EFFECTS OF SCAFFOLDING ON SUBJECT INTEREST, SELF-EFFICACY, ACADEMIC BUOYANCY AND ENGLISH ACHIEVEMENT AMONG LEARNERS IN SECONDARY SCHOOLS IN KENYENYA SUB-COUNTY, KENYA

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DECLARATION AND APPROVAL

DECLARATION BY CANDIDATE

This thesis is my original work and has not been presented for the award of a degree to any University

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ABSTRACT

Language learning is a process just like language acquisition as put forward by Lev Vygotsky in the Social Cultural Development Theory and the Zone of Proximal Development. In the classroom, therefore, the process of language learning calls for an appropriate learning technique which not only makes learners active participants in classroom activities but also enables students enjoy the learning process. However, in Kenyenya Sub-County, a study has attested that English language is taught using inappropriate methods, and not treated as a learning process, leading to dismal performance in English in National examinations. Thus, the purpose of the study was to investigate the effects of scaffolding on subject interest, self-efficacy, academic buoyancy, and English achievement among learners. The study objectives were: to investigate the effects of scaffolding on subject interest, self-efficacy, academic buoyancy and English achievement among secondary school students. The study was informed by social cultural theory supported by cognitive load theory as build upon information processing theory. Sequential explanatory design within the mixed methods approach was adopted by the study. The study took place in Kenyenya sub-county. The target population was 78 teachers of English and 2678 form three students (2022 class). The sample size constituted 364 students and 10 teachers picked out through purposive sampling as participants in the experiment, followed by 10 teachers and 10 learners selected by simple random sampling as interview respondents. Quantitative data was collected using Solomon-four non-equivalent quasi experimental group design while qualitative data was collected using interview technique. Instruments of data collection were pre-test and post-test questionnaires, English Achievement Test (EAT) and interview schedules. Internal validity of the questionnaires and EAT was investigated Kaiser-Meyer-Oklin (KMO Index) and Bartlett's Test of Sphericity, while validity of the experiment was ensured by the use of 2 intervention and 2 control groups. Reliability of the pre-test and post-test questionnaires and the EAT was established using Cronbach's Alpha technique. Quantitative data analysis was done using descriptive and inferential statistics of mean standard deviation and t-test analysis using the SPSS package and qualitative data was analyzed using the thematic framework. From the survey results, the posttest mean scores of subject interest, self-efficacy, academic buoyancy and achievement among the experimental groups were higher than those of the control groups. The paired samples t-test showed a statistically significant effect of scaffolding learning on subject interest, self-efficacy, academic buoyancy and English achievement. From qualitative data, the study established that scaffolding led to an improvement in subject interest, self-efficacy, academic buoyancy and achievement. Therefore, the study found out that scaffolding had a statistically significant positive effect on all the 4 variables. The study concluded that scaffolding was the most appropriate language learning technique as it was very effective in boosting the studied learner aspects. The Ministry of Education should adopt scaffolding strategy in language learning and amend the curriculum such that more time is allocated to language learning to make it possible for scaffolding to be utilized effectively. Further research should be carried on relationship between scaffolding and academic achievement.

DEDICATION

I dedicate this work to my husband Obuya and my children, Zed, Dove, Britney and Adrian who have made me a more understanding, focused and responsible person.

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ABBREVIATIONS AND ACCRONYMS

ANCOVA:	Analysis of Covariance
ANOVA:	Analysis Of Variance
CBC:	Competence Based Curriculum
EAL:	English as an Additional Language
IE:	Integrated English
IEAT:	Integrated English Achievement Test
KICD:	Kenya Institute of Curriculum Development
KIE:	Kenya Institute of Education
MoE:	Ministry Of Education
SPSS:	Statistical Package for Social Sciences
USA:	United States of America
UNESCO:	United Nations Educational, Scientific and Cultural Organization
ZPD:	Zone of Proximal Development

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Language learning, just like language acquisition is a process and so it should be treated in the classroom as learners acquire new language skills (Boundless, 2016). Vygotsky's Sociocultural Development Theory states that: language has a privileged place in the development of higher human consciousness because as the 'tool of tools' it is used by humans to act on, control and transform their physical, social and semiotic worlds (Gong, Tan & Chin 2018). In the classroom, therefore, language is the tool kit for intellectual activity (Mercer, 2018). With this respect, English language should be learned rather than taught and learning should actually be process based, as students learn through social interactions with more skilled peers and adults, through scaffolding (Sarikas, 2020).

In the classroom, scaffolding is the support given to a student that enables the student to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted effort (Van de Pol, Mercer & Volman, 2019). The process involves a more knowledgeable person demonstrating to learners how to tackle a learning task and later allowing the learners to do the rest on their own while the more skilled person offers support where necessary (West, Swanson and Lipscomb, 2019). With time the learners gain confidence and can apply the new acquired knowledge independently (West, Swanson & Lipscomb, 2019). Scaffolding is closely related to the Zone of Proximal Development (ZPD) (Vygotsky, 1978) which is 'the distance between what a learner can do without assistance and what the learner can do under adult guidance or in collaboration with more capable peers (Vygotsky 1978). Therefore, for learning to be effective, educators should help students learn within their ZPD so that learners can increase their skill and knowledge without becoming frustrated with things that are currently too difficult for them to accomplish (Sarikas, 2020).

Scaffolding learning enables learners develop subject interest (Anisa & Sutapa, 2019). Achieving good learning outcomes involves interests which significantly influences learning motivation (Herpratiwi & Tohir, 2022). Students with subject interest develop attentiveness or the curiosity when learning a concept in the subject as displayed through learners' active participation in the classroom processes, showing that the students derive fun and enjoy the processes (Vanden Bos, 2015). Scaffolding also enhances self-efficacy in learning (Angelica, 2018). Self-efficacy, the belief that a person has that he can successfully complete a task and

control his own learning, plays an important role in how a learner effectively manages his own learning over time and across situations (Yantraprakon, Darasawang & Wiriyakarun, 2018). Academic buoyancy is the student's ability to successfully deal with academic setbacks and challenges that are typical of the ordinary school life, including poor grades, difficult home works, course work deadlines and exam pressure (Martin & Marsh, 2020). Achievement is based on the results of standardized ability tests and assessments of performance by a teacher or supervisor and gives learners the strong desire to accomplish goals and attain high standards of performance and personal fulfillment (VandenBos, 2015). Subject interest, self-efficacy, academic buoyancy and achievement are important constructs a learner needs to develop in the process of language learning. Therefore, studies around the world have endorsed scaffolding as related to the ZPD as the appropriate language learning process:

To begin with, study by Zelnick (2017) established multiple challenges encountered by high school teachers of English in the USA brought about by preparation of day to day lessons and very large, diverse classes. To ease the way, the California Induction Program was formed in 2016 to guide and support beginning teachers on the application of scaffolding learning. Additionally, Scaffold Training Institute was put up three decades ago in Texas to train teachers on the application of scaffolding in the classroom. Consequently, Mahan (2020) asserted that scaffolding is the only possible solution to these challenges as the process was very successful in teaching English when the teachers provided strategies such as modeling to help students solve tasks. Also, teachers need to create more specific learning activities to provide their students with more support (Mahan,2020).

Similarly, Gong, Tan and Chin (2018) noted three conflicts in teaching of language in China and pointed out that scaffolding would be the best solution to address the conflicts. The conflicts arose due to educational reforms that had taken place in 1984 which made the social linguistic environment in Singapore to undergo rapid transformation up to 2010. First, the Ministry of Education made composition writing skills in Chinese language a necessary requirement in exams in 2011. Secondly, writing skill was taught by inexperienced and underprepared teachers who had difficulties to teach confidently and systematically, hence, students had no idea of what to write and how to write. Thirdly, students were not allowed to exercise creativity as they were made to write timed compositions. Gong, Tan and Chin

(2018) stated that scaffolding could enable teachers teach all that the students needed in class, including the ability for self-directed learning and the desire and the ownership for the lifelong learning. The study by Gong, Tan and Chin (2018) reiterated that in the process of scaffolding, when the teacher withdrew the support, students got the authority to be the real owners of the learning process (Gong, Tan & Chin, 2018).

