructional methodologies (Saroyan & Frenay, 2023). A curriculum centered around active teaching and learning focuses on the process of learners comprehending events based on their preexisting knowledge (Saleem, Kausar & Deebea, 2021).

Students instructed through active teaching and learning tactics achieve greater scores and demonstrate enhanced engagement in the learning process compared to those instructed through traditional approaches. Passive learners exhibit a failure to retain the information that has been presented to them. They demonstrate a lack of attention, and there is a probability that some learners may become disengaged and fall asleep, while others engage in conversations with each other (Barkley & Major, 2020). Thimmaraju, (2024) suggests several effective teaching and learning practices, including cooperative learning, advance organizers, class discussion, field excursions,

project work, role acting, games and simulation, inquiry-discovery approaches, and problem solving. Additionally, the literature regarding these dynamic teaching and learning methodologies was examined.

Group conversation or debate inside a classroom setting. A problem, issue, or circumstance characterized by divergent opinions is well-suited for the discussion approach. This strategy involves the initiation of ideas and the interchange of viewpoints, while also searching for the factual basis of these ideas (Adamides & Karacapilidis, 2020). Discussion is a methodical procedure for reaching decisions as a group. The purpose of seeking agreement is to enhance the clarity and precision of the agreement, if it is successfully achieved (Kottner *et al.*, 2019).

The discussion method is a suitable approach for teaching and learning social studies since it fosters collaborative thinking and learning. It is an educational procedure that necessitates collaboration among students. It is a method of resolving problems in an educational setting by exchanging information and clarifying ideas in order to reach a consensus or agreement. Initiating a conversation at the beginning of a unit is beneficial as it allows the instructor to gauge the presence of viewpoints among the learners and gain insight into the nature of these opinions (Kwon, Park, Shin and Chang, 2019). It is crucial, particularly when employing the constructivist learning approach, for a teacher to ascertain the learners' existing knowledge before commencing a unit (O'Connor, 2022). Engaging in a discussion during the course of a lesson might serve as a method of evaluating the comprehension of learners regarding a particular unit.

It is preferable for learners to participate more actively in a class or group conversation compared to the teacher who starts it. In this scenario, an instructor

provides guidance to the pupils (Doyle, 2023). In order to facilitate a productive classroom discussion, it is imperative for the teacher to meticulously select a topic for discussion, create a structured worksheet to assist learners within each group, and furnish each group with the necessary learning materials. A maximum of five learners is appropriate for a discussion group. It is recommended that each group consists of learners with varying levels of ability.

Additionally, it is advisable to designate a secretary to document important points and a chairperson to oversee the conversation. A teacher should circulate the classroom to oversee the advancement of a debate within the different groups (Ball, 2021). Prior to the conclusion of a lesson, each group should be had the chance to provide a presentation to the entire class, following which the instructor will provide a concise summary of the key concepts that have been taught (Boettcher & Conrad, 2021). The discussion technique is important for several reasons. Firstly, it enables the active involvement of all learners, fostering a sense of inclusivity. Secondly, it promotes the development of listening skills among learners. Lastly, it facilitates the cultivation of positive teacher-pupil relationships. By engaging in discussion, learners cultivate the abilities of self-expression, support students who study at a slower pace, and improve the memory of taught material.

2.5.1 Inquiry- Discovery Method

The inquiry-discovery method enables learners to identify and define the characteristics of a potential solution, conduct a search for pertinent material, formulate a plan for solving the problem, and implement the selected strategy (Nurdin, Muh & Muhammad, 2019). It offers learners the chance to formulate hypotheses, address inquiries, and contribute to the cultivation of a lifelong passion

for learning. According to Tan, (2022) learners suggest problems or difficulties, collect data and make observations in order to formulate hypotheses.

They next confirm or modify their hypotheses, and finally explain or demonstrate their findings. Inquiry-discovery necessitates learners to actively examine an issue or problem, gather relevant knowledge, analyze causes and effects when applicable, and reach a conclusion or solutions (Mubarok, Ismail & Ahmad, 2023). The prevailing agreement on inquiry-discovery learning is that it is most efficacious when the process is meticulously organized, learners possess prerequisite knowledge and skills, and teachers offer essential support throughout the research.

According to David, (2019) discovery learning is an instructional style where learners engage with their surroundings by actively investigating and manipulating items, grappling with questions and debates, or doing experiments. The concept is that learners are more likely to retain information that they uncover independently. Brunner further asserts that as a constructivist approach, discovery prompts learners to utilize their own prior experiences and existing knowledge in order to uncover facts, relationships, and new truths that are to be learned. Individuals acquire knowledge by engaging in experimentation within a certain field and deducing rules based on the outcomes of these trials (Greenhalgh, Hinton, Finlay, Macfarlane, Fahy, Clyde & Chant, 2019).

However, the fundamental concept of this type of learning is that learners have the ability to create their own learning experiences within a certain subject area and deduce the principles of that subject area independently by developing their own understanding. Therefore, it is presumed that learners possess a deeper understanding of the subject matter when they get the necessary information by their own

exploration rather than simply receiving it from a teacher or through expository learning (Purba & Surya, 2020).

Discovery learning involves the teacher providing guidance to learners by asking a series of questions (Azizah & Mardiana, 2024). The purpose of these inquiries is to help the learners understand a topic before it is formally explained. Learners assume the role of investigators as they engage in concept-attainment exercises within a fascinating learning environment. This pedagogical method is said to enhance the retention of contents as learners systematically arrange the new information and integrate it with previously acquired information.

Khoo and Kang, (2022) discovery learning empowers the student to assume a proactive role in their own learning experience. A learner transforms into an engaged participant who resolves difficulties that he comprehends by organizing his own experiences. A teacher assumes the role of a facilitator and mentor, enabling learners to achieve mutually agreed-upon objectives and develop into mature individuals (Mphojane, 2019). A teacher fulfills the role of a resource person, whose purpose is to inspire, motivate, clarify, and elucidate concepts.

The environment in which such instruction occurs should be relaxed and devoid of intimidation (Hikmat, Yosep, Hernawaty & Mardhiyah, 2024). For discovery learning to be successful, the environment, including the teachers' attitude, must support the achievement of objectives rather than hinder them. Instead of imposing his own thoughts on the topic, a teacher strives to refrain from interfering with the learning process whenever and wherever a learner is capable of independently navigating it. Ryan and Deci, (2020) contends that in the context of discovery learning, the environment encompasses both autonomy and organization, with autonomy being the

dominant factor. The content likely represents propositional truth within a broad framework, positioned appropriately for the learner to discover, challenge, and assimilate it for their own understanding.

2.5 2 Problem Solving

Problem solving is a cognitive process in which individuals engage in critical thinking and analysis to comprehend and assess information with the goal of identifying and implementing a solution to a given problem. The process necessitates a student to organize, categorize, arrange, filter, and engage with the subject matter in a particular field of study. The objectives of the exercise are to develop logical thinking skills and to identify or discover appropriate patterns that will solve the presented difficulties. (Syahrin, Suwignyo & Priyatni, 2019).

Komorita, (2019) define a dilemma as a scenario where an individual desires to achieve a goal but has not yet determined the method to attain it. Problem resolution is the process of recognizing and utilizing knowledge, skills, effective answers, and behavioral behaviors to successfully attain goals. The strategy of teaching higher order thinking processes is helpful in enabling learners to independently develop their own knowledge and understand the social and physical environment (Kwangmuang, Jarutkamolpong, Sangboonraung & Daungtod, 2021). The core of problem solving involves providing learners with genuine and significant problem scenarios that can act as a catalyst for study.

Problem solving provides a learning model that is regarded as more closely aligned with real-life situations (Zhong & Xu, 2019). This real-life situation has two aspects. Firstly, the problems or issues are derived from real-life scenarios. Secondly, the process of teamwork, investigation, data collection, and critical thinking are skills that

learners will utilize in their careers. Problem-based learning is far more efficacious than the didactic approach to learning in instilling in learners a reservoir of knowledge that is applicable in the future (Kaeedi, Esfahani, Sharifian & Moosavipour, 2023).

Problem-solving involves learners being confronted with a practical situation that necessitates making a decision or finding a solution. The problem of the issue is deliberately left ambiguous and disorganized, purposefully lacking a clear and defined method or procedure to be followed (Reed, Benito, Caspe & McPherson, 2024). Typically, learners engage in small collaborative groups. A teacher assumes the primary responsibility of facilitating group discussions, but refrains from directing or exerting control over the investigative process.

Utilizing active teaching and learning methodologies enhances learners' ability to acquire relevant knowledge, retain information more effectively, and experience more satisfaction during the learning process (Harris & Bacon, 2019). Active teaching and learning need learners to participate in cognitive tasks that involve higher level thinking, such as analysis, synthesis, and assessment. In this environment, active teaching and learning necessitate instructional activities that engage learners in practical tasks and prompt them to reflect on their actions.

Active teaching and learning are arguably the most significant contributions to education. The primary attributes of active teaching and learning tactics include:

There is a notable degree of involvement, with learners typically finding active teaching and learning activities invigorating and hence being more inclined to actively participate in the subject matter.

Utilization of previous experience or acquired information. Every learner possesses prior experiences and knowledge of some nature, and employing active techniques provides them with the chance to establish informal connections with the information they have already acquired.

Embracing novel viewpoints and stances. Engaging in discussions with others and actively considering different viewpoints, such as in group work or role play, frequently results in reevaluating one's own opinions and provides valuable opportunities for improved learning.

Challenging of values and assumptions across several fields. These tactics are suitable for inter-disciplinary environments, where learners may need to consider a topic from multiple perspectives. By engaging in collaboration, individuals are more prone to acquiring the chance to develop skills in debating and questioning fundamental assumptions and ideals.

Transparency regarding educational achievements. Implementing dynamic teaching and learning methodologies frequently results in unforeseen consequences, including unplanned learning experiences. These unexpected outcomes can be highly beneficial and satisfying for both students and educators.

Peer support and peer learning are available. Collaborative activities, such as group work or simulations, offer learners the chance to learn from and assist each other in ways that are not facilitated by more formal, teacher-centered methods.

Engage in critical reflection on your actions and experiences. Through the act of sharing knowledge and experiences, individuals are able to gain new insights and

viewpoints. Engaging in debates, for instance, can inspire learners to critically analyze their thoughts and actions.

Increased ownership and accountability for the process of learning. Implementing dynamic teaching and learning methods can foster the development of learners' autonomy and intrinsic motivation. By assuming a more inquisitive and self-governing position, individuals are more inclined to cultivate a feeling of 'ownership' of their education and therefore be capable of freely expanding upon it in the future.

Enhancing proficiency in universal communication skills such as active listening, persuasive discourse, and cooperative teamwork. Active teaching and learning practices provide numerous chances for learners to cultivate interpersonal and communicative skills, which are crucial for personal effectiveness in various situations.

2.6 Teachers' Selection of Teaching and Learning Activities

The teacher is gaining more attention due to the crucial role they play in educating students (Bdiwi, de Runz Faiz & Ali-Cherif, 2019). The inadequate or insufficient training of a teacher, however, has negative consequences in the educational system. Teachers in Sub-Saharan Africa are largely deficient in the essential factors for effective teaching, including subject matter expertise, pedagogical abilities, and motivation, while being at the forefront of educational reform initiatives. The cause of this problem can be attributed to the inadequacy of the teacher training system.

According to Woods, (2019) the training of primary school teachers should include exercises that focus on implementing the primary school curriculum. Nevertheless, it has been argued that teacher trainers who instruct primary school teachers typically convey their expertise on the subject matter through lectures.