However, the situation is persistent in China since learners of English had failed to achieve independent learning due to the application of traditional learning methods to teach English in high schools (Ma, Xie, Luo and Tian, 2023). Instead of learning on their own, the learners of English were taught by teachers hence the learners lacked the belief in their ability to master the language skills and apply them to communicate comprehensively. Ma, Xie, Luo and Tian (2023) noted that independent learning would be the only way to boost students' ability to master language skills and apply the skills in effective communication. Independent learning would be achieved through scaffolding method which entails contingent support by the teacher or a more knowledgeable peer followed by transfer of learning responsibility to the learner. Moreover, if the learners had to master the language skills, learner participation in learning activities was mandatory. Hence leaners had to be allowed to do independent learning after scaffolding as the ultimate goal of high school teaching of English in China.

Also, Nguyen and Penry (2019) noted the challenges of teaching English as an Additional Language (EAL) in Australia. The challenges emanated from the diverse linguistic backgrounds of students. In 2018 alone, 28% of EAL students came from non-English Language backgrounds. The challenges were in terms of limited or no previous education, varied literacy experience, differences between language systems, inter-cultural awareness, assumed cultural understanding and expectations regarding school. Because of the aforementioned challenges, the students needed to develop the language skills and knowledge (Nguyen & Penry, 2019). As a result, pre-service teachers were exposed to scaffolding language teaching techniques which they would use to teach secondary EAL students (Nguyen & Penry, 2019). The study pointed out that scaffolding would help learners reach a higher level of performance than when unassisted. Additionally, scaffolding helped pre-service teachers (during their practicum) to develop knowledge about their students' abilities and identify their students' difficulties during learning EAL, which are the basis of the

teachers' contingent scaffolding strategies. The study by (Nguyen & Penry, 2019) therefore endorsed scaffolding as an important area of professional learning.

Moreover, Malachy, Finfang, Dashe and Auwal (2018) noted that in 2016, English as a subject was performed poorest in Public Examinations compared to the other subjects in Nigeria. Only a total of 878,040 candidates, representing 52.97 % obtained credit in 5 subjects, including English. The poor performance was attributed to poor teaching methods. Therefore, considering the poor performance and owing to the students and community need for spoken English, an adequate and relevant method was needed to effectively teach English Language (Midat, Malachy, Finfang, Dashe & Auwal, 2018). The study by Midat, Malachy, Finfang, Dashe and Auwal (2018) employed scaffolding teaching in English, particularly, teacher observation and co-operative learning and established that students performed significantly better after being taught using scaffolding processes. Scaffolding was thus, a reliable language teaching process as a reliability index of 0.85 was obtained after a test-retest (Midat, Malachy, Finfang, Dashe & Auwal, 2018).

Additionally, Senyefia, Osei-Asibey, and Otoo (2020) noted that Ghana's new Curriculum emphasized on ensuring that every learner benefited from the teaching and learning processes. Scaffolding was suggested as one of the teaching and learning processes as scaffolding would make the learning process successful. Scaffolding predicted diagnostic assessment at 90% (Senyefia, Osei-Asibey & Otoo, 2020), thus providing sufficiently for diagnostic assessment. However, scaffolding was not explicitly stated in the new curriculum (Senyefia, Osei-Asibey & Otoo, 2020)

Equally in Ethiopia, by Abune (2019) identified some short comings in the teaching of grammar in that students were taught using the traditional approach. In the traditional approach, teachers would teach the rules of language through explicit explanation using examples. After explanation, the students would be asked to construct their own sentences similar to the example. Abune (2019) established that the method brought out fragmented and unrealistic language items and at the same time discouraged classroom interaction. Owing to the challenges, the Ministry of Education of Ethiopia changed the old method to the new method by introducing task based language instruction that would foster peer and teacher scaffolding. Peer scaffolding was effectively implemented in the grammar classroom since

scaffolding would enhance student and teacher participation in the learning process (Abune, 2019). Furthermore, given the grammar proficiency difficulties among students, peer scaffolding was appropriate as it led to improvement in grammar proficiency. Abune (2019) argued that the scaffolding procedures employed were feasible and students were satisfied with the achievement.

Besides, in South Africa, Mutekwe (2018) noted a deficit in equality and fairness in the multi-cultural English classrooms due to lack of ideal strategies that could promote equitable learning. Scaffolding was therefore endorsed as the appropriate technique as it enabled learners' lower psychological functions to be transformed to higher psychological functions (Mutekwe 2018). Further, support by the teacher made learners master the concept pretty well and could use the mastery to develop a further understanding of other related concepts. Mutekwe (2018) emphasized that mediating learners within their ZPD yielded heavy dividends within the learners.

Further challenges in the teaching of English as a second language were reported in Rwanda, since Kinyarwanda is the language of communication and the language of instruction up to grade 3 (Murigase, 2020). English is introduced as a language of instruction from grade 4 onwards, despite English language being a necessary artifact worthy acquiring; hence learning English becomes difficult (Murigase, 2020). For learning of English to take place in Rwanda, scaffolding learning strategy needs to be employed; learners need to interact with more knowledgeable people (Murigase, 2020). Also, in the language classroom in Rwanda, it is the teacher who has to mediate language learning since the teacher is assumed to be more knowledgeable than learners. Further, classroom peer interactions provide room for brighter students to assist their struggling classmates (Murigase, 2020).

In Kenya, the Ministry of Education (MoE) in collaboration with the Kenya Institute of Curriculum Development (KICD) came up with the Competence Based Curriculum (CBC) Framework in 2017. The CBC would be implemented gradually in basic education institutions (KICD, 2017). In the process of developing the CBC, the concepts of scaffolding and the zone of Proximal Development raised by Vygotsky's Social-Cultural Development theory were found to be useful in designing the pedagogical shifts that teachers would be trained in, to facilitate adoption of the CBC in basic education (KICD, 2017). Activities in the

classroom would include journaling, experiential and collaborative and cooperative learning (KICD, 2017. p16).

Therefore, scaffolding is relevant in teaching English language in Kenya (KICD, 2017). When teaching English several skills are intertwined and taught as a unit. These skills include listening, speaking, reading, writing and critical analysis of literary texts (Kenya Institute of Education (KIE), 2012). The process can be really perplexing especially when handling a heterogeneous class emanating from slow to fast learners, and learners from diverse first language backgrounds. This calls for scaffolding (KICD, 2017). Consequently, Kenyan scholars from various disciplines have carried out studies that support scaffolding teaching and learning.

First, Omuna and syomwene (2020) noted that the performance of English in KCSE had remained poor between 2013 and 2018 due to teachers' failure to use appropriate instructional approaches. Teachers were mostly employing deductive approach to teach grammar leading to students' poor achievement in grammar tests. However, the study pointed out that grammar in context approach was superior to deductive approach. Thus, scaffolding was not embraced in teaching of grammar.

On a similar note, Muriithi and Njuk (2021) pointed out that teaching strategies play a major role in in influencing learners' performance. the study advocated for student-centered approach so as to give the learner time to participate in class and improve the learners' ability to recall. A great percentage of teachers (50%) preferred discussion method which ensured every learner got involved while 25% preferred lecture method. however, the application of discussion method faced challenges since the number of students was large leading to adoption of poor teaching methods such as lecture method as opposed to discussion and other learner centered methods. Thus, discussion method which was advocated for, and which is one of the scaffolding techniques was preferred but evidently it was not being employed effectively in teaching English given large class sizes. Nevertheless, learner centered methods are the only solutions to the teaching of English as subject in Kenya.

Also, a comparative study by Lugendo and Smith (2015) between Kenya, Canada, Australia and the USA pointed out that language learning is a process situated in the Social Cultural

Development theory, which emphasized on teacher-pupil talk as a source of expert mediation as teachers operated as scaffolds. Expert mediation then promoted verbal participation and collaborative problem solving. At the same time, teachers played a dominant role in classroom interactions in the context of large class sizes.

Moreover, in Nairobi County, Kenya, Mutsotso and Nabukonde (2019) reported teacher centeredness of the language lessons. Integration of the language skills was impossible in a 40-minute lesson, due to large class sizes and limited time, which made teachers use very few activities in their teaching. Teacher centered methods made learners lose interest in learning of language since students were not given a chance to be active participants in the learning processes. The teaching of language could be improved by teachers choosing scaffolding tasks and activities in order to allow students use the skills in an integrated manner.

Further, in Lang'ata sub-County, Kenya, Atandi, Gisore and Ntabo (2019) revealed that teacher centered methods were employed in the language classrooms. Lecture method is the most preferred method in Kenya by 19.5% of the teachers, followed by question and answer method at 16.4 %, group work 14.4%, demonstration 12.9%, guided learning 12.8%, drilling and questioning 12.3% while role play and dramatization is practiced by 11.6% of the teachers (Atandi, Gisore & Ntabo 2019). Thus, teachers used teacher centered methods to a large extent while learner centered methods were used to a small extent (Atandi, Gisore & Ntabo, 2019). The use of teacher centered methods denied learners the opportunity to study independently and discover new knowledge on their own. On the other hand, learner centered methods such as demonstration and guided learning which are elements of scaffolding made learners develop interest to discover and learn new concepts on their own.

The challenges were replicated in Kenyenya Sub-County, Kenya, where Maiko(2018) reported teacher centered methods being utilized in English lessons more than learner centered method, thus interfering with the psychological well-being of the students. 55% of teachers employed lecture method, 15% discussion while 35% used other methods to teach English. The lecture method adopted by a majority of the teachers made students remain passive and receptive and not in control of their learning. However, even if the teachers employed these methods, 50% of the teachers admitted that learner centered methods such as scaffolding could make learners develop a positive attitude towards English as a subject as well as build self-efficacy, which in turn would make the students perform better in exams.

Further, 30% of teachers conceded that teacher centered methods encourage laziness and negatively affect students' performance (Maiko, 2018). For students to perform better, they must believe in their own abilities and be confident that they can discover new ideas, learn the language skills on their own and apply them in a variety of contexts with minimal or no support at all. Learners' belief in their own abilities is the basis of scaffolding language learning process. Table 1 shows the preferred teaching methods in Kenyenya sub-County and their effects on language learning.

Table 1: Preferred teaching Methods and their Effects on Language Learning

Teaching method	**Percentage of teachers who prefer method**	**Percentage of teachers applying method**	**Effects of methods to learners**
Learner-centered	62%	15%	• Positive attitude towards English • Higher self-efficacy • Better performance
Teacher-centered	38%	55%	• Laziness • Low interest and negative attitude • Poor performance in exams

(Source: Maiko, 2018)

Additionally, KCSE result analyses across the five sub-counties in the Gucha region have shown that Kenyenya Sub-County ranks very low in performance in English. The poor performance could be associated with the application of wrong methods to teach English language as a subject. Table 2 summarizes the KCSE performance of English in the five sub counties in the Gucha region since 2019 to 2022.

Table 2: Gucha Region KCSE English Performance, 2019-2022 (Source: Sub-counties' QASOs)

Sub-County	**Year and Mean Score**				**Aggregate mean**
	2019 mss	**2020 mss**	**2021 mss**	**2022 mss**	
Kenyenya	**3.423**	**3.642**	**3.435**	**3.442**	**3.486**
Gucha	3.709	3.402	3.588	3.662	3.590
Nyamache	3.442	3.879	4.101	3.902	3.831
Etago	3.503	3.621	3.688	3.452	3.566
Sameta	3.554	4.122	3.890	4.021	3.896

Table 2 shows the summary of KCSE mean scores of English from 2019 to 2022. From the table, Kenyenya Sub-County ranks very low across all the years, the highest mean score being 3.442 in 2022. Even if the Sub-County performed better in 2020, the general performance is comparatively very low. The aggregate mean score of Kenyenya sub-county is 3.486 and it is the lowest in the region. Hence the current study seeks to find out whether teaching methods are the problem hence seeks to investigate scaffolding as a better alternative to the conventional methods of teaching English as a subject.

Moreover, studies world-over have endorsed scaffolding as the most appropriate language learning process. However, in Kenya, studies have attested that scaffolding which is the most appropriate language learning process is minimally employed in Kenyan schools to teach English (Omuna & Syomwene (2020); Muriithi & Njuk, 2021; Gudu & Napwora, 2023); a clear indication that the effects of scaffolding on students subject interest, self-efficacy, academic buoyancy and academic achievement have been scantly investigated. This is the motivation behind the present study to investigate the effects of scaffolding on subject interest, self-efficacy, academic buoyancy and academic achievement among secondary English language learners in Kenya. The findings of the study would make it possible for curriculum developers to lay emphasis on the use of scaffolding to teach English language.

1.2. Statement of the problem

Language acquisition, like language learning is a process. In this regard, teaching and learning of English in the classroom should be process based as students acquire new skills and apply them in a variety of communicative contexts. Studies have revealed that scaffolding is the most appropriate language learning process which allows students to be active participants as the students acquire and apply language skills. The process of scaffolding learning is totally learner centered as it in more beneficial to the student than to the teacher. However, in Kenya, studies have shown that English is not acquired but taught, since 60 % of teachers in Kenya employ teacher centered techniques to teach English. Also, studies in Kenyenya Sub-County have established that English is actually 'taught and not learnt', in that inappropriate techniques which include lecture and question and answer are mostly used to teach English. Lecture method is utilized by 55% of teachers, while 35 % use question and answer technique to teach English. The techniques make the English lessons fully teacher centered. In the process, the students may lose interest in learning the language skills since the learners expect the teacher to learn on their behalf. At the same time the learners may fail to be part of the learning process as they remain passive and non-interactive. Due to the use of wrong methods to teach English, performance of English in exams is very poor. Moreover, scaffolding learning (a more interactive, learner centered language learning process) is minimally utilized in teaching of English. Hence the effects of scaffolding on subject interest, self-efficacy, academic buoyancy and achievement are not known, which makes it difficult to adopt scaffolding learning process in English learning. It is for this reason that the present study seeks to investigate the effects of scaffolding on subject interest, self-efficacy, academic buoyancy and English achievement among secondary school learners in Kenyenya Sub-County, Kenya.

1.3. Purpose of the Study

The purpose of the study was to investigate the effects of scaffolding on subject interest, self-efficacy, academic buoyancy and achievement among English language learners' in secondary schools in Kenya.

1.4 Objectives of the study

The study objectives were:

i. To determine the effects of scaffolding on subject-interest among English learners in Kenyenya Sub-County
ii. To establish the effects of scaffolding on self-efficacy among English learners in Kenyenya, Sub-County
iii. To find out the effects of scaffolding on academic buoyancy among English learners in Kenyenya Sub-County
iv. To investigate the effects of scaffolding on achievement among English learners in Kenyenya Sub-County

1.5 Research Hypotheses

The following hypotheses were tested:

1.5.1 Null hypotheses

Ho1. There is no statistically significant effect of scaffolding on subject interest among English learners in Kenyenya Sub-County

Ho2. There is no statistically significant effect of scaffolding on self-efficacy among English learners in Kenyenya Sub-County

Ho3. There is no statistically significant effect of scaffolding on academic buoyancy among English learners in Kenyenya Sub-County

Ho4. There is no statistically significant effect of scaffolding on achievement among English learners in Kenyenya Sub-County

1.5.2 Alternative Hypotheses

Ha1. There is a statistically significant effect of scaffolding on subject interest among English learners in Kenyenya Sub-County

Ha2. There is a statistically significant effect of scaffolding on self-efficacy among English learners in Kenyenya Sub-County

Ha3. There is a statistically significant effect of scaffolding on academic buoyancy among English learners in Kenyenya Sub-County

Ha4. There is a statistically significant effect of scaffolding on achievement among English learners in Kenyenya Sub-County.

1.6 Assumptions of the Study

The study was based on the following assumptions:

i. Teachers and learners internalized scaffolding techniques they were trained on.
ii. Learners had varying levels of subject interest before scaffolding learning.
iii. Learners had varying levels of self-efficacy before they learnt using scaffolding method.
iv. Buoyancy levels among learners differed before and after scaffolding.
v. The English achievement levels varied among learners before learning using scaffolding techniques.
vi. There was normal distribution of grades in English Achievement Test.

1.7. The Scope of the Study

The present study was concerned with the effects of scaffolding on subject interest, self-efficacy, academic buoyancy and achievement among English learners. The study was carried out among secondary school students in Kenyenya Sub-County. The target population was form 3 students, teachers of English and Heads of the Languages Department. Mixed methods approach was adopted in this study. Quantitative data was collected using Solomon-Four Group Quasi-experimental Design while qualitative data was collected through interviews. Data was collected within three months.

1.8. Limitations of the study

The following limitations were experienced and dealt with accordingly:

Most schools were unwilling to participate in the experiment owing to the fact that the terms had been compressed from 14 to 10 weeks, hence teachers wished to rush and cover the syllabus through lecture method. The researcher had to reschedule the experiment for the next term, nevertheless, there was a delay. The covid-19 protocols posed another challenge as students not ready to participate especially in group work due to social distancing. To solve this, large groups were avoided. Another issue was the large class sizes, which increased the teacher, student ratio hence a threat to the effectiveness of the experiment. Group work was employed to address the large class size issue.