In turn, the trainees apply the same method in their respective teaching assignments. However, it is contended that many teacher trainers lack reliable professional concepts regarding the purpose and methods of training prospective teachers. In addition, Teacher Training Colleges (TTCs) have a scarcity of teacher trainers who has practical expertise in teaching elementary students in a classroom setting. The teacher training programs require a concentrated emphasis on professional development in classroom competencies (Haug & Mork, 2021).

Anthony *et al.*, (2019) observed that the training method received by instructors during their time in training institutions plays a crucial influence in their ability to effectively facilitate student learning. In order to incorporate active teaching and learning strategies into the teaching-learning process, it is necessary for instructors to provide training to teachers. This training should be designed to align with the specific needs of the practitioners.

According to Di Biase, (2019) if student teachers are not educated in active teaching and learning practices, the teacher-centred model will continue to exist. Inexperienced teachers are unable to effectively change their classrooms without prior knowledge of active teaching and learning methods. Likewise, educators should get instruction using the same techniques that they will be required to employ throughout their teaching career. Expanding access to and improving the quality of education necessitates a focus on teacher training. Furthermore, according to Abedi, (2024) in order for teachers to excel, the training program must provide them with sufficient expertise in the subject matter and pedagogical abilities. Without this action being taken, it would be impossible for an individual instructor to provide something that they have not received at all.

The quality, efficiency, and effectiveness of education are significantly influenced by the characteristics and achievements of teacher education programs. Trainor and Richards, (2021) contended that the mismatch between the needs of schools and teacher training programs has resulted in trainees having a limited understanding of their expanding responsibilities. According to Smith and Gillespie, (2023) alterations in schools should be accompanied by a comparable modification in teacher training programs. According to Orlando, (2019), trainers' understanding of teaching will influence how they instruct others to execute it. Countries should establish a team of highly skilled educators with both academic and pedagogical expertise to enhance their teacher training programs. Teacher training plays a crucial role in determining the choice of teaching and learning methodologies.

It is important to take into account the limitations or restrictions that exist in a certain area when choosing methods and approaches for teaching and learning (Sadeghi, 2019). The crucial determinants in this scenario are the available amenities, encompassing resource materials and textbooks. If a necessary prerequisite for a specific approach is unavailable, such as a demonstration equipment, then that method cannot be employed (Bødker & Grønæk, 2020). To enhance the quality, relevance, and growth of education, it is essential to prioritize the provision, distribution, and utilization of educational resources, educational technology, and facilities.

Educational facilities play a crucial role in facilitating the teaching-learning process. Ali, (2020) stated that educational facilities and services play a crucial role in the teaching and learning processes as they are the method through which instructional objectives are accomplished. Insufficient provision of educational materials and physical facilities significantly contributes to school dropout rates. According to

research published by the World Bank in 1980, a school with insufficient educational resources can result in lower academic performance among students.

According to Liu, Peng and Luo, (2020) there is a strong correlation between the quality of school facilities and educational attainment, which is more significant than the socio-economic background of the family. However, at now, poor countries are lacking the necessary educational infrastructure to properly facilitate the teaching-learning process. In deprived areas of the developing world, it is readily apparent that the essential teaching equipment (such as seats and desks, blackboards and chalk, laboratories, libraries, textbooks for teachers and students, exercise books, and pencils) are in poor condition, inadequate, or simply unavailable, as noted by (Abah, 2020).

There is data indicating that teachers' preferences and aversions, along with their level of expertise, influence the teaching and learning tactics they choose. This is partially connected to their philosophy, style, and value system, as well as their previous experiences and their level of confidence in utilizing novel and sometimes unpredictable approaches. According to Whitaker, (2020), teachers have a tendency to choose teaching and learning practices that have been successful in the past and that make them feel comfortable. People inherently exhibit resistance towards adopting new innovations due to the disruption and decrease in self-assurance it causes.

Altan, Lane and Dottin, (2019) observed that implementing a curriculum that necessitates teachers to modify their methods of operation and habits of thought encounters challenges. In his work, Updegraff and Taylor, (2021) asserts that it has been widely recognized by researchers that every form of change, whether it be

favorable or negative, necessitates individuals to acquire new methods of adapting to their surroundings, thus leading to the experience of stress.

There are numerous obstacles that prevent teachers from experimenting with innovative teaching methods (Babinčáková & Bernard, 2020). One obstacle is the lack of exertion; typically, it is more convenient for a teacher to instruct a class in the same manner as they have always done in the past rather than doing something novel (Hodges, 2023). An even more significant obstacle to change is the fear of losing one's social standing. For many instructors, their status as educators is a highly valued recognition for their years of academic pursuit. Being an authoritative figure who imparts fragments of wisdom to the masses is an immensely gratifying position.

Experimenting with a novel approach may pose a risk to their social standing. In the event of the new approach becoming unsuccessful, it is probable that the learners will perceive the teacher as lacking competence (Horwitz, 2020). Another obstacle is the fear of failure, since teachers who attempt new techniques may lack proficiency in their implementation and may see consequences that are excessively disastrous, despite the actual likelihood of such outcomes. Another obstacle is the concern of receiving unfavorable responses from fellow educators (Pheister et al., 2022). Therefore, the teacher's preference plays a crucial role in determining the choice of teaching and learning tactics.

The primary goal of the teaching-learning process is to facilitate learners in achieving behavioral change through the process of learning. The content and methods of learning should effectively meet the requirements and interests of the learners. According to Jonker, März and Voogt, (2020) curriculum is a valuable resource that is delivered by teachers and ultimately used by learners. The curriculum must be

tailored to the learner's individual needs and be applicable to the society in which the learner resides and develops. The instructional process should incorporate teaching and learning strategies that cater to the specific requirements and interests of the learners in order to effectively facilitate the desired teaching-learning process.

According to Rieger, Singh, Murdoch and Yu, (2020) the choice of a specific approach should align with the level of development and prior knowledge of the learners. It is not advisable for a teacher to employ the lecture approach when instructing extremely young learners or learners who struggle to focus on verbal communication. Students have enhanced comfort and improved learning outcomes when the instructional approach aligns with their individual needs and interests. When there is a mismatch between the method used and the learners, optimal learning will not occur. Therefore, proficient educators should carefully choose the most optimal approach for a specific class. According to Odiljonovna et al., (2024) one of the elements influencing the choice of teaching methods is the psychological and pedagogical regularities, which pertain to the age of learners and their physical, mental, and emotional capabilities. Therefore, it is crucial for the approaches used to lead and guide the training process to align with the specific requirements and interests of the learners.

According to Stronge and Xu, (2021) teacher is the primary agent responsible for effectively executing a curriculum. The teacher bears complete responsibility for effectively delivering the curriculum, both in and beyond the classroom. Teacher educators have high and rigorous standards in this regard. In order to effectively administer a curriculum, teachers must possess a comprehensive knowledge and grasp of the intended objectives and guidelines outlined in the curriculum. According to

Bedana (2002), it is difficult to find a curriculum today that is not in some way connected to a country's education policy. Therefore, it is crucial for teachers to have a clear understanding of their responsibilities and the requirements for implementing the curriculum. Otherwise, it could have a detrimental impact on the education system of a country, as unintended consequences may arise.

Scudder, (2021) asserts that a lack of clarity, uncertainty over expectations, the absence of regular interpersonal communication channels, and ambivalence between the authority and support roles of external agencies all contribute to diminishing the probability of curriculum implementation. Similarly, if teachers instructing at a certain level lack knowledge of the appropriate teaching and learning strategies recommended by the curriculum, they may utilize teaching and learning strategies that are not recommended for that level in the curriculum. In order to assist instructors in effectively implementing the teaching and learning strategies recommended in the curriculum, it is necessary to utilize sensitizing mechanisms to introduce these tactics to teachers.

Burns, (2023) stated that teachers who have undergone traditional training and have primarily used conservative materials may lack the necessary professional and emotional skills to effectively handle modern teaching materials, which require a significant degree of decision-making from the teacher. Prior to the proper implementation of a new curriculum, it may be essential to undergo a period of sensitization for both instructors and learners. Hence, the instructors' cognizance of the teaching and learning technique advocated in the curriculum is a crucial determinant in the choice of teaching and learning strategies.

The apparatus, tools, and equipment utilized by a teacher and students during a specific class are crucial for implementing effective teaching and learning practices. According to Lukas and Yunus, (2021) teachers who are eager to update their teaching methods in the classroom often face limitations due to a lack of materials or the resources to acquire them. If a necessary prerequisite for a specific strategy, such as equipment for demonstration, is unavailable, then that strategy cannot be implemented. Having access to a range of apparatus, tools, and equipment facilitates the implementation of diverse teaching and learning methodologies, as well as the assignment of independent tasks to learners.

According to Kim, Oxley and Asbury, (2022) it is suggested that the number of working hours for teachers should be determined through discussions with teachers' organizations. This should consider the importance of allowing teachers sufficient time for lesson planning, evaluating students' work, participating in extracurricular and research activities, and communicating with parents. If teachers are burdened with a heavy workload of lessons, it is doubtful that they would have the opportunity to create activity-based lessons and effectively implement active teaching and learning methodologies. The amount of time allocated for a certain session dictates the teaching and learning methods that a teacher will employ.

In Kenya, primary school lessons are conducted individually, with each lesson lasting 35 minutes, as specified in the syllabus and displayed on the school's master timetable (Koech, 2021). Hence, methods such as field work and project work, which necessitate additional time for planning, preparation, and implementation, will require two to three lessons, whilst other strategies like question-and-answer sessions can be completed within a single lesson. In situations where time is limited, teachers might

utilize teaching and learning tactics that do not need a significant amount of time (Pollock & Tolone, 2020).

Individuals possess diverse cultural, psychological, and social backgrounds that influence their learning processes, communication styles, work habits, recreational activities, social interactions, and adherence to customs (Vaughn, 2019). The process of learning is inherently intertwined with the cultural environment in which learners are situated. The learning styles and preferences, strengths in various intelligences, and prior experiences of learners are determined by their culture.

The primary responsibility of a teacher is to comprehend the cultural, psychological, and social factors that may impede a learner's ability to acquire knowledge (Jacob, John & Gwany, 2020). When teaching, it is important for a teacher to use effective teaching and learning practices that enhance the productivity and enjoyment of the learners' educational experience. In order to foster a healthy learning environment for all students, it is essential for a teacher to employ tactics that promote a pleasant classroom climate. Additionally, the teacher should design courses and activities that effectively engage and stimulate the learners (Dörnyei & Muir, 2019). Therefore, the culture and beliefs of a learner play a crucial role in the implementation of teaching and learning practices.

2.7 Chapter summary

This chapter explores contemporary teaching approaches, focusing on flipped teaching, the integration of ICT in education, active teaching and learning strategies, and teachers' selection of educational activities.

Advanced technology enables flipped teaching to build a more dynamic student interaction system. This approach switches traditional teaching structures because it

removes extensive teacher lecturing in favor of letting students work with each other. Students do their homework by completing assignments which they would normally complete in class since this time becomes dedicated to interactive activities. Through this teaching model students gain power which converts the teacher into an educational facilitator for students.

The use of information and communication technology helps the teaching of English language by creating opportunities for critical thinking along with collaborative student experiences. Web applications create three learning opportunities through exploration together with composition activities and communication platforms which enhance final student achievements. Through information communication technology students experience innovative learning which expands school limits enabling them to connect with material in new interactive and creative ways.

The educational approach of active teaching and learning needs active student engagement with built-in responsibility elements. By implementing this technique students must actively participate in assignments which requires them to analyze their educational development. The learning approach requires both instructors and students to collaborate for developing an active educational space. Teachers must abandon their traditional role as information distributors during effective implementation and should always assess their instruction methods for improvement.