1.9 Significance of the study

The finding of this study would be significant in the following respects: To begin with, teachers would benefit as they would assess their teaching methods in relation to the findings of this study, and make possible adjustments in their English lessons. Next, the ministry of Education and The KICD would apply the findings of this study during the secondary school competence based curriculum (CBC) development and implementation. Students would also benefit as teachers would adjust their teaching techniques towards being more learner centered which would improve the performance of students in exams and real life situations that require languge competencies.

1.10 Theoretical Framework

The study was informed by Social Cultural theory by Vygotsky (1978) supported by Cognitive Load theory by Sweller (1988).

1.10.1 Social-Cultural Theory

Social cultural theory points out that, the cognitive development of a child occurs as a result of social interactions with more knowledgeable others, through the process of mediation (Vygotsky, 1978). The source of mediation can be a material such as books and visual aids, a system of symbols like language or a behavior of another person in social interaction for instance scaffolding (Vygosky, 1978). Thus, learning is a social process, based on collaboration and co-operation between a more knowledgeable other (MKO) and the learner. A MKO has more understanding of the task that a learner tries to accomplish, which makes students to internalize and learn from their beliefs and attitudes (Vygotsky, 1978). Social cultural theory further stipulates that learning takes place through scaffolding (Wood, Bruner & Ross, 1976), which is the support given to learners to enable them learn a concept or perform a task within the zone of proximal development (ZPD), and once the learner attains ability to do the task independently, the support is withdrawn (Vygotsky, 1978). The ZPD entails tasks that are just beyond the learners' current abilities but are attainable with the guidance or help from more knowledgeable others, who include teachers and the more capable peers (Vygotsky, 1978). Therefore, scaffolding (Wood, Bruner & Ross, 1976) is the mediation that happens between a teacher or a more capable peer and a learner to enable the learner accomplish tasks within their ZPD.

Social Cultural theory informs the current study in that for learning to occur, the ZPD of the learner has to be known such that appropriate learning tasks are provided by a MKO, otherwise the learner will get frustrated. Once the learner is able to accomplish tasks within their ZPD, the MKO should create a higher level ZPD for learning to continue. Additionally, mediation between the learner and the MKO's must be in place through collaborative and co-operative learning, during which the MKO can scaffold English students to learn necessary skills.

Consequently, learners can improve their levels of subject interest by observing the ease with which a MKO performs a learning task. This is because a learner will adopt the attitude of the teacher or more capable peer and hence develop interest in the subject. On a similar note, if the learner is well scaffolded by the teacher and attains ability to perform tasks within their ZPD, self-efficacy increases because a learner completes learning within the ZPD, and develops the belief that he can do more difficult tasks, thus a higher level ZPD arises and learning continues. Additionally, academic buoyancy comes up if the teacher supports the learner to overcome academic drawbacks. When the teacher gives timely feedback and gives clarification as well encourages collaborative and cooperative learning, learners learn from one another, hence developing ability to deal with school work pressures. Finally, a learner who is mediated through scaffolding will achieve the learning goals of English which include communicating competently in a variety of contexts as well as performing well in exams.

1.10.2 Cognitive load Theory

The study was also guided by Cognitive Load Theory (Sweller, 1988), which builds upon Information Processing Theory (Miller, 1956). Information processing theory outlines three information processing functions: sensory memory, working (short-term) memory and long-term memory. Sensory memory filters important information out of all the information that we perceive through our senses and passes the important information to the working memory. The working memory can hold 5 to 9 chunks of information at a time, hence has limited capacity (Miller, 1956). The working memory discards or processes information and sends it to the long-term memory where the information is stored in knowledge structures known as 'schemas' (Miller, 1956). The concept of chunking and the limited capacity of the working memory is the basis upon which the Cognitive Load theory (Sweller, 1988) is built.

Thus, Cognitive Load relates to the amount of information that the working memory can hold at a time, which is 5-9 chunks. Cognitive Load Theory suggests that learners can absorb and retain information effectively if the information is provided in such a way that it does not overload the working memory or the mental capacity of the learners. Sweller (1988) argues that if a lot of information is provided to the learners at once, the students will most likely lose it since the information cannot fit in the working memory of the learners. For this reason, when teaching cognitively complex or challenging material, teaching techniques should be acquired to reduce the working memory load in order to facilitate the changes in the long-term memory associated with schema acquisition (Sweller, 2003).

Cognitive Load theory (Sweller, 1988) informs the present study in that learning English is complex and it involves a lot of cognitive activities since several language skills are integrated and learned as a unit. Learning of English entails listening, speaking, reading, writing and critical analysis skills, which can be cognitively challenging. Therefore, there is need to apply sound instructional strategies based on the capacity of the learners' memory. The material to teach the language skills therefore need to be designed in such a way that it fits the capacity of the working memory of the learners; within the learners ZPD. When students are given content that is within their ZPD, the students will develop interest in the subject and will participate actively in the learning processes. The teacher needs to determine the students' ZPD before preparing the learning material, such that students get the content in bits that fit their mental capacities. Moreover, learning happens when there is change in the structure of schemas after learners have been given learning material that their working memory can hold. When the learner is given the right quantity of chunks of information which entail the language skills, the learner will hold it and will develop self-efficacy, since the learner will belief in his own ability to use the schemas in a variety of contexts. Moreover, when the learner develops the language schemas, which means that learning has taken place, the learner will be able to face academic challenges and drawbacks and hence will be academically buoyant. Finally, when the learner forms the language schemas of listening, speaking, reading, writing and literary analysis, the learner will use the skills in communication and also when doing exams. If the learner is able to communicate effectively and perform well in exams, the learner has achieved academic goals. This is possible when scaffolding and the ZPD are in place.

1.11 Conceptual Framework

A conceptual framework is a structure that defines the inter-relationship between variables deemed important in a study. The framework is important becauseit expresses the views of the researcher about the constructs considered important in the study (Kothari, 2004). The inter-relationship between the variables in the present study is presented in Figure 1.

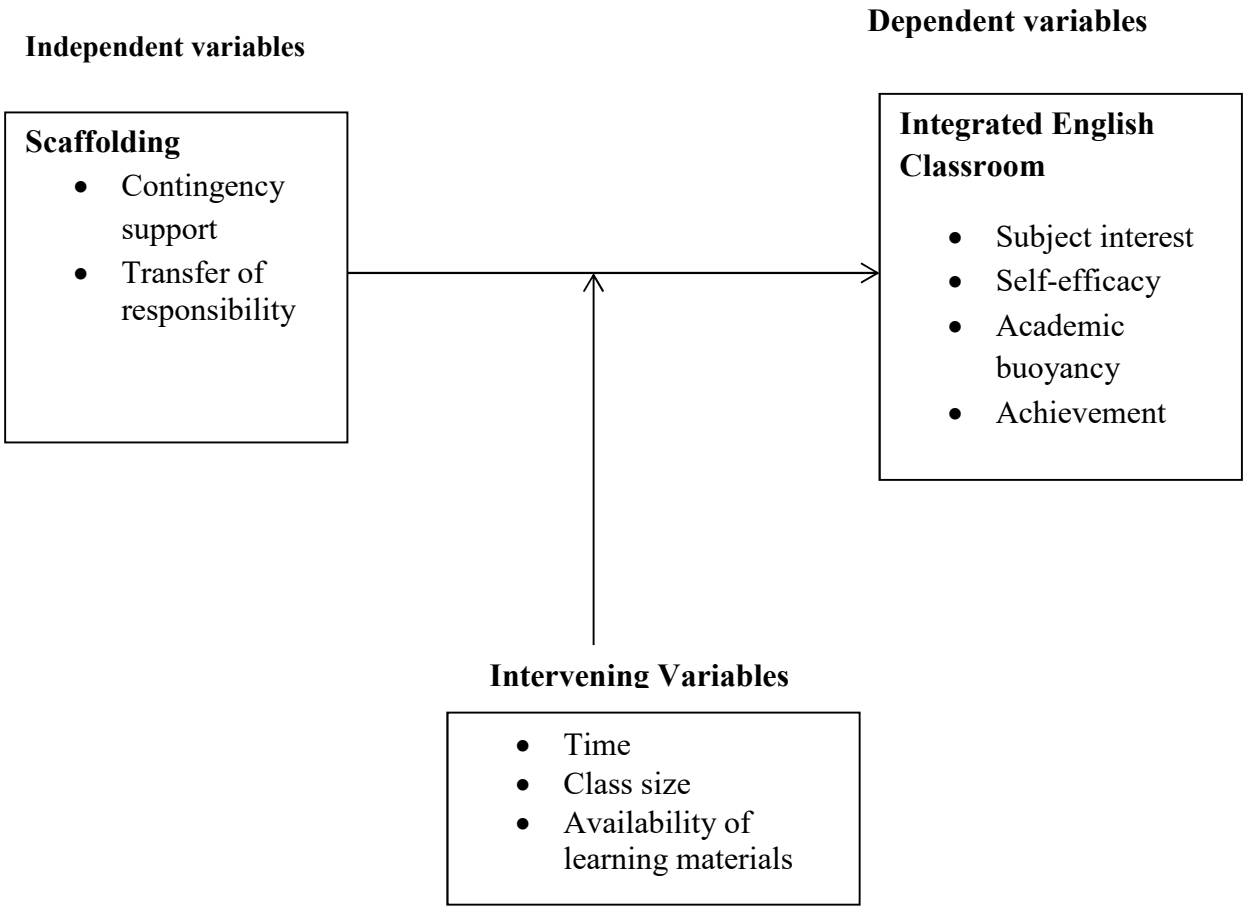

Figure 1: Conceptual framework (Source: researcher 2023)

Conceptual framework of the present study noted that the independent variable is scaffolding; a psychological language learning process. It encompasses contingency support and transfer of responsibility. The dependent variables are subject interest, self-efficacy, academic buoyancy and achievement among English learners. The study thus focused on the effects of scaffolding on subject interest, self-efficacy, academic buoyancy, and academic achievement among students.

However, there were intervening variables which would have interfered with the effects that scaffolding might have had on subject interest, self-efficacy, academic buoyancy, and

achievement among students. These variables included the time, the class size and the availability of learning resources. Time might have interfered considering the workload that was supposed to be covered due to the compressed terms because of Covid-19. Another variable is he class size. A very large class would hinder the teacher from reaching out to all learners, thus interfering with the whole process. Lastly, the resources available had to be sufficient; otherwise the process of scaffolding would not be effective. The current study controlled the intervening variables by sampling public schools with similar policies. Additionally, teacher respondents were TSC employed only, hence they were all similar.

1.12 Operational Definition of Terms

The meanings of the following terms are given as used in the document:

Scaffolding: A teaching/ learning method where a teacher gives temporary support to a learner to perform a given task. As the learner gradually master how to perform the task, the teacher gradually withdraws support till the student is able to tackle the task independently. In the present study the teacher gives contingency support while teaching English and finally transfers the responsibility of learning to the learners.

English language: A language subject taught in Kenyan basic education institutions where the skills of reading, writing, listening and speaking as well as literature are taught as a unit. In the present study English is considered a learning area or a subject rather than a language

Self-efficacy: Individuals' beliefs in their capacity to execute behaviours necessary to achieve a certain goal. In the present study, self–efficacy is the belief learners have in their ability to perform well in English as subject.

Academic buoyancy: A student's ability to successfully deal with academic setbacks and challenges such as poor grades, deadlines among others. In the present study, academic buoyancy academic buoyancy is the ability of learners to rise above bad grades, failure to beat deadlines, negative feedback, study stress, a bad mark and school work pressure.

Achievement: Ability to succeed in doing something. In this case achievement is measured by ability to perform well in assessments and exams. In the current study achievement was measured by performance in tests.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The chapter deals with objective driven literature review in four sub-sections. Sub-section one deals with scaffolding and subject interest while the second sub-section is about scaffolding and academic buoyancy. Sub-section three handles scaffolding and self-efficacy and chapter four focuses on scaffolding and achievement. The last sub-section has summarized the identified gaps and briefly explained how the current study addressed each of the gaps.

2.2 Scaffolding and Subject Interest

Subject interest is the attentiveness or the curiosity that a learner develops when learning a concept or a subject in class (VandenBos, 2015). Subject interest can be displayed through learners' active participation in the classroom processes, which indicates that they derive fun and enjoy the processes. In this case, the students can ask and answer questions, read sections as guided by the teachers, actively participate in group activities and even assist their weaker classmates understand a given concept and finally perform well in tests and exams. While the present study examined the effects of scaffolding teaching technique on students' subject interest, several related studies had been carried out around the world and were as reviewed:

A study in Japan by Sugino (2019) established the usefulness of scaffolding simulations, such as role play, on learners' interest in learning. The study adopted qualitative method of survey. During simulation, students were provided with the necessary information in scripts in order to prepare for participation. The study reported that scaffolding simulations helped students understand the topic and encouraged their participation. The simulations had the power to transform less motivated students into active students hence active learning indicated students' interest in learning. The reviewed study was carried out through a survey which might not have an accurate sample size. At the same time the responses from respondents might not have been accurate or honest which might have interfered with the trustworthiness of the data collected. On the other hand, the present study employed mixed methods of experimentation and interview research techniques and produced accurate and reliable data.

Also, in Indonesia, a study by Annisa and Sutapa (2019) determined the effectiveness of scaffolding as a strategy to increase children's interest in science. The study employed pre-test, post-test experimental methods. Participants were 15 students and 8 teachers of kindergarten class B in Yogyakarta. Data was obtained using observation of teachers as they introduced the strategy to the students. Scaffolding strategies employed included making authentic connections, providing new exposure, motivating students to be responsible and supervising students. Data was analyzed using descriptive statistics. The results suggested that scaffolding effectively improved students' interest in science by 41.6%. The reviewed study sampled very view participants and such a small sample might have negatively affected the reliability of the results. On the contrary, the current study sampled more participants which resulted in more reliable results.

On the same note, Lange, Gorbunova, Shmeleva and Costley (2022) investigated the effects of scaffolding on learners' interest by combining strategic and conceptual scaffolding methods to see whether the complete instructional model leads to higher levels of maintained interest. The study took place in South Korea. Participants were n=2,183. Data was collected through a survey. Results showed a positive relationship between the combined instructional strategies and the maintained interest. While the reviewed study collected data using a survey only. Thus producing narrow data, at the same time, the post-test results might have been influenced by pre-tes sensitization. the present study obtained data using Solomon four experimental design which is more rigorous thus yielding more comprehensive data, while at the same time controlling any extraneous variables such as pre-test sensitization.

Another study by Padmadewi and Artini, (2018) in Indonesia analyzed the implementation of scaffolding in teaching writing to improve interest in English literacy among elementary school students of North Bali Bilingual School Singaraja. The study adopted the mixed methods research technique of triangulation embedded design. Data was majorly qualitative but supported by quantitative data analysis. Three teachers and 21 grade 5 students participated in the study. For the purpose of trustworthiness, data was triangulated in terms of time, person and data collection techniques. Scaffolding techniques such as process-based writing, sight word exercises and problem solving based learning instructions provided with reading response journal were used. The findings of the study suggested that the use of scaffolding led to clear improvement of students' interest in writing. Whereas the reviewed

study only focused on the effects of scaffolding techniques on only one language skill; writing, the present study paid attention to the effect of scaffolding on English language learning as a whole which entails reading, writing, listening, speaking and literary analysis. This is because the results of the reviewed study were narrow hence cannot be replicated in English language learning

Similarly, in India, Bansal (2017) investigated the effect of scaffolding on students' interest in science among high school students. The study employed true experimental research design. Participants were 100 high school students; 50 male and 50 female sampled from two schools. One school was experimental while the other was control. The experimental group was taught using scaffolding techniques while the control group was taught using the traditional method for two weeks. An attitudennaire was used to collect data on students' interest in science after being subjected to scaffolding strategies. Results indicated that students developed a positive attitude and hence interest when they were taught using scaffolding strategies. The reviewed study collected data through experimental technique meaning the participants had been subjected to artificial conditions. The present study, on the other hand collected both qualitative and quantitative data. Besides experimentation, interviews were applied. Interview technique was used to confirm whether really scaffolding makes learners develop interest in integrated English or not. In other words, it confirmed the truth in the experiment results.

Additionally, a study in Finland by Ursin, Jarvinen and Pihlaja (2020) examined the role of support in mediating the association between academic stress and school engagement among primary school students, and engagement is a result of interest. The study was correlational in which a sample of 403 children aged 8-0 participated. Data was analyzed using structural equation modeling. The results revealed that the effect of academic stress on cognitive engagement was mediated by support. The results further suggest that supporting children's ability to deal with setbacks, providing social support and promoting a socially supportive climate could be effective for the prevention of stress and its negative association with school interest. The reviewed study was correlational and support was an intervening variable, hence, it was not clear whether support has any influence on interest and engagement in school activities. On the other hand, the present study examined the effect of teacher

scaffolding on learners' subject interest through experimental technique, hence, it was possible to conclude whether or not support influenced subject interest.