Sub-Saharan Africa faces obstacles to educational reform because of inadequate training and shortage of pedagogical capabilities among educators. The use of conventional lecture training methods by numerous teacher instructors prevents them from exploring modern teaching techniques.

The long-term effects of flipped teaching alongside ICT applications and student-active teaching methods still have missing information according to research findings. Studying the impact of these approaches on student demographics within different educational situations remains poorly documented through research evidence.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter presents details of the research process which covers the research design, research approach, the sampling process, data collection, data analysis and ethical issues and consideration.

3.2 Research Design

The study adopted a descriptive survey. Descriptive survey research seeks to obtain information that describes existing phenomena by asking individuals about their perceptions, attitude, behaviour or values (Mugenda and Mugenda 2003). A descriptive study design is deemed the best design to fulfill the objectives of the study. This design is considered appropriate for the type of objective of this study and the implied comparative analysis to determine. The design examined the use of flipped learning in teaching Social Studies among grade six learners in primary schools in Nandi County. This design enabled the researcher to collect relevant data in a coherent and logical structure. The descriptive design adopted both qualitative and quantitative data using questionnaire, interview schedule and document analysis.

3.3 Research Approach

Research approach is defined as a broad conceptualization for the research process. A research approach lays down the principles that inform the research with regard to data collection techniques, analysis and interpretation. This study adopted a mixed method research approach in which the researcher collected both quantitative and qualitative data. In a mixed method research the researcher incorporates multiple methods to address the research questions in an appropriate and principles manner

(Creswell, 2018). In the current study both qualitative and quantitative data were collected, analysed, interpreted and reported. In so doing the data findings complemented each other. The data generation tools had both open ended and closed ended items. This enabled the researcher to connect the findings and determine their trustworthiness. The items balanced between objective and subjective as per the demands of research objectives. The data bases were merged during analysis and the integration and reporting was done through narration in which the voices of the participants were paramount.

3.4 Study Site

The research was carried in public primary schools in Nandi County. Most public primary schools are day schools. By the time of the study, there were 770 primary schools in Nandi spread across six sub counties. Nandi County is largely rural even though a few schools are located within the urban centres within the county. Nandi County was chosen for this study due to its unique educational context and the need to explore innovative teaching strategies, such as the flipped classroom model, in teaching Social Studies among Grade Six learners. Despite the growing global adoption of flipped learning, there is limited empirical evidence on its effectiveness within this region.

Additionally, Nandi County provides a suitable setting for examining teachers' competencies, instructional practices and the role of parents and caregivers in supporting flipped learning. Its diverse educational environments and socio-cultural dynamics allow for a comprehensive analysis of the pedagogical challenges and resource availability related to this teaching approach.

3.5 Study Population

Population refers to a group of individuals' objects or items from which samples are taken (Kombo and Tromp, 2006). This means that it is an entire group of elements that share a common characteristic. It refers to the larger group or total number of participants that are of interest to the researcher. Mathematically, population is a universal set of all cases of interest. The population of this study comprised all teachers who taught Social Studies to grade six learners in public primary schools in Nandi County and head teachers at selected schools.

Table 3.1 Target Population

Sub-county	No of Schools.	Teachers	H/Teachers
Chesumei Sub- County	31	24	1
Aldai Sub- County	161	31	4
Emgwen Sub- County	91	25	2
Nandi Hills Sub- County	196	38	4
Mosop Sub- County	159	27	4
Tinderet Sub- County	129	23	3
Total	767	168	18

3.6 Study Sample and Sampling Procedure

Sample size refers to the number of observations or replicates to include in a statistical sample (Orodho, 2003). The sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. Sampling technique refers to a procedure of selecting a part of population on which research can be conducted, which ensures that conclusions from the study can be generalized to the entire population. The researcher obtained sample size for teachers using Yamane formulae (1967).

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size required

N is the population size =168

e is the level of precision =0.05

$$n = 168 / (1 + 168(0.05^2))$$

$$n = 118$$

The sample size was 118 teachers while there was no sampling for the 18 H/teachers as distributed in Table 3.2.

Table 3.2 Sample Size

Sub-county	No of Schools.	Target Population	Sample teachers	H/Teachers
Chesumei Sub- County	31	24	17	1
Aldai Sub- County	161	31	21	4
Emgwen Sub- County	91	25	18	2
Nandi Hills Sub- County	196	38	27	4
Mosop Sub- County	159	27	19	4
Tinderet Sub- County	129	23	16	3
Total	767	168	118	18

To determine the specific number of respondents and schools to be selected from each stratum or zone, the study employed proportionate, purposive and simple random sampling. Purposive sampling was used to select participating schools in each sub county. Proportionate sampling was used to select teacher respondents. This was done by dividing the number of teachers from each stratum (sub county) by the total number of teachers in all sub county (767), then multiplying the product by the sample size (118). Simple random sampling was then used to pick the already selected respondents in each zone. Purposive sampling was used to select 18 head teachers

who served as key informants in the study. The study targeted teachers and head teachers (respondents) from six already existing stratified sub county of Nandi County. Table 3.2 shows proportionate sample size of Nandi County teachers and head teachers per Sub-County.

3.7 Data Collection Tools

The data for the current study was collected both qualitatively and quantitatively by use of questionnaire, interview and document analysis. Each of the tools and how they were deployed for data collection are discussed hereunder.

3.7.1 Questionnaire

Questionnaires are one of the primary sources of data collection. Yaddanapudi and Yaddanapudi, (2019) advise that when designing questionnaires care must be taken to include items that are valid, reliable and unambiguous. The questionnaire was used to collect data for all the five objectives. Structurally, there are three types of questionnaires. These are open ended, closed ended and a mixture of both open and closed questionnaires. Researchers have mostly used questionnaires that have both open and close ended items in order to overcome the limits of either and take advantage of both. They are cost-effective and time-saving, making them ideal for collecting data from large populations. Since all respondents receive the same set of questions, questionnaires ensure standardization, allowing for consistency and comparability of responses. Additionally, they provide anonymity and privacy, which can encourage honest answers, especially on sensitive topics. Their flexibility allows researchers to design them with different formats, such as open-ended or multiple-choice questions, depending on the study's needs.

The current study used a mixture of both open and closed items in order to collect both qualitative and quantitative data. Questionnaires were used in collecting data from teachers of Social Studies. The tool enabled the researcher to collect data from the large number of participants who were spread all over the county. The questionnaires were administered by the researcher and the research assistant. The use of the tool made efficient use of time. The physical administration of questionnaires ensured that all were returned. The presence of the researcher provided participants with opportunities to seek clarification on any aspect of the tool that might have been clear.

3.7.2 Interviews

Interviews are a popular and widely used sources of data collection. They enable a researcher to collect first-hand information directly from the research participants for objective four and five. During the interview a researcher obtains special kind of information based on what was happening in the respondent's mind. Interviews are therefore key in obtaining information on how respondents perceive and interpret the world around them. Flick (2006) argues that the purpose of an interview is to reveal existing knowledge in a way that can be expressed through answers which are made accessible for interpretation.

In the current study the researcher conducted face to face interview with 18 head teachers who were picked based on the stratification of schools according to the schools found in each of the sub-county. Data from interviews was used to address all the five objectives. This means that the interview was used to correlate information provided by teachers from the perspective of the head teachers.

3.7.3 Document Analysis Guide

The use of document analysis as a data generation techniques is widespread in research. According to Yin (2009) documentary information is likely to be very relevant to every case. Documentary information can take many forms and is therefore an objective in data collection plans. Documentary data often coronate information from other sources. Jwan and Ong'ondo (2011) contend that only raw documents could be used as sources of data given secondary documents could be used as background information or part of literature. This means that care should be taken in the selection of relevant documents to avoid the use of printed information. The main advantage of document analysis is that it enhances the credibility of the study which is an important aspect of trustworthiness.

In the current study the researcher analysed teachers' professional documents including the syllabus, scheme of work, lesson plan and written assignments given to learners. These documents were relevant in collecting data for the first and second objectives. They demonstrated the teachers' competencies in using the flipped classroom and revealed the instructional activities designed by teachers of Social Studies.

Documents are situated products. I therefore considered the information obtained as concrete in terms of recording actual evidence. I was able to determine how teachers customized their lesson plans to fit the dictates of flipped classrooms. The documents equally revealed the activities and out of class assignments given to learners along with the experiences designed to achieve the learning objectives which also characterized flipped classrooms.

3.8 Pilot Study

A pilot study is key to research since it helps the researcher refine the data collection plans with respect to both content data and the procedures to be followed. The pilot case is more formative, assisting in developing relevant lines of questioning and providing conceptual clarification for the research.

The preparation for the pilot study involved seeking access to schools based on convenience and accessibility. The pilot study was less structured but more prolonged, allowing for the creation of a relationship between the researcher and the participants. Piloting was conducted in selected schools in Uasin Gishu County, chosen due to its similar characteristics with Nandi County, even though it was not part of the main study area. Ten schools were selected, yielding five head teachers and ten Social Studies teachers. Based on the pilot study results, the research instruments were reviewed, and necessary adjustments were made. For example, the interview guide was restructured to include probes as guidelines for eliciting detailed information from head teachers. The validity and reliability of the research instruments were assessed during the pilot study to ensure they effectively captured accurate and consistent data.

3.8.1 Validity of the Research Instruments

Validity refers to the extent to which the instruments measure what they are intended to measure. In this study, content validity was ensured by engaging experts in education research to review the tools and confirm that they adequately covered the research objectives. Construct validity was also considered by aligning the questions with the study variables.

3.8.2 Reliability of the Research Instruments

Reliability refers to the consistency and dependability of the research instruments in producing stable results over time. To assess reliability, a test-retest method was employed, where the same instruments were administered to a subset of respondents at different intervals to check for consistency in responses. Additionally, internal consistency was measured using Cronbach's alpha, ensuring that the items within the instruments were coherently related. Any inconsistencies or ambiguities identified during the pilot study led to modifications, enhancing the precision and trustworthiness of the tools before their use in the main study.

3.8.3 Trustworthiness

In research trustworthiness is assessed by applying the criteria of credibility, confirmability, dependability and transferability. These terms are consistent with the qualitative criteria of validity. Trustworthiness ensures that the study is truthful, careful and rigorous enough to make the claims that it makes (Jwan and Ong'ondo, 2011).

For purposes of credibility, key concepts in the instruments were reviewed through input of peers, experienced researchers and supervisors. Consultation with this cadre of players took place during the entire process of the study with focus on the objectives of the study. This enabled the study to investigate what is set out to.

Transferability which refers to the extent to which the study can be generalized to other contexts was achieved through triangulation of instruments. Dependability refers to the extent to which the research procedure is clear to enable other researchers to replicate the study and obtain similar results. The interviews were tape recorded to capture the respondents' comments. Efforts were equally made to ascertain that the

process, findings, interpretations and conclusions were aligned to the research topic, the end objectives and that they were consistent.

On the other hand confirmability which refers to the neutrality of the researcher was obtained through the researcher being reflexive especially during the interviews since the head teachers were experienced teachers face to face interaction did not intimidate them.

Finally the use of several data collection instruments strengthened the trustworthiness of the study and facilitated gaining deeper understanding of flipped classrooms. The researcher applied both participants and instrument triangulation in order to check out the evidence that the respondents provided.

3.9 Data Collection Procedure

In order to gain access to schools the researcher used a permit which was obtained from the National Commission for Science and Technology (NACOSTI) having been given a letter from the Dean School of Education at Moi University to facilitate the processing of the permit. Face to face negotiation was subsequently conducted with individual head teachers to access the schools.

I sought the consent of participants by explaining to them the essence of the research and how the study findings would be used. This enabled them to make informed decisions about whether or not to participate in the study. In the course of data collection, the researcher ensured that the information the respondents gave was not shared. Participants' names and the names of their institutions were totally avoided in order that these could remain anonymous. In reporting verbatim the comments by interviewees, the researcher used codes which hid the identity of schools and

respondents. Concealed the identities assisted in reducing the fears of participants thus encouraging them to participate in the study.

3.10 Data Analysis and Presentation

Part of the emphasis of a mixed research method is data understanding and interpretation. Data from interviews and unstructured questionnaire items were transcribed for accurate interpretation of emergent patterns and themes. The quantitative data on the other hand were statistically analyzed to determine their frequency and percentages. These were presented descriptively using tables and charts. On the other hand, qualitative data was narratively presented along the themes of the study. The themes were relevant to the topic under which data from interviews with head teachers and qualitative findings from open questionnaires were organized. The data from interviews was transcribed and coded.

The report was produced thematically with corresponding quotations from the interviewees. The analysis of the findings were narratively presented in the form of paraphrases and summaries of information obtained from the various sources. Specific illustrations with multiple perspectives from participants were provided to provide authenticity thereby contributing to the credibility of the study.

Data was finally interpreted for meaning. The study established what was vital, why it was vital and the lesson drawn on the basis of the research objectives and related questions.

3.11 Ethical Considerations

Social science research involves ethical issues since data collected is about people. Furthermore, institutions such as schools are even more challenging since institutions demand formal permission from gatekeepers in order to be accessed. Ethics involve

respect for people, truth and democracy. These amounts to seeking informed consent from the respondents, confidentiality, anonymity, privacy, data falsification, plagiarism and integrity.

3.12 Summary of the Chapter

The chapter has examined the research design and methodology. It has addressed several issues including the study area, the study population, the research approach and the data collection instruments along with sampling techniques. The next chapter presents data which was collected from the field before interpreting and analyzing.

CHAPTER FOUR

FINDINGS, ANALYSIS AND INTERPRETATION

4.1 Introduction

In this chapter findings are presented based on the objectives of the study. These were to:

- (i) Assess teachers' competencies in using flipped classroom in teaching social studies;
- (ii) Evaluate instructional activities teachers designed for flipped classroom
- (iii) Assess the input of parents and caregivers in supporting flipped classes
- (iv) Highlight the resources used in flipped classroom
- (v) Examine the pedagogical challenges which hamper effective use of flipped classes.

The findings are presented based on three data collection instruments namely: teachers' questionnaire, interviews with head teachers and document analysis. The findings are presented integratedly. The findings are presented under the following broad themes:

- (i) Teacher competencies in using flipped classrooms
- (ii) Instructional activities that support flipped classroom
- (iii) Parental and caregivers' support
- (iv) Challenges of using flipped classroom teaching model.

The teachers who participated in the study were mainly those who taught Social Studies. Similarly, Head teachers of participating schools were interviewed for the study. The researcher mainly analyzed contents of teachers' professional documents

including schemes of work, lesson plans and record of work covered as well as learners' writing books.

4.2 Demographic Information of the Respondents

4.2.1 Response rate

Response rate is the number of people who answered the survey divided by the number of people in the sample. The study response rate for this study is presented in Table 4.1.

Table 4.1 Response Rate

Response Rate	Frequency	Percentage
Responded questionnaires	105	88.9
Unreturned questionnaires	13	11.7
Total	118	100

A total of 118 questionnaires were administered to teachers. Of those 105 were successfully filled and collected by the researcher. This represented 88.9% return rate. For some reasons, 13 participants did not hand in their questionnaires after filling in. The participants were left with the questionnaire as the researcher interviewed the Headteacher, and could not be traced thereafter. Efforts to reach them were not successful. Generally, the response rate was high enough to facilitate credible analysis of the data.

4.2.2 Participants per Gender

The study sought to establish the gender of the respondents. Table 4.2 shows the gender of the respondents.

Table 4.2 Gender of the Respondents

Gender	Frequency	Percent
Teachers		
Male	50	47.62
Female	55	52.38
Total	105	100
Head teachers		
Male	12	66.60
Female	6	33.30
Total	18	100

Even though gender was not one of the variables that determined the use of flipped classroom, the research yielded respondents of both genders. Of the 105 respondents who took part by filling in the questionnaire 52.38% who represented 55 were female teachers. The remaining 47.62% or 50 teachers were male. Of the 18 head teachers who were randomly selected for the study 12 (66.6%) were male whereas six head teachers (33.3%) were female. There is a possibility that the majority of social studies teachers who taught in grade six were female. The number of teachers in primary schools in Nandi County, based on the random selection is male dominant. These figures however did not have any bearing on the study since gender of teachers does not determine the choice of instructional strategy.

4.2.3 Participants' Age Bracket for teachers

The age bracket of the respondents was another goal the researcher attempted to ascertain. Results of the investigation are shown in Table 4.3.

Table 4.3 Age Bracket of the Respondents

Age Bracket	Frequency	Percentage
Below 30 years	32	30.5
31-40 years	40	38.1
41 -50 years	24	22.9
50 years and above	9	8.6
Total	105	100

Findings in Table 4.3 indicates that 32(30.5%) of the research participants were below 30 years of age, 40(38.1%) were between the age of 31 – 40 years. Moreover, 24(22.9%) of the respondents were aged between 41-50 years and finally 9(8.6%) of research participants were over 50 years of age. Majority of the respondent were between the age of 31 to 40 years; it is possible that they were able to withstand the vigours that go with instructional innovation such as flipped classroom. Furthermore, being youthful meant that they easily embraced technology which is one of the cornerstones of flipped classes. Most participants could be categorized within the age brackets of digital citizens.

4.2.4 Professional Qualification of for teachers

The researcher also sought to determine Professional Qualification of for teachers.

Table 4.4 presents the study results.

Table 4.4 Professional Qualification

Education level	Frequency	Percent
Certificate in PTE	28	27.0
Diploma	32	30.5
Bachelor's degree	40	38.1
Master's degree	5	5.0
Total	105	100

The participants' professional qualifications were varied. These ranged from those with certificate in primary teacher education diploma, Bachelor's degree, diploma and masters. The participants with a Bachelor's degree were the majority at 38.1% whereas only 5% of the respondents had a master's degree. Diploma holders and certificate holders made up 30.5% and 27.0% of the respondents respectively. All the participants had some form of training in which instructional procedures is a key component. Similarly, they had the capability of reading on their own were they to be confronted with information they had not dealt with. Interpreting the dictates might not pose a challenge. Their level of training equally steady in the face of the research instruments and could therefore be trusted to provide data that was both reliable and valid.

4.2.5 Teaching Experience for teachers

The outcome of the research on teaching experience of research participants was summarized in Table 4.5.

Table 4.5 Teaching Experience

Years of operations	Frequency	Percentage
1-4 years	27	25.7
5-9 years	32	30.5
More than 10 years	46	43.8
Total	105	100

Of the respondents 27(25.7%) had a teaching experience of between 1 to 4 years whereas 32(30.5%) had taught for between 5 and 10 years. The majority of respondents 46(43.8%) had taught for more than 10 years. The respondents were therefore experienced enough as to confidently experiment with various instructional

strategies. They were therefore capable of making judgements on which strategies bore rewards in teaching and could also vary their instructional practices to either suit the needs of their learners or to break the monotony of using the same strategy respectively.

4.3 Findings on Teachers' Competencies in using Flipped Classroom in Teaching Social Studies

Several data gathering tools provided research items which were focused on the competencies of teachers to effectively deliver flipped experiences. The findings are presented in an integrated manner drawing on responses from the teachers in the questionnaire, response from interviews with Head teachers and an analysis of the professional documents.

It was critical that the study determines the skill orientation of teachers. This is because changes in the demand for skills that facilitate learning have profound implications on the competencies which teachers should possess to effectively engage learners through varied strategies. Flipped classrooms impose specific demands on teacher competences in order to facilitate knowledge acquisition. Against this background teachers' competence had several variables.

Teachers were asked to rate on a scale of 1-5 whether they knew what flipped learning was and what it entailed. The results showed that the majority were either aware or were strongly aware. This is because of the respondents 41(39%) agreed that they knew what flipped learning was and 30(28.6%) strongly agreed that they were aware. In their own words one could conclude that indeed the social studies teachers knew what flipped classes were.

The selected head teachers' views on their teachers' knowledge of flipped classes, most of them likened flipped classes with homework, extra work or private work that learners did on their own. The following three head teachers made the following observations:

My teachers provide learners with extra work which they do at home since this is a day school. The learners are encouraged to work with their siblings and even parents(HT3).

Personally, I encourage teachers not just those of social science to give learners work which they should do while at home to enable them cover the syllabus. This should be part of what they plan to teach.(HT4).

I regularly inspect the work teachers give to our learners to go do at home. It is our policy that we use all tricks to ensure that our teachers cover the syllabus in time. (HT13)

Some head teachers however provided responses which demonstrated that they knew what flipped classes were. This made them competent enough to assess the use of the same in their schools.

I have seen teachers who preach a concept and ask learners to go read more either from books or other sources. The learners then make class presentations under the guidance of the teachers (H/T8).

I personally employ flipped classes. I know what they are because in the university our lecturers used the method. When I tried it, I found it very rich and asked teachers to experiment with the strategy (H/T6).

I challenge teachers to be upto date by reading around so that they are aware of the innovations in teaching. No wonder some of my teachers are very innovative. They give learners work and even at times allow them to work on their own in groups. (H/T7).

The second variable on teachers' competence was ICT knowledge. A critical factor in the effective use of flipped classes in the use of technology to support teaching and learning. Technology offers enhanced educational opportunities thus making it a critical and essential tool in guiding learning. Knowledge of how to use ICT tools to

broaden learners' understanding remains critical. The questionnaire findings provided great insights. A majority of teachers indicated that they lacked the necessary and relevant skills to facilitate flipped classroom. Of the 105 participants who answered the questionnaire items 71(67.6%) either agreed or strongly agreed that most teachers lacked the relevant ICT skills to facilitate flipped classes. Only 21.9% or 23 respondents felt that the teachers were skills enough to provide learning experiences using ICT tools. This number nearly corresponded with the participants where age bracket was less than 30 years. The participants who were younger than 30 years old represented 16.20% of the total participants. There is therefore a relationship between age and ICT use even though this was apparent in the study.

The question of ICT skills in the flipped classes attracted varied responses from the Head teachers. Selected responses are reported here to demonstrate the various levels of ICT uptake by social studies teachers and which directly impacts on flipped classrooms.

I think the teachers have basic knowhow of ICT operations. I know of some who have even had some ICT training (H/T1).

My teachers are literate enough. We have some form of supported ICT programmes through which teachers are taken through the basics of ICT use. It has aided my teachers a lot and I can competently say that indeed their ICT skills are sufficient. (H/T4).

There are regular workshops through which teachers are taken through technology based teaching. This kind of supports the needs of different teachers while prepares them to use technology in teaching (H/T7).

There were examples of responses that demonstrated a negative perspective on teachers' use of technology. For example a Headteacher noted:

Our school can be said to be extremely rural. I will be surprised if any of my teachers desire any skill beyond chalk and talk which requires no technology (H/T5).

My young teachers enjoy using ICT skills. Some are so good that they freely demonstrate their skills. Younger teachers adopt so fast but the older ones are shy and they are never ready yet they are the majority. (H/T9).

ICT knowledge related computer use is a fairly new phenomenon. Most old teachers are opposed to the use of teaching (H/T11).

Female teachers are shy at using computers. They don't have time like male teachers who adapt very fast (H/T12).

The views of the Head teachers reflected the wide gulf that existed between teachers who embraced ICT skills and those who had challenges in computer use. Whereas ICT skills are critical in flipped classes, they are not the only skills. It was possible that teachers could use other skills and still deliver flipped experiences. Otherwise, the evidence on ICT skills demonstration could not fully support flipped classes.