Moreover, in Nigeria, Ezeudu, Nwafor, Abaene, Alabi, Chukwuka, and Ikuelgbon (2019) investigated the effect of scaffolding on senior secondary school students' interest in chemistry in Nambira State. The study adopted quasi experimental design. A sample of 195 chemistry students participated in the study. Data collection instrument was the chemistry interest scale. Data analysis was done using mean, standard deviation and analysis of covariance (ANCOVA). The findings revealed that scaffolding increased students' interest in chemistry more than the conventional methods. The reviewed study collected data using pretest post-test control group design, to produce results which could be less accurate due to interference of extraneous variables. Contrary to this, the present stud adapted Solomon-four group design whereby there were two experimental groups and two control groups. The design produced more accurate and reliable results since the effect of extraneous variables were minimized by the use of the four groups.

Okechukwu (2020) also carried out a study to determine the effect of scaffolding on pupils' interest in basic science technology in Rivers State, Nigeria. A non-randomized pre-test and post-test control group experimental design was adopted. The study population comprised of 42,409 basic four pupils, out of which a sample of 147 pupils in the intact classes of the randomly sampled schools was drawn. Data was collected by the Modified Fennema-Sherman attitude scale and analyzed by ANOVA. The findings reported a significant difference in basic science attitude mean score of pupils taught with modeling and cuing questions and those taught with the conventional method. While the participants of the reviewed study were obtained through simple random method which might have had a big error margin, the present study sampled the respondents using purposive sampling thus reducing the error margin.

Related to these is a study by Banda and Musonda (2018) in Zambia to determine the effect of co-operative learning on students' attitude towards probability distribution in statistics. The study adopted quasi-experimental control group pre-test post-test design. The study population was second year Mukuba University students out of which 60 were selected to participate. Data was collected using Probability Distributions Performance and Probability

Distribution Attitude Questionnaire. The 60 students were divided into two groups each comprising 30 students. One group became the experimental group while the other group was control. The experimental group was thought using co-operative learning while the control group was taught using the conventional learning approach. Data was analyzed using mean, standard deviation and independent t-test statistics. The null hypothesis was tested at 5% significance level. The findings of the study revealed that co-operative learning approach increased students' positive attitude towards statistics. The reviewed study was carried out among university students hence the results could not be generalized to secondary school students. The present study will therefore be carried out among secondary school students to enable curriculum adjustment in seconday school.

In Kenya a study by Kibos, Wachanga and Changeiywo (2015) determined the effects of constructivist teaching approach on students' attitude towards chemistry. The study was quasi-experimental involving Solomon-four non-equivalent group design. The study population was 1260 form two learners of Baringo Sub-County out of which a sample of 160 students was purposively selected to participate in the study. The sample was picked out from four co-educational boarding secondary schools in the sub-county. The four schools were randomly assigned to experimental and control groups. Data collection instrument was the Students' Attitude Scales (SAS). The Cronbach's alpha co-efficient was used to determine the reliability of the SAS and a reliability index of 0.7591 obtained. A pre-test and post-test were performed on the students, followed by a post group discussion. Data was analyzed using both descriptive and inferential statistics. Quantitative data was analyzed by t-test, ANOVA and ANCOVA at a 0.05 significance level. The study reported no significant difference in the students' attitude towards chemistry. The reviewed study was experimental where artificial conditions were created for the participants which might have led to inaccurate results being obtained. However, the present study, apart from experimental technique, collected qualitative data through interviews. The results were triangulated hence were more accurate.

2.3 Scaffolding and self-efficacy

Self-efficacy is a psychological construct put forward by psychologist Albert Bandura. It is a personal judgment of how well one can execute courses of action required to deal with prospective situations (Bandura, 1994). In simpler terms, it is the belief we have in our

abilities, specifically our ability to meet challenges ahead of us and complete a task successfully (Ackerman, 2020). According to Bandura (1994), self-efficacy beliefs determine how people feel, think, motivate themselves and behave. Students with high self-efficacy face difficult tasks and accept them as challenges to be mastered. Such students set themselves challenging goals and commit themselves to achieve them. Failure and setbacks strengthen the learners and they quickly recover their sense of efficacy after failure. The students attribute their failure to insufficient effort or deficient knowledge and skill and strive to acquire them as well as take control over any threatening situations. These feelings produce personal accomplishments; reduce stress and lower vulnerability to depression (Bandura, 1994). Studies on or related to the effect of scaffolding on self-efficacy were reviewed as follows:

To begin with, Guo, Wang and Martin (2023) examined the effect of blended learning-based scaffolding on self-efficacy. The study was quasi experimental with pretest, post-test technique, involving 232 participants. The participants were divided into intermediate and advanced learners. Data was collected using self-efficacy questionnaire. Data was analyzed using ANCOVA. Results showed that both language proficiency and the treatment type are significant moderators of the efficacy scores. Also, experimental group outperformed the control group and advanced learners outperformed intermediate learners. the reviewed study collected data using a simple pretest, post-test technique whose results could be influenced by the presence of confounding and extraneous variables such as pre-test sensitization. On the contrary, the present study collected data using Solomon-four design which is not only rigorous but also effectively deals with any possible effect of confounding variables.

Similarly, Yantraprakorn, Darasawang and Wiriyakarun (2018) examined how self-efficacy could be enhanced through scaffolding in Japan and focused on writing skills and on-line learning skills. The participants were distance learners who enrolled on an online English language writing course at a well-known tutorial school in Bangkok. The research instruments included an online survey questionnaire, telephone interview and document analysis. Questionnaire data indicated that learners' overall self-efficacy seemed to be quite high. Telephone interview data revealed that learners perceived scaffolding as useful since it made them improve in the areas in which their self-efficacy was low. The reviewed study collected data through an online survey, meaning that there was no rapport between the

researcher and the respondents; hence, there was a possibility that the respondents did not give honest responses, which would make it difficult to draw valid conclusions. On the other hand, the current study collected both quantitative and qualitative data. Quantitative data obtained through experimentation provided results that were verifiable and valid, and validity was supported through triangulation with interview data.

A similar study in Indonesia by Jamani (2023) investigated the effects of scaffolded robotics intervention on pre-service teachers; ability to perform difficult tasks. The study employed quasi experimental pre-post intervention between two non-equivalent groups of elementary pre-service teachers in B.Ed. program. Pre-service teachers in the self-guided group (n=11) were guided through the activity worked with robotics in the library at their own pace. On the other hand, Pre-service teachers in the scaffolded intervention group (n=16) were guided through the activity by the author with instructional scaffolds. The results reported that the relationship between the intervention type and gains in science knowledge was not statistically significant for the self-guided group but was statistically significant with the scaffolded group. Hence scaffolding supported pre-service teachers' learning of the science concepts. Moreover, with respect to self-efficacy to teach with robotics-based activity, both interventions revealed statistically significant gains from pre to post tests. However, the effect sizes indicated that the scaffolded intervention resulted in greater gains in pre-service teachers' self-efficacy to teach with robotics based activities. While the reviewed study was carried out among pre-service teachers and thus the results cannot be generalized to secondary school students, the present study participants were secondary school learners.

Another study in the USA by Kim (2013) examined the effects of motivational control scaffolding on self-efficacy. The motivational control scaffolds included several instructional scaffolding strategies that were implemented in combination to offer heuristic learning support throughout the learning process, and enhance intrinsic motivation as well as trigger control over one's own motivation. Moreover, rather than relying on external sources such as teachers and peers, the motivational control scaffolds were designed to help learners to generate self-feedback and exercise self-reflection. The study population was 141 undergraduate students enrolled in a large lecture based class who were likely to exhibit high levels of motivational and volitional threats. The 141 students were randomly assigned into

three groups: motivational control scaffolds group, motivational control scaffolds with ongoing reminders group and control group. The study was administered for 8 weeks and students received support for three weeks. Post-tests were administered during the fourth week and delayed pot-tests administered during the eighth week. The findings suggested that students who received the motivational control scaffolds exhibited high levels of control of learning and self-efficacy than students in the control group. The reviewed study was carried out among university students. Since the findings of the study could not be replicated in secondary school students, the present study was carried out among secondary school students.

Similarly, in Sweden, a study by Grotherus, Jeppsson and Samuelsson (2018) investigated the use of formative scaffolding program in enhancing students' awareness of their mathematical proficiency and altering their level of self-efficacy. The study participants were 22 upper secondary school social science students, 11 male and 11 female, 17 and 18 years of age. Participation was voluntary. The main formative scaffolding program structure was presented in class. Also, a class intervention was implemented with the aim of exploring the formative scaffolding program test cycle's virtues in a social science class. Before the students began the test cycle, they were asked to indicate on a five-point Likert scale on how worried they were when entering the FSP test cycles and taking the mathematics test. The students also wrote about their feelings, understandings and expectations of the situation before they began the test cycle. Data was analyzed thematically. The results revealed that participation in the test cycles altered the level of and strength of students' self-efficacy in a mathematics test situation. The participants of the reviewed study volunteered themselves to participate in the study, meaning they were not sampled from their natural environment, which may question the validity and reliability of the data obtained. Contrary to this, the present study sampled participants in their naturally existing schools and classrooms; hence, the data obtained was more valid and reliable.

Also, Valencia-Vallejo, Lopez-Varga and Sanabria-Rodriguez (2019) investigated the effects of scaffolding on self-efficacy among students with different cognitive styles in the field of Dependence-Independence when learning math content in an e-learning environment in Colombia. Sixty seven students of higher learning from the University of Bogota participated in the study. The study adopted the experimental design with 2 groups in pre-test and post-

test. One group interacted with an e-learning environment which included within its structure metacognitive scaffolding. The other group interacted with an environment without scaffolding. The findings indicated that scaffolding promoted significant difference in self-efficacy. The reviewed study collected data using quantitative techniques only to obtain numerical data, without taking into account the participants feelings, beliefs and opinions. On the other hand, the present study collected data through mixed methods approach where quantitative data was triangulated with qualitative data in order to include the participants' beliefs, feeling and opinions on the effects of scaffolding on their self-efficacy.

Moreover, Prabawanto (2017) investigated the enhancement of students' self-efficacy through metacognitive scaffolding teaching technique in Indonesia. The study used quasi experimental pre-post response control design. Participants were pre-service elementary school teachers in a state University in Bandung. Participants were divided into two groups: experimental group which consisted of 60 students and the control group which comprised of 58 students. The experimental group was taught mathematics using metacognitive scaffolding approach while the control group was taught under direct approach. Data was collected using mathematical self-efficacy instruments. The findings indicated that there was a significant difference in the enhancement of mathematical self-efficacy between students who underwent metacognitive scaffolding and students who attended the course under direct approach. While the reviewed study was carried out among pre-service teachers and the findings could not be generalized to secondary school students, the present study was carried out among secondary school students.

Additionally, in Australia by Fletcher (2016) sought to scaffold students' self-efficacy by using formative assessment-as-learning process. Participants of the study were 126 students from school years two, four and six (of age groups 7, 9 and 11), and 7 teachers in an independent co-educational, non-religious primary school in the Northern territory, Australia. The study employed cross-sectional survey. Data sources were students prepared templates, written samples and email correspondence with teachers. Data were analyzed for emerging themes and interpreted from a framework of social cognitive theory. The findings indicated that students who were identified as low achieving by their teachers exceeded expectation by demonstrating greater motivation, persistence, effort and pride than would be the case usually. This means that scaffolding enhanced the students' self-efficacy. The reviewed study

collected data through cross-sectional survey which could not establish the cause and effect relationship between scaffolding teaching and self-efficacy. On the contrary, the present study, apart from interviews collected data using experimental design which made it possible to determine the effect of scaffolding on the students' self-efficacy.

Angelica (2018) also carried out two studies in the U.K to assess the role of supportive scaffolding on a child's self-efficacy. The first study involved parents and their children. The results of the study showed that the higher the parental autonomous motivation, the more their children perceived them as autonomy supportive while scaffolding for motivation, and hence developed self-efficacy in homework. The second study involved 37 parents in a four-session training that focused on sustaining autonomy supportive scaffolding modalities. The training increased the children's homework self-efficacy. While the reviewed study was carried out among parents and their children in a home set-up, the present study was carried out among students and teachers in a school set-up to expand knowledge on the effect of scaffolding on self-efficacy.

In like manner, Dimogu (2017) investigated the effects of two scaffolding instructional techniques (co-operative learning and enquiry based learning) on self-efficacy among students in in economics. Study participants were 275 senior secondary school students in Buja, 134 male and 141 female. The participants were selected by multi-stage sampling technique. The study raised 5 research questions and formulated 5 hypotheses. Data was collected using quasi-experimental pre-test post-test control group design. The instruments for data collection were Economics Attitude Scale (EAS) and Self-efficacy Questionnaire SEQ). Test-retest technique was used to test the reliability of the instruments at a four weeks interval and a reliability coefficient of 0.82 and 0.78 obtained respectively. The hypotheses were tested at 0.05 significance level using Analysis of Covariance (ANCOVA) and data was analyzed using multiple regression analysis. The findings showed a statistically significant difference in the post-test scores of self-efficacy due to the intervention strategies. Participants exposed to enquiry based learning had higher scores in post self-efficacy than those exposed to co-operative learning and control. The study reported a linear relationship between economics achievement test scores and self-efficacy. The reviewed study adopted the pre-test post-test control group design whose findings might have been interfered with by extraneous variables. On the other hand, the present study adopted Solomon four group

design. The use of the 2 treatment and 2 control groups addressed any possible interference of the experimental results with the extraneous variables such as time.

Further, in Ethiopia, a study was carried out by Getachew and Afawossen (2016) to determine how an innovative classroom strategy of scaffolding (exposing students to a role model) influenced the self-efficacy of students in applied mathematics. Explanatory sequential mixed methods research design was employed in the study; first, a quasi-experimental design was used followed by a qualitative method. A self-efficacy scale was used to measure students' level of self-efficacy belief before and after the experiment. The results revealed that there was no statistically significant difference between the experimental group and the control group on the mean score of self-efficacy belief in mathematics (t=.626. df=85. P=.553), though the experimental group scored higher than the control group. The reviewed study focused on self-efficacy in mathematics. Since the effects of scaffolding on mathematics self-efficacy could not be generalized to English language, the present study focused on English language.

Besides, in Uganda a study was carried out by Namubiru (2019) to examine the relationship between active learning scaffolding technique and self-efficacy among adolescents in secondary schools in Kampala District. The study employed correlational design to find out the relationship between the two variables. Participants were 100 students obtained from senior 3 (25), senior 4 (45) and senior 5 (30), selected through simple random sampling technique. Data was collected using Likert Scale questionnaires. The findings suggested a statistically significant relationship between the scaffolding technique and self-efficacy. The reviewed study employed correlational design, hence no cause and effect could be established between scaffolding and self-efficacy. However, the present study determined a cause-effect relationship between scaffolding and self-efficacy through a quasi-experimental technique.

A similar study was carried out in Kenya by Julius, Twoli and Maundu (2018) to investigate how computer aided instruction affects students self-efficacy in chemistry. The study adopted quasi experimental design based on Solomon-four non-equivalent control group design. Four extra-county secondary schools were purposively sampled to participate in the study. The schools were two boys only and two girls' only schools. The 4 schools were randomly assigned into two experimental and two control groups. The sample comprised of 174

chemistry students from the sampled schools. The experimental groups were taught using computer aided instruction techniques which included use of tutorials, simulations and drills and practice applications. The two control groups were taught using the conventional non-computer aided techniques. The intervention lasted for six weeks. Data was collected using three instruments: Chemistry Assessment Test, Students' Self-efficacy Scale and Classroom Observation Schedule. Each of the instruments was administered before and after exposure to treatment to both experimental and control groups. The instruments were pilot tested and the reliability coefficients estimated using Cronbach's alpha. An alpha coefficient of 0.72 and 0.884 was obtained respectively. The chemistry assessment test and the students' self-efficacy scale were administered by the help of the chemistry teachers while Classroom observation Schedule was used by the researcher. Data analysis was done using both descriptive and inferential statistics. The difference between the experimental and the control groups was calculated using t-test analysis, Analysis of Variance and Analysis of Covariance. The statistical significance was tested at a=0.05. The findings of the study revealed that the students who were taught chemistry using computer aided instruction higher self-efficacy scores than students who were taught using the conventional methods. Further, girls achieved higher self-efficacy scores than boys. The reviewed study collected qualitative data through observation which might have been prone to extraneous variables since the participants were more likely to pretend in the presence of the observer. Furthermore, observation would not collect data on the intentions, opinions, attitudes and preferences of the respondents. On the other hand, the present study collected qualitative data using interviews which not only enabled the researcher to control extraneous variables but also but also gave the respondents an opportunity to express their opinions and beliefs.