Apart from ICT related competencies teachers ought to possess competencies in designing flipped content creation of flipped classroom content was thus a key variable that the study investigated and the reported findings were varied. The study interrogated teachers' ability to create content for flipped classroom, the technical arrangements and the principles of content selection as key elements that defined the variable.

Two main mechanisms of content development were reported namely creating own content and searching for relevant materials which had been used by others. An open questionnaire item was used to determine the mechanisms teachers used in developing content for flipped classes. The common mechanisms are reported.

- i. Downloading information from websites (6 teachers)
- ii. Use of open resources (7 teachers)
- iii. Learning resource exchange (8 teachers)
- iv. Using free online sources (10 teachers)

- v. Googling online information (20 teachers)
- vi. Using online modules (6 teachers)
- vii. Sharing resources (40 teachers)

Teachers equally provided a variety of mechanisms through which they created their own content for flipped classroom with the aid of the learners. These would be re-used to serve a variety of purposes and saved on planning time. Flipped classrooms included:

Video lectures	(8 teachers)
Slide presentation	(15 teachers)
Using existing videos	(10 teachers)
Blended learning	(30 teachers)
Educational platforms	(2 teachers)

These positions on content creation were supported by the Head teachers who opined that their teachers either created or designed their own content or referred learners to content they had previewed. In some cases, it was reported that print materials such as books, newspapers and magazines contained exercises from which teachers drew flipped experiences that were relevant to the concepts they wished their classes to learn. Two responses by selected Head teachers are provided to support the above position.

I am aware that many teachers want the learners to discover on their own information about concepts which they want their learners to develop deep knowledge in. Teachers are aware of the source of such information; some of which include online information, which learners are referred to for their own engagement (H/T10).

I have come across books with beautiful source of information. I have also seen teachers use the books and sometimes newspapers and magazines to assign learners work which they use to enrich their

knowledge. I can say that the flipped experiences can be found anywhere. It only takes a creative teacher to make use of these to support their objective. (H/T14).

A further variable of teachers' competency in flipped classroom use which the study interrogated was planning. Planning for any instructional experience is critical since it aids teachers' ability to assemble the required resources, anticipate the challenge learners are bound to experience and address them in advance. Planning equally helps teachers determine the amount of time needed to comprehensively cover a given concept. In the current study three main sources of information were used to generate information on how teachers planned. These were an open ended questionnaire item in the teachers' questionnaire, information from interview with Head teachers and are analysis of documents teachers provided including their scheme of work, lesson plans, teaching notes and selected books of learners.

The findings also gave a glimpse of how the teaching and learning spaces were organized. An analysis of the teaching documents revealed two sets of teachers- those that planned for flipped classes and those whose use demonstrated little care for planning.

Documents revealed that teachers who planned, outlined the concepts to be flipped. Those were selected from the prepared schemes of work. A few teachers indicated in their instructional activities the concepts to be flipped under the teaching learning activities. Objectives were stated and the amount of time needed for teaching the concept indicated. They also provided a list of resources which the learners needed to carry out research in several phases including individual, pair and in groups. The activities to be carried out were also stated and the time for each.

In their own words the teachers stated that planned sessions allowed students to be prepared and does not require the teacher to address content related concerns. They are only left to support the learners in better understanding of the concepts. Similarly, teachers freely decide on how much time to spend with students depending on the needs of the learners. Planning was seen to promote teachers versatile and engaging ways of sharing learning content while putting more control on the learners regarding their learning. Planning was said to aid define the goals both of the flipped experience and the goals of learning the concept. Similarly, planning provided an avenue for determining which resource would supplement what was normally available in school. This stance was supported by Head teachers who were keen on what happened in classes and how teachers engaged the learners. For example a Headteacher reported that:

First and foremost, I am incharge of curriculum instruction in this school. I always insist on checking what teachers do in their classes. I am not a teacher of social studies but I have regularly inspected the teachers' documents. I have seen several beautiful outlines of teachers who plan systematically for all types of work given to the learners. They prepare just as they would for regular classes.(H/T5)

Teachers prepare well for flipped classes. They write down the content they wish the learners to research on their own and why. They clearly state the resources they need, what the learners will do and for how long and what they will be doing to support the learners (H/T8).

A second scenario which emerged was one in which the teachers hardly prepared. Even though the concept was derived from the scheme of work, such content as treated either as further reading, completion exercise of what the class had been taught or revision of what had been taught but apperged to have been poorly mastered. There were no professional documents to support the instruction except for remarks in the scheme to the effect that the content needed further teaching. The teachers

failed to indicate the resources that would support learning and the time to be taken. Generally such approaches demonstrated little interest of the teacher in the activity.

The Head teachers indicate that planning was critical in flipped classroom for several reasons:

Learners collaborated among themselves and interacted with other people who supported their work (H/T 15).

Learners learnt to communicate with fellow learners teachers and even parents because their role is clearly spelt out. (H/T 18).

Learners learn to search for information because the teachers clearly outline to them the source of information either online or offline. This aids them understand the value of materials such as newspapers and mobile phones as sources of knowledge. (H/T16).

The teachers get feedback on what working about their flipped classes. They could easily tell what was working and whatever needed to be fine tuned. (H/T 11).

Planning aided the teachers in expanding their knowledge of flipped classroom and enabled cover a variety of ideas that might not be apparent to the learners. (H/T 17).

Planning is key because it gives the teacher an opportunity attend to all aspects of instruction including the teaching goals, learners' knowledge base and the resource that are easily available within the context of the school. (H/T 6).

4.4 Findings on Flipped Classroom Instructional Activities Teachers Designed

Based on the second item, the research findings revealed instructional activities which teachers designed to guide learning using flipped classrooms.

Instructional activities are the experiences which are designed by teachers to aid in the realization of the desired objectives or outcomes.

The table below summarizes the teachers' responses on a scale of 1-5 the descriptors that characterized the activities that were designed by teachers for flipped classroom.

The researcher proceeds to provide responses based on the Head teachers' interview. The open questionnaire items as well as results from the documents which were analysed to further provide insights into how flipped classes were carried out.

Table 4.6: Learning Activities for flipped Classes

Key: 1- Strongly Disagree, 2- Disagree, 3- Undecided, 4- Agree, 5- Strongly Agree

Learning activities	Descry.	1	2	3	4	5	Mean
Collaborative learning	Fre	4	9	10	66	16	3.7714
	%	3.8	8.6	9.5	62.9	15.2	
Cooperative Learning	Fre	3	21	17	53	11	3.4571
activities	%	2.9	20	16.2	50.5	10.5	
Whole class	Fre	3	9	12	61	20	3.8190
discussions	%	2.9	8.6	11.4	58.1	19	
Quizzes and other	Fre	2	13	15	61	14	3.6857
games	%	1.9	12.4	14.3	58.1	13.3	
The artificial flip	Fre	6	27	41	25	6	2.9810
	%	5.7	25.7	39	23.8	5.7	
Knowledge maps	Fre	6	27	41	25	6	3.2000
	%	4.8	21.9	26.7	41.9	4.8	
Individual Problem	Fre	3	13	13	65	11	3.6476
	%	2.9	12.4	12.4	61.9	10.5	
Affinity grouping	Fre	6	13	16	49	21	3.6286
	%	5.7	12.4	15.2	46.7	20	

The three most commonly used activities are those that engaged the whole class, those that were done collaboratively and quizzes and games. These had a mean of 3.8, 3.7 and 3.6 respectively. On the other hand, the least designed activities were those that demanded learners to in flip or artificial flip. This had 2.8 mean rating. In flip activities are common in contexts in which a digital divide exists between learners who can access computers with high quality internet and those who do not have computer access. It involves dividing the class into two groups in which one group using computers while the group that cannot access computers with internet

connectivity is given a different activity. The low rating could be due to the teachers sensitivity not to be seen to discriminate against their learners. Other activities that recorded low mean rating include the use of Knowledge maps, Cooperative Learning activities and affinity groups. These posed mean ratings of 3.2, 3.4 and 3.6 respectively.

The activities designed were informed by the available resources and the learning objectives. In most cases the classroom teachers opined that they designed activities in which learners search online and offline for information which they either share with classmates through pair activities or group work. Selected examples of activities sourced from the teachers' documents are given below:

- i. Watch a video online. Point out the features which make it attractive.
- ii. Download the map of county X, identify the following from the map
- iii. Watch the recorded lecture and answer the following questions.
Discuss the answers in groups or in pairs.
- iv. Watch the video talk and environmental degradation and summaries the causes of deforestation.

With regard to classroom activities which was the second part of most flipped classes, an analysis of teachers' notes revealed that most activities aimed at high order skills. These included aspects such as summarizing, assessing, drawing, grouping and matching skills of knowledge, analysis and application were equally emphasized. Memorization and comprehension activities were the least targeted.

Three main types of in class activities were reported. These were inclass group activities, a combination of group based and individualized activities and individualized activities only.

An assessment of the activities revealed that within the class most of the activities were exclusively group based (44.6%). These promoted cooperation among learners. A significant proportion of the lessons contained activities that were both individual and group. This recorded 37.7% whereas only a small percentage of the class activities were exclusively individual. This reported 17.8%.

Teachers designed activities that involved learners in watching videos and discussing their content, searching online and offline for information and noting them down before sharing with their classmates and pre-teaching concepts before instructing learners to source for more information. Where learners watched videos or recorded presentations, those were mostly short. The selected materials captured the cognitive objectives of the concepts of the lesson.

Teachers equally reported engaging learners to keep them learning while at home. They argued that they mostly engaged learners with feedback exercises to determine how much they learnt on their own. By this means they are able to check the learners' understanding as well as guide the learners. Some of the class activities that the teachers reported engaging learners in to determine their home engagement with selected exercises included quizzes and discussions. A few of the qualitative responses that the participants gave are reported to support this assertion.

To make sure that learners carry out their home assignment. I design quizzes to test their knowledge and get immediate feedback. In this way learners cannot escape doing their work (H/T 16).

Teachers provide time for discussions where opinions are shared based on learners' home based researches (H/T 18).

Teachers align what students learn at home with collaborative tasks in class through in-class activities. The content designed have clear outcomes and the instructions given to the learners are clear. Time for reflection on the work provided enables the students to review their findings and identify their strengths and weaknesses. (H/T 14)

An analysis of the teachers' lesson plans revealed several findings that contained the activities for flipped classroom. First it was revealed that the lesson plans designed were unconventional since it was argued that the conventional lesson plan could not fit the needs of a flipped classroom. These implies that implies traditional teaching blueprints do not work in flipped classrooms since flipped instruction methods function differently. Flipped classrooms demand students to study instructional materials independently before class so they can join hands-on collaborative work within class hours. Instead of delivering instruction first the teacher now asks students to complete homework assignments before class then provides instruction.

Flipped classroom lesson plan requires design for enabling active learning together with discussions as well as problem-solving and other collaborative activities within classroom time. The mentioned "unconventional" lesson plans most likely adapt towards supporting flipped learning structures which focus on student participation and engagement instead of traditional teacher-led instruction. Several teachers had differentiated lesson plans that were suitable to the content of the subject and the length of the flipped classroom activities.

Table 4.7: Lesson Plan Template

Date
Subject
Class
Topic
Learning outcomes
Activities
Materials/Tools
Description of the work
Assessment
Reference

Table 4.8: An Example of a Participants' Lesson Plan

Date	20 th May 2023
Subject:	Geography
Class:	Six
Topic	Economic Activities/Fishing
Learning outcome:	Learners should be able to explain features of fish farming
Home activities	- Offline and online searches at home for two days - Work to be presented in groups - What is fishing? - How is fishing done? - What are the benefits of fishing? - What challenges do fish farms experience?
Classroom activities	0-1 minutes – learners to break into groups of five to discuss their answers to the questions and indicate the sources of their information. 10-30 minutes- Each group to appoint a leader to present to the class their group deliberations 0-20 minutes – Summarize the main points of fish farming as an economic activity.
Assessment – Summative assessment	
	-A quiz on fish farming in Kenya

The lesson plans had elaborate activities which defined the activities that learners would undertake either in groups, pairs or individually. The lesson plans also defined how learners would interact with relevant resources while out of class.

The flipped classroom activities could broadly be divided into three major phases namely, pre-class activities in-class activities and post-class activities. A summary of these activities is provided subsequently as given by different participants.

As an activity before the class takes place teachers always ask learners to read and make notes from different sources mainly notes, books and videos. (10)

My teachers are extremely resourceful. Quite a number are good at giving learners take away activities based on their experiences after watching video clips and listening to pre-recorded talks on chosen subjects (12).

Pre-class activities for flipped classes can loosely be divided into two. Those that learners undertake while at home and those they undertake in class before actual classes. These vary according to teachers and the needs of the concept being flipped. Mostly researching content from books and websites, watching videos and writing summaries and essays are common regardless of whether the activities are at home or in class. (H/T 14).

The classroom teacher participants equally shared their flipped classroom activity experiences. These were collated from the qualitative responses as contained in the teachers' questionnaire. The in-class activities included class discussions (58.1%), collaborative activities among learners (62.9%), games, simulations and quizzes (58.1%) individual problem-solving exercises (62%) and affinity grouping exercises (46.7%).

Furthermore, the teachers provided a list of tasks which they performed leading learners to execute relevant tasks. These are summarized on the table below.

Table 4.9: List of Tasks

TEACHERS		LEARNERS	
i.	Design and produce teaching and learning resources.	i.	View learning resources according to the tasks
ii.	Prepare learning tasks	ii.	Prepare materials that correspond to the tasks
iii.	Analyse learners' performance	iii.	Undertake tasks as provided
iv.	Review learning performance before the class	iv.	Independently look for answers to questions and discuss them.
v.	Ask questions	v.	Present views and comment on what other learners have presented.
vi.	Facilitate students' constructing and sharing answers		

The flipped activities were further reported based on the context. Three major contexts of flipped classroom activities were reported as pre-class, in-class and after class activities. The table below is a summary of the activities based on their contexts that were collated from the participants.

Table 4.10: Context Based flipped classroom activities

Pre-class	In-class	After-class
a) Reading text materials	Quizzes	Self-evaluation
b) Taking and making notes	Individual practice	Teacher
c) Online and offline exercises	Brief reviews on content through questions and answers	evaluation
d) Online and offline discussions	Short lecture	
e) Watching instructional videos	Student presentation of their materials	
f) Completing content notes	Small group and pair work activities	

4.5 Findings on the Input of Parents, Guardians and Caregivers in Flipped Learning

The involvement of parents and their engagement with their children's learning has been shown to strongly influence student achievement, engagement, motivation and school completion. Contextually, the involvement of parents is less discernible as learners' progress from early years learning to other primary school classes. Towards this end, the third objective of the study sought to evaluate the role of parents in supporting flipped learning. The participant head teachers provided insightful thoughts on the role of parents through face-to-face interview whereas the teacher participants' views were collected through open questionnaire items in which teachers provided information on the involvement of parents in flipped learning activities. The questionnaire item asked teachers to list down four activities which in their view showed that the parents contributed to flipped classes. The following were the responses:

- i. Provision of digital devices
- ii. Internet access for learners while at home
- iii. ICT support to learners
- iv. Homework supervision

A second respondent outlined the following activities by parents that made flipped classes possible.

- i. Engagement with their children's learning
- ii. Helping with assignments
- iii. The provision of resources such as print materials for example books and magazines.
- iv. Providing devices for doing work.

A third teacher respondent gave the following as a list of activities which parents engaged in:

- i. Identifying what the learners watch
- ii. Providing time and space for learners to work at home
- iii. Making follow-ups
- iv. Providing instruction and other educational experiences to help them work

Interviews with Head teachers however provided a balanced view on how the parents were engaged in their children's learning. The prevalence motif however was one in which the head teachers did not look at flipped learning per se but schooling generally. Similarly, the head teachers provided an insight on how the parents treated their engagement in their children's learning.

The findings revealed both positive and negative views that parents held about flipped classes. Head teachers had this to say:

Some parents are very supportive and view flipped classes positively. Some have even confessed to us through their involvement in the exercises that their children are given, they have ended up gaining searching skills which aid them connect with other aspects of their lives. (H/T 5).

Initially some parents are resistant but once they realize that it is the culture of the school they get involved by availing different materials which their children use at home. They also gain new information in the process. (H/T 7).

As the parents get engaged in research along with the learners they understand better new concepts as well. (H/T 8).

As the students work with their parents, parents argue that they are able to monitor their children's learning. Some have confessed that it is not possible for their kids to fail to attend classes because they will use the opportunity to track how their kids attend classes and what teachers are doing. (H/T 10).

Some head teachers also provided insights of parents who were less supportive and were critical of involving them with the teaching of their children. A few examples of these are given to support this position:

Some of my parents are difficult. They do not want to have any engagements with their children's work.

Some think once their learners are enrolled that marks the end of their work (H/T3)

A parent once argued that having worked so hard to provide food and fees for the children where do they get the energy of looking at what the kids have to do? (H/T 6).

Once the parents pay fees they expect schools to provide their children with everything with which to do the assignments. They consider it a waste of their time. (H/T 15).

Some parents are too busy. Others are absent. Yet others have low literacy levels. These calibers of parents may not be physically engaged but sometimes arrange to ensure that all the things expected of their learners are done. (H/T 14).

4.6 Resources used for Flipped Classrooms

Flipped classroom ideally relies on information technology. Teachers are expected to instruct learners based on technology supported approaches. Similarly, learners are expected to watch videos and other online features. Despite this ideal situation, it is possible to tap into other sources for information. Given the largely rural set up of the study area, it might not be possible to rely on digital technologies alone to realize the objectives of the approach.

The table below summarizes the most commonly used devices in flipped classroom in Nandi County.

Table 4. 11: Tools for Flipped Learning

	Frequency	Percentage
Mobile Phones	98	93.3%
Internet use	71	69.5%
Newspapers	73	71.5%

Based on the teachers' responses, the most commonly used tools include the mobile phone. Of the teacher respondents 98 or 93.3% acknowledged the use of mobile phones as sources of flipped classroom information. These were followed by internet use which was identified by 71 teachers who accounted for 69.5% of the respondents. The most commonly non-digital source of information were newspapers which identified by 73 participants who represented 69.5% of the respondents. The widespread use of mobile phones is informed by their availability. Nearly all homes have Smartphone and can easily be used as sources of information even in situations where there are no internet services because with sufficient bundles it is possible to download and or Google for information. They are equally easily portable. Similarly, even though the internet is not a physical device, it is central to all forms of digital experiences since it is an enabler. It facilitates digital connection. This explains its high rating by the participants. The mobile phone has the capacity to provide continuity of learning and bridge multifaceted learning efforts across locations, times and settings. The cross-contextual learning enables learners to experience continuous learning across different settings such as home or school. Mobile phones enable learners to switch smoothly from one learning scenario to another.

Newspapers are examples of print media which are used to enhance teaching and learning. They may not be as splendid as tablets and computers; however they remain invaluable sources of learning which allow learners to grasp and keep abreast of key developments across the world. Their popularity with participants could stem from the fact they may be the most common non-digital source thus being a relevant offline source of valuable information.

The head teachers pointed out the reasons behind uses of non-digital materials. They were easy to source and some did not have cost implications. The parents did not need to go an extra mile in order to avail these to the learners. Teachers were encouraged to think about experiences that did not tax the learners, parents and the schools. The researcher selected a few responses from head teachers which are reported:

The integration of non-digital materials into flipped classroom exercises creates diversity in engaging learning experiences which cater for different learning styles and preferences (H/T2).

Another head teacher had this to say about not-digital sources:

Encouraging students to write by hand and make notes in their books can improve memory (H/T4).

Textbooks, workbooks and printed resources can provide students with opportunities for independent study and reference (H/T5).

Based on most teachers' training and the rural context in which most of our schools are situated, the choice non-digital resource is relevant. Most learners can communicate and learn with them with ease. (H/T6).

Further to choice of tools, the respondents were asked the reason for the choice. Both the teachers and head teachers agreed that making use of varied technologies provided learners with that allowed them to learn without the limitations of time and

space. This was because the learners were taught how to collect information and were expected to be responsible for their own learning.

The low rating of most devices such as desktops, tablets and white boards could be attributed to the cost of their acquisition which makes it hard for parents to possess them whereas few financially endowed to purchase them.

4.7 Challenges Hampering the Success of Flipped Classrooms

Following interviews with head teachers and teachers responses to qualitative questionnaire item, the challenges identified were broadly divided into four major themes namely; learner related challenges, institutional challenges, operational challenges and home related challenges.

The main learner related challenges included negative attitude by learners due to the amount of work they do on their own. Some learners were said not to be comfortable working with their parents on assignments. Some learners did not enjoy the information they researched on which they had to present to their fellow classmates. While watching or reading, the teachers argue that learners could not ask questions immediately as they interacted with the information. The learners' socio-economic backgrounds based on rural farming community impacted on the ability of families to afford devices. Some were from very remote backgrounds that they relied on sharing with other learners to be able to access digital information. The following responses from teachers and head teachers demonstrate challenges associated with learners that impact on flipped classrooms.

Some of the learners' homes are very remote. Some of those places have no access to internet connections. This forces learners to share information instead of sourcing for information first hand. (H/T3)

The learners have a negative attitude.

They do not like it when they work with parents.

Some are just lazy.

They do not like working on their own (questionnaire response).

The school based challenges include limited access to internet connectivity, shortage to non-existent resources and tools that are critical in flipped learning. Similarly, schools have no capacity to support flipped classes. Shortage of teachers means that pedagogical innovations cannot be undertaken especially those that require close working relationship between the teacher and the learners. The classes being fairly large, the capacity of teachers to attend to individual learners is greatly affected. Equally identified as a school-based challenge is teachers' unfamiliarity of flipped class approach. This factor was seen to impact on how teachers prepared for flipped classes. Some head teachers reported that it was not uncommon for teachers to confuse flipped classes with homework which learners are given. One headteacher had this to say:

It is not easy to find video that perfectly match what a teacher wants their students to learn. Teachers find it hard to create their own materials (H/T 13).

Table 4.12: Teachers Challenges in Flipped classrooms

CATEGORY	CHALLENGE	RESPONDENT
Familiarity with flipped classes	i. Teachers do not understand the value	HT2 HT5 HT14
	ii. They do not like the approach	HT3 HT7 HT9
	iii. Inability to experiment	HT8 HT10
	iv. Confusion with homework	HT17 HT18
	v. Limited materials	HT9 HT 16
	vi. Inability to prepare negative attitude	HT10 HT15

Several operational challenges were cited as inhibitors to flipped classroom approach. These are summarized in table 4.13 below.

Table 4.13: Operational Challenges on Flipped Classes

CATEGORY	CHALLENGES	RESPONDENTS
1. IT resources	i. Limited supply of resources	HT7 HT16 HT3
	ii. Poor maintenance	HT7 HT9
	iii. Non-existent	HT11 HT13
2. Monitoring learners	iv. Proving learners interaction	HT6HT11
	v. Followup lacking	HT14 HT18
3. IT skills of teachers	vi. No training	HT12 HT15 HT17
	vii. Limited training	HT8 HT13
	iii. Upload videos	HT10 HT11
	ix. Creating videos	HT4 HT7 HT9
4. Institutional support	x. Low investment	HT3 HT5 HT6
	xi. Limited funds	HT2 HT4 HT6
	xii. Lack of priority	HT1 HT3 HT5
	iii. Inservice	HT1 HT5 HT P1

Operational challenges relate to the existing infrastructural support for flipped classes. These include ICT resources, skills in using ICT, teachers capacity to monitor the learners and all the necessary support that teachers are given to sharpen their capacity to utilize the approach. Most head teachers cited lack of ICT training, limited resources by the school, poor maintenance of the existing resources and followup as enduring challenges. They mostly relate to learning institutions but may relate to parents whose ICT skills might be wanting. Operational challenges cut across institutions and homes.

Finally, the respondents pointed out challenges that were home based. These were those inhibitors that related to the learners' homes. Some of the learners' homes were

shown to be far flung thus posing challenges of digital connectivity. Some parents were seen by the respondents as being militant and least bothered about the learning of their children and were therefore least supportive of flipped classroom activities. It was also reported that some parents were too busy that by the time they are home, they are extremely exhausted or the learners are already asleep. Being an innovative approach to learning, some parents simply did not understand its operations and were therefore reluctant to embrace it. Most parents hail from low-income rural backgrounds and face the challenge of availing resources required for flipped classes. The following responses by head teachers during face-to-face interview with the researcher demonstrate the challenges emanating from the learners' homes that worked against flipped classes:

Lack of understanding by parents may lead to students' challenges and teachers' frustrations (H/T3).

Parents expect more from teachers but are too busy or even detached from the schooling activities of their children (H/T4).

Certain parents do not simply understand the motivational value of their involvement for their children because of lack of knowledge and negative attitude (H/T6).

Some of the teacher respondents responses to home challenges are collated from the teachers' questionnaire are reproduced here as evidence.

- i. Parents are detached from the learning activities of their children (Questionnaire 115).
- ii. Low-income levels of most rural parents make it hard for them to avail the required resources for flipped classes (Questionnaire 110).
- iii. Negative attitude. Dismissive parents and lack of information on the value of flipped classes (Questionnaire 107).

4.8 Interpretation and Analysis of Findings

Based on the first objective of the study which was to assess teachers' competence in using flipped classes in teaching social science, the study findings revealed that having been fairly trained the teachers were dynamic enough to be able to embrace any innovation in teaching. Learning, unlearning and re-learning have been demonstrated as qualities which are crucial in improving and updating teaching competence and pedagogical training. Since most teachers were trained, they were able to connect the theoretical pre-requisite of flipped classes with practical demonstration. This was evident from the exercises and feedback the teachers gave to the learners.

Furthermore, teachers were able to adapt content and teaching and learning methods to the technological demands of flipped classes. Through inservice training, the teachers updated their skills in a manner that enabled them to make effective use of appropriate tools and resources. This approach to skills application is in sync with the sentiments of Fill, Bailey and Conole (2008) who posit that the primary goal of inservice training is to provide pedagogical and technical grounding along with practice and experience in the design and evaluation of new instructional models. The result of such engagements was demonstrated in the teachers' capacity to for example tailor lesson plans to the requirements of flipped classrooms. In the end the teachers became skilled enough in preparing differentiated lesson plans relevant to the subjects and the levels.

Generally social science teachers in Nandi County demonstrated that they were not only skilled in conducting flipped classes but they could re-design differentiated lesson plans for the same. The study thus demonstrated that teachers were skillful not

only in making lesson plans but in their use of class time as well as time outside the class. They had also sufficient knowledge at applying. Analyzing and evaluating flipped classroom engagements. Finally, teachers lacked the necessary and relevant skills to facilitate flipped classroom. Key among these resources were the technological tools such as mobile phones.

Teachers' competence in using the flipped classroom approach can encourage student engagement to become independent learners. The learners exercise their autonomy through the active use of technology and other sources of information outside the classroom. Teachers play an important role in promoting autonomous learning which is one of the cardinal goals of flipped classroom (Lai et al., 2016).

The teachers were thus competent enough to design in-school and out of school activities. This leads to what Wong et al., (2010) referred to seamless learning which meant learning across contexts seamlessly. Based on the second objective of the study which was to evaluate the instructional activities which teachers designed for flipped classroom, it was revealed that the activities were varied and were within the ability levels of learners. The activities designed were blended through which learners engaged in discussions and information searches which enhanced the learners autonomy, collaboration and critical thinking since they were carefully planned and designed. Furthermore, the designed activities varied in format and included pre-recorded lectures, quizzes, note making and slide presentations. They were interactive enough and included summaries and reflection. Wang and Yuan (2022) argue that flipped classroom activities have to be interactive for them to impact positively on learners and their learning performance and to allow learners to voluntarily participate in them. The activities fostered learners' interaction with classmates, teachers and

parents with classmates, teachers and parents awakening a variety of internal development processes.

Teachers also emerged as playing a critical role in flipped classroom learning activities. They decided how the activities were carried out individually, in pairs or in groups. All modes of presentation of activities were favoured by teachers since they addressed learners' needs differently.

The activities aided in defining flipped classroom as a platform in which conventional classes are transformed into interactive settings. The activities thus aided in positively contributing to learners' performance, their cognitive skills and attitude towards learning. Boring activities were frowned upon whereas exciting activities enhanced learners' autonomy, willpower, initiative and control for better learning outcomes.

Based on the third objective which was to assess the input of parents and caretakers in supporting flipped classroom, the results are interpreted against the influence of parents on learner engagement. Despite the fact that increased guidance by parents can lead to greater understanding of input expected from home, the opportunities that homes provided were not uniform.

Whereas some parents are supportive, varied backgrounds led to lack of uniformity. There is an apparent disconnect between the expectation of teachers and the input of parents. Parents who were economically challenged found it hard to provide resources which is a critical element in flipped learning. The findings further revealed that where parents supported their children through the provision of time, monitoring the learners' work and providing the required resources, the learning was seamless. This is because the classroom activities progressed into the learners' homes leading to

enriching learning experiences. With the support of parents learning through flipped experience is consolidated more and the level of motivation of learners is increased.

Based on the fourth objective which was to highlight the resources used in flipped classroom, the study revealed that the participants were aware of the centrality of teaching resources in successfully using flipped classroom. Regular and structures use of technology promoted the student centredness of the approach. This differentiated flipped classroom from regular classroom. Additional and supplementary resources were used. This was evident from the lesson plans that teachers prepared. The resources were planned for and informed the learning experiences which were designed for use. Mobile phones and newspapers recorded the highest use because of their easy availability and ease of use. Newspapers do not provide dated information because they are current. Through the use of resources, flipped classroom resources passive learning and allows learners to develop better relationship with their peers, teachers and parents through collaboration and develop a sense of responsibility for their own learning (Hulten and Larson, 2018).

Most teachers preferred reading made materials as opposed to those that involved personal development. The teachers were therefore less bothered with technical aspects of material production. Generally, it was concluded that the teachers played a critical role in aiding in the selection of relevant technological tools. This promoted what King-Sears (2009) and Dick and Hollebrands (2011) referred to as strategic use of technology to strengthen teaching and learning.

Based on the first and last objective of the study which was to examine the challenges that inhibited the use of flipped classroom as a teaching and learning approach several challenges that were identified were those that touched on institutions and the

individual actors such as the learners, the teachers and the parents. The challenges were not unique to flipped classroom alone since they have been known to affect any form of innovation and pedagogy. Attitude, pressure on time, insufficient resources, lack of sufficient skills are examples of challenges that were identified yet have affected a lot of pedagogical innovations. O’Flaherty and Phillips (2015) on challenges to flipped classrooms observed that since flipped classrooms can genuinely improve the student learning experience through increased interactivity, it leads to added pressure for many educators to renew their curriculum with an approach that they may not fully understand. Programmes that continually update practitioners’ knowledge will be handy in addressing the challenges.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The current study investigated the use of flipped classroom in teaching social studies to Grade six learners in Nandi County. This was done through the objectives of the study. These were to:

- (i) Assess teachers' competencies in using flipped classrooms in teaching social studies;
- (ii) Evaluate instructional activities teachers designed for flipped classroom in teaching social studies;
- (iii) Assess the input of parents and caregivers in supporting flipped classrooms;
- (iv) Highlight the teaching and learning resources that were designed to support flipped classrooms;
- (v) Examine pedagogical challenges which hampered the use of flipped classrooms in teaching and learning.

In this chapter the findings of the study are discussed in relation to the literature and the purpose of the study. The chapter provides empirical findings that emerged from the study. The chapter also provides conclusions drawn from the findings as well as recommendation meant to address the challenges. The chapter concludes by providing suggestions for further research which could address areas that are relevant to the study but were beyond the scope of the current study.

5.2 Summary of Key Findings

The findings of the study were summarized in line with the research questions and objectives.

5.2.1 Objective One: Teachers' Competencies

Based on the first objective which was to assess teachers' competencies in using flipped classrooms in teaching social studies, it was evident that the teachers demonstrated skills that could promote the use of flipped classrooms. They chose specific concepts which were taught using flipped classrooms. This means that flipped classrooms were used along with other approaches to promote flipped classrooms. Within the context of pedagogy, planning for flipped classroom as well as the choice of relevant materials and the design of relevant activities are key skills which teachers demonstrated their competence on. Planning shapes the achievement of set objectives. Teachers' planning for flipped classrooms involved making prior decisions on what to teach, when to teach and how to engage the learners. Since learning in flipped classes focus on meeting individual learners' needs, the need to choose flexible environments, develop learning culture and choice of intentional content further characterized the teachers' skills. Planning therefore emerged as a central competency that teachers demonstrated.

Flipped classroom shifts focus to the provision of student-centered learning coupled with the pervasiveness of technology. This changes the role of the teacher from a knowledge provider to a knowledge resource. These were demonstrated by the teachers' ability to direct learners to relevant sources where they could learn on their own. Through relevant strategies the teachers designed learning experiences with proper support in place while taking into account the learners, their abilities and

learning preferences that were dominant. These competencies were demonstrated by teachers who had deep grounding in flipped classes.

In terms of selecting materials teachers mostly relied on online materials as well as print materials as opposed creating their own materials. There was general understanding by the teachers on how to adapt build upon and re-use materials that were sourced either online or offline. This gave learners a wide variety from which to select information based on their contexts.

5.2.2 Objective Two: Activities Designed for flipped classrooms.

Based on the second objective which was to evaluate the activities that were designed for flipped classrooms, the findings made several revelations. The activities which were designed for flipped classrooms were meant to improve students; in-depth cognition and lead to quality construction and diversified knowledge network patterns. This is attributed to several factors. Learners worked individually, in pairs and in groups before sharing their experiences in class hence the capacity of the teaching and learning activities aiding in the development of deep learned experiences. Furthermore the activities which included discussions, problem solving, concept mapping and quizzes demanded that learners apply the information sourced. Some were meant for the learners to analyze and in some rare cases evaluate information. The approach that teachers adopted meant to aid the development of autonomy and higher order thinking among the learners. Through flipped activities learners completed assignments, they read materials from diverse sources and completed discussion activities.

The flipped classroom activities included self-directed, exploratory and reflective experiences. These demanded different levels of engagement and aided the learners to

engage their thinking skills. The learners engaged diverse resources to comprehend concepts which they either had been exposed to or were meeting for the first time.

The activities equally enhanced collaboration and promoted collaborative learning which renders quality learning. Learners had closer relationships because the activities demanded interactive communication between the learners through their parents and the teachers. This provided sound pedagogy as the learners expressed their views,

5.2.3 Objective Three: Parents and Caregivers Support in Flipped Classroom.

Based on the third objective which was to assess the input of parents and caregivers in supporting flipped classrooms, the findings suggest a weak link between the demands of flipped classrooms on parents and the practical realities in the field. Even though the relationship between students and their parents has been identified through research as one of the hallmarks of learner engagement the current study established several factors that undermined this position. Given the general context of the study, most parents were reported to be unsupportive either because of their economic status or their attitude. Furthermore, being a rural area, the county is characterized by low connectivity making it hard for parents to provide digital support to their children. Students' economic background including their location in a region where farming is the dominant activity impacts on the ability of families to afford smart devices. Parents concentrate on their economic activities comfortable in the thought that work as schools provide resources. This did not however suggest lack of interest by parents in the education of their children. It only went on to emphasize the existing barriers which make it hard for families to make meaningful contribution based on their contexts.

5.2.4 Objective Four: Resources to Support Flipped Classroom.

Based on the fourth objective which was to highlight the resources that were used to support flipped classrooms, the study findings revealed universal use of materials that were easily available. These included mobile phones as a digital device and newspapers. The materials were determined by the nature of pre-class and in-class activities which teachers designed to enhance the learning of concepts. Most of the online activities were conducted using the mobile phone which was one of the most easily accessible digital device. In the absence of textbooks, newspapers, are relevant in providing current information.

Even though technology is the primary tool for flipped classroom given the need to access technology by learners, access to and comfort with the use of technology was a limiting factor. This forced the teachers to device appropriate resources which still aided learners use. The most important aspect of the resources used was the amount of information and relevance of the information conveyed. Preference for ready to use resource as opposed to teacher prepared one was finding widely revealed. This illustrated the amount of time and expertise which is required to prepare own flipped classroom materials. This points out that flipped classroom required a lot of time and flipping does not ease teacher's time. Instead of teachers spending more time preparing videos, and other out of class content, it was easy to select materials with ready and relevant information.

5.2.5 Objective Five: Challenges Encountered in Flipped Classroom.

Based on the fifth objective which was to examine the challenges that inhibited the use of flipped classroom as an instructional strategy, several challenges took many forms and were conveniently categorized as being either learner related, institutional

related, home or family related and operational. Despite their enormity the teachers still worked around them to provide experiences that worked for their individual learners. Some challenges especially those that affected parents demanded the need for schools to develop policies that would bridge the gap that exists in having parents to be more engaged in school activities.

The findings revealed several learner related challenges. These included: learners lack of familiarity with flipped classroom which made them treat personal learning more like home assignment. Instructional materials were regarded as boring or hard to relate with as well as failure to clearly follow instructions along with the failure to engage their parents.

Institutional challenges that the study findings revealed include failure by teachers to appreciate the value of flipped classroom and the limited skills in conducting them. Insufficient materials and the inadequate capacity to prepare own flipped classroom materials which required great effort were further revealed.

Finally, there were apparent operational challenges that were beyond the capacity of institutions or schools to address. These were mainly related to technology resources such as lack of internet access for use at home, they only engaged in activities that were relevant to learning teachers' insufficient IT skills such as preparing and uploading flipped materials for learners to use and institutional support that demanded schools to invest in relevant resources. Despite the challenges which informed some of the recommendations that study made, teachers of social studies in primary schools in Nandi County demonstrated their capacity to use flipped classroom as an alternative approach to conventional teaching in which the teacher is viewed as the source of knowledge.

5.3 Conclusions of the Study

The study aimed at determining the social studies teachers use of flipped classroom in teaching social studies in grade six. This was motivated by the need to determine how teachers adopted learner centred approaches to teaching as a means of developing learners' ability to learn on their own as well as developing competencies such as collaboration, communication, digital literacy as well as learning to learn which is the hallmark of the competency Based Curriculum.

Overall the study revealed that the social studies teachers in primary schools in Nandi generally had the capacity to teach using flipped classrooms. Through the selection of relevant content in their teaching subjects, the teachers were able to design learning experiences and relevant activities that aided the attainment of outlined objectives. Due to the demands that the approach placed on time the teachers skillfully used time for private study which was flexible enough for flipped classrooms. Most importantly, teachers demonstrated their ability to plan skillfully for flipped classes.

Secondly, the activities which teachers designed for flipped classrooms were varied relevant and to the level of learners. These were delivered through different modes such as individual learner assignment, pair work and group assignments. The findings were later reported to the whole class. In this way learners practiced autonomy, as they engaged in varied learning activities. The flipped classroom activities seemed to promote active learning which required learners to look for information and solve problems using what they had learned. This approach to teaching can help learners perform better and has the capacity to promote positive collaboration between various factors involved in curriculum delivery.

Thirdly, though the present study revealed minimal input by parents, it is possible to develop mechanisms through which parents are sensitized on their role in contributing to learner engagement.

The use of technology is paramount in successfully using flipped classroom. Despite challenges of resource availability, teachers demonstrated their capacity to use available resources. The need to build the capacity of teachers to be able to develop own materials that they could engage learners it was apparent.

Finally, like any other pedagogical innovation, flipped classrooms encountered challenges which could provide opportunities for further engagement to make the approach accessible to all schools. The challenges were not unique to flipped classroom alone and touched on all stakes involved in curriculum delivery. The challenges included negative attitude by parents and learners, internet connectivity, insufficient ICT resources, limited skills in using flipped classrooms and lack of technical knowhow in preparing materials for flipped classrooms provide opportunities for schools to reflect on policies that would turn the challenges into opportunities for seamless use of flipped classrooms in curriculum delivery.

5.4 Recommendations of the Study

This study investigated social science teachers use of flipped classroom in teaching social studies in grade six. An indepth study of the teachers' competence in designing flipped classroom as well as the activities that supported its realization was undertaken apart from evaluating the resources and the support that parents gave to their children. Finally, challenges that undermined the seamless use of flipped classroom in teaching and learning were analysed. Based on these the following recommendations are made to improve on the quality of using flipped classroom.

- (i) There is need for teachers to enhance their skills in innovative pedagogy through regular inservice as well as professional developers courses. Teachers could also think of coalescing around communities of practice where experiences are shared with a view to improving their teaching competence.
- (ii) Since flipped classrooms ideally rely on using technology to attain its goals, schools need to strengthen their capacities for resource mobilization and provision. Mechanisms such as fundraising for resources, establishing functional resource centres within schools and at the county level could be exploited to ensure uniform access to resources by all learners irrespective of their socio-economic backgrounds.
- (iii) Schools should use parent meetings to sensitize parents on how they could get involved in their children's learning without putting a lot of strain on their domestic resources and time. Furthermore, teachers need to restrict their engagement of parents in flipped classroom to provision of basic resources easily accessible and activities and tasks which are extremely demanding on the parents.

5.5 Suggestions for Further Studies

Flipped classroom learning scenarios that enable students to learn across context raise many potential research areas which could be undertaken. The current study suggested two potential areas of such research engagement. These are:

1. A study on the effect of digital-divide and equity issues on seamless flipped classroom in schools.

2. The role of parents in fostering learners' self-learning ability through flipped classrooms.

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APPENDICES

Appendix I: Consent Letter

**LYDIA KOSGEY
P.O BOX 3900-30100
ELDORET**

RE: PARTICIPATION IN AN EDUCATIONAL RESEARCH

I am a postgraduate student at Moi University and I am carrying out research as part of my academic requirement. The research topic focuses on **“USE OF FLIPPED LEARNING IN TEACHING SOCIAL STUDIES AMONG GRADE SIX LEARNERS IN PRIMARY SCHOOLS IN NANDI COUNTY, KENYA”** The study will involve administration of questionnaires to teachers, interview schedule with head teachers and focus group discussions with parents. Your kind facilitation towards the success of this research will be highly appreciated. All the information given will be treated with utmost confidence.

Thank you very much for your cooperation

Yours sincerely,

LYDIA KOSGEY

Appendix II: Questionnaire for Teachers

Instructions

Please tick (✓) or fill in the blanks as appropriate please respond to all items.

1. What is your gender?

(a) Male ☐

(b) Female ☐

2. What is your age Bracket?

(a) Less than 30 years ☐

(b) 31-40 years ☐

(c) 41-50 years ☐

(d) Over 50 years ☐

3. What is your highest professional qualification?

(a) Certificate in PTE ☐

(b) Diploma ☐

(c) Bachelors degree ☐

(d) Masters degree ☐

(e) Others Specify

.....

4. How many years of teaching experience do you have?

i) 1-4 years ☐

ii) 5-9 years ☐

iii) More than 10 years ☐

Section B: Technology Tools for Flipped Learning in social studies at Home

To what extent do you agree with the following statements concerning technology tools for flipped learning at home?

1- Available 2-Not Available

Statements	Available	Not available
1. Computer		
2. Mobile phones		
3. Internet		
4. Newspapers		
5. Desktop and laptops		
6. Digital cameras		
7. Printer		
8. Photocopier		
9. Tablets		
10. Popple		
11. Pen Drive		
12. Ipods		
13. Ipads		
14. Webboards		
15. Scanners		
16. teractive white board		
17. DVDs and CDs		
18. Flash discs		
19. Video Games		

Section C: Teachers' competence in use of ICT in flipped classroom in social studies

To what extent do you agree with the following statements in regard to teachers' competence in use of ICT in flipped classroom?

SA – Strongly Agree A – Agree N – Neutral D – Disagree SD – Strongly Disagree

Statement	1	2	3	4	5
1. Most teachers lack necessary skills to implement and facilitate ICT in flipped					
2. Teachers are creative in the use of ICT in flipped classroom					
3. Teachers are innovative in the use of ICT in flipped classroom					
4. Teachers are interactive when using ICT in flipped classroom					
5. There is information fluency during the use of ICT in flipped classroom					
6. Teachers have digital citizenship in the use of ICT in flipped classroom					
7. Most teachers have knowledge in technology operations					

Section D: Learning Activities Used For ICT In Flipped Classroom in social studies

To what extent do you agree with the following statements in regard to learning activities used for ICT in flipped classroom?

SA – Strongly Agree A – Agree N – Neutral D – Disagree SD – Strongly Disagree

Statement	SD	D	UD	A	SA
1. Collaborative Active Learning					
2. Think-Pair-Share Activities					
3. Whole Class Discussions.					
4. Quizzes and Other Games.					
5. The 'In-Flip' or artificial Flip.					
6. Concept maps					
7. Individual problem solving					
8. Affinity grouping					

Section G: Challenges facing social studies teachers

Challenge	SD	D	UD	A	SA
9. Poor access to network in some areas in the most areas pose a challenge to learning process					
10. Teachers and learner's attitude undermines the digital learning process					
11. Insufficient resources hinder a full implementation of flipped classroom					
12. Skilled teachers in the use of ICT are less hence low implementation of flipped classroom					

Appendix III: Interview Schedule for Head Teachers

1. What are essential flipped classroom technologies for creating learning content?

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2. What are the technology tools for flipped learning at home?

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3. What are the teachers' knowledge and competence in use of ICT?

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4. What are the learning activities used for ICT in the flipped classroom?

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5. What are the challenges that teachers experience in using ICT in flipping classroom method?

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Appendix IV: Focus Group Discussion For Parents

You are kindly requested to respond to all the questions with honesty. All information given will be treated with confidentiality. Your cooperation will be highly appreciated

1. Kindly identify the technology tools for flipped learning at home?

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2. How is parents' knowledge and competence in use of ICT?

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3. What are the learning activities you use ICT to teach your children?

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4. What are the challenges that teachers experience in using ICT for learning at home?

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CERM-ESA Project Leader Date: 29/07/2024