2.4 Scaffolding and Academic Buoyancy

Academic buoyancy is the student's ability to successfully deal with academic setbacks and challenges that are typical of the ordinary school life, including poor grades, difficult home works, course work deadlines and exam pressure (Martin and Marsh, 2020). Academic buoyancy is a key factor in academic success. To scaffold students' learning and effectively support academic buoyancy, the following should be understood: what students find most and least useful in their assessment feedback, how students respond to feedback in terms of what they think, feel or do and how students respond to feedback to approach future assessments

(Shafi, Hatley, Middleton, Millican, and Templeton, 2018). The following studies on scaffolding and academic buoyancy were reviewed.

To begin with, in England, a study by Shafi, Hatley, Middleton, Millican and Templeton (2018) investigated the effect of scaffolding on students' academic buoyancy. The study employed survey technique. The participants were 91 undergraduate students. Five indicators of academically buoyant students were identified and they included: an internal locus of control, understanding the grade, being forward looking, being improvement focused and being action oriented. The study revealed that students who were academically buoyant were constructive in their response to feedback compared to those who were less buoyant because the less buoyant were not action oriented but more focused on their emotional response. Academically buoyant students used their feedback more than anticipated and looked for specific information to help their future performance. The reviewed study collected data using a survey, hence scaffolding and academic buoyancy were not manipulated to provide accurate results. In contrast, the present study carried out an empirical experiment to establish the effect of scaffolding on academic buoyancy. Besides, qualitative data was collected using interviews, and then both data were triangulated to provide more valid results.

Also, Kusmaryono, Gufron and Gusdiontoro (2020) investigated the level of students' mathematics anxiety after scaffolding and also described the role of scaffolding in changing students' perceptions of mathematics anxiety in classroom learning. Mixed methods design was adopted with sequential explanatory design. Random sampling technique was used to sample participants from students of class X-IPA-1 and X-IPA-2 in SMA Negeri Semarang. Quantitative data was analyzed using normality test, paired sample t-test and N-gain test. Qualitative data analysis was done through interactive methods namely, data collection, data reduction, data presentation and drawing conclusions. Data validation techniques was through triangulation. There was a decrease in the level of mathematics anxiety in students by 90.4%. Scaffolding also created a positive classroom environment that encouraged students to learn mathematics without fear. The reviewed study focused on mathematics anxiety as the dependent variable; hence the findings could not be replicated in English learning. The present study on therefore focused on academic buoyancy in English as a subject as a new variable

Moreover, in Singapore and Australia by Granziera, Liem, ching, Martin, Collie, Bishop and Tynan (2022) investigated the role of instrumental and emotional teacher support in students' academic buoyancy. The study sample in Singapore was N=2510 obtained from 10 schools and in Australia N=119. Data was collected through survey technique in the classroom within 45 minutes. Data was analyzed using integrative data analysis where two sets of data collected separately were compared and interpreted together. The results in both studies showed that perceived instrumental support was associated with academic buoyancy with moderate effect on the study in Singapore and large effect in study 2.While in the reviewed study data was collected using a survey only thus collecting narrow data, the present study collected data using not only a survey but also Solomon four group technique thus producing more rigorous data.

A similar study in Indonesia by Rohinsa, Cahyadi, Djunaidi and Iskandar (2019) investigated whether students' academic Bouyancy can mediate the effect of teacher support in predicting senior high school students' engagement. Participants of the study were 131 high school students. Research instruments included a teacher support questionnaire, an academic buoyancy scale and an engagement questionnaire. Data was analyzed using multiple regression tests. The study found out that academic buoyancy mediates the effect of teacher support in predicting senior high school students' engagement. Moreover, every student needs the ability to deal with everyday academic problems and this ability can be fulfilled by teacher support, structure and involvement. The reviewed study was correlational where the relationship between teacher support and student engagement was uncovered and academic buoyancy was the intervening variable. Although academic buoyancy was studied as an intervening variable, the study implied that academic buoyancy was necessary for student engagement in classroom activities to take place. Therefore, the present study examined the effect of teacher support (scaffolding) on students' academic buoyancy, through an experiment to reveal whether scaffolding had an effect on academic buoyancy.

Another study was carried out in Iran by Salimi, Asadzadeh, Ghotbian Nazemi-Moghadam and Azizi (2016) to determine the effectiveness of co-operative learning on academic buoyancy among male students of second period elementary school in the city of Shahriar. The study adopted quasi-experimental pre-test post-test control group design. The study population comprised of all male students of second period elementary school in the 2014-

2015 academic year. The area of study (Shahriar city) was divided into two parts, East and West and 24 subjects selected through random cluster sampling technique. The experimental group was subjected to 8 sessions of co-operative learning while the control group received traditional teaching. Data was collected using Martin and Marsh (2008) academic buoyancy test. Data was analyzed using the univariate analysis of covariance. The results indicated an increase in academic buoyancy among the experimental group. While the reviewed study sampled male students only, thus failing to represent both genders of students in the study, the present study sampled both male and female students. Sampling students from both genders made it possible for generalization of the results.

Similarly, a study in Australia by Collie, Martin, Malmberg and Hall (2015) determined whether teacher control can be an intervening variable in the relationship between academic buoyancy and academic achievement. The sample comprised of 2,971 students attending 21 high schools. The study adopted a cross-lagged panel design as a first means of disentangling the relative salience of academic buoyancy, control and achievement in the first phase. Based on phase one results, follow up analyses of an ordered process model were done in the second phase. The results of the study suggested that academic buoyancy and academic achievement were associated with one another, as per phase 1. Moreover, control played a role on how buoyancy influenced achievement and a cyclical process may operate among the three factors over time. In the reviewed study, teacher control was studied as an intervening variable in the relationship between academic buoyancy and academic achievement; hence difficult to conclusively determine whether teacher control had any effect on academic buoyancy. On the contrary, the current study investigated the effect of teacher support on academic buoyancy among students and brought out conclusive results.

Additionally, a study was carried out in Korea by Yun, Hiver and Al-Hoorie (2018) to test the relevance of buoyancy to second language (L2) learning and achievement. Teacher-student relationship was hypothesized as one of the predictors of academic buoyancy. Participants of the study were 787 college-level L2 learners. Data was collected using questionnaires. In the initial stage, a two-step cluster data analysis identified five prominent L2 learner archetypes across the spectrum of buoyancy which provided evidence of existence of distinct buoyancy profiles within the domain of L2 learning. Next, structural equation modeling was conducted to examine the link between teacher-student relationship, buoyancy and L2 achievement.

Results indicated that buoyancy significantly predicted L2 learning achievement. While in the reviewed study was correlational, the present study adopted experimental approach. Correlational approach made it difficult to determine what variables had the most influence. Correlational approach also gave room for extraneous variables to interfere with the results. These shortcomings were overcome by adopting the experimental technique which enabled the researcher to control the variables

A similar study in Kenya by Olendo, Koinange and Mugambi (2019) explored the relationship between self-efficacy and academic buoyancy among form three students in Migori County. The study adopted mixed methods research design. Study participants were 252 girls and 217 boys obtained from both public and private schools in the county. Instruments of data collection were questionnaires and interview schedules which were used to collect data. Inferential and descriptive statistics were used to analyze data. The findings indicated that more students were on a high level of self-efficacy (59.1%), while more students were on moderate level of academic buoyancy (39.1%). Further, self-efficacy predicted academic buoyancy. There was no significant gender difference among the participants. While the reviewed study examined the relationship between self-efficacy and academic buoyancy, the present study investigated the effect of scaffolding on students; academic buoyancy.

2.5. Scaffolding and Achievement

The American Psychological Association (APA) defines academic achievement as the identifiable success in the area of scholarship or disciplined study. It is a strong desire to accomplish goals and attain high standards of performance and personal fulfillment. The APA further explains that people with the desire for achievement undertake tasks in which there is a high probability of success and avoid tasks that are either too easy (for lack of challenge) or too difficult (for fear of failure). According to the APA, future academic achievement is based on the results of standardized ability tests and assessments of performance by a teacher or supervisor. Studies related to scaffolding and academic achievement are reviewed as follows:

To begin with, a study in Phillipines by Dorigo (2023) determined the effects of scaffolding strategies in the level of reading comprehension skills. The study adopted quasi experimental

action research approach. Participants were 44 Grade 7 students of a National High school in Zambales Philippines. The research instrument was a pretest/post-test which was used to measure students' reading comprehension skills in terms of making predictions, getting the meaning through context clues, determining text importance, making inferences and making connections. Results revealed that the level of reading comprehension skills of the grade 7 students before the application of scaffolding was Approaching Proficiency. Students belonged to Approaching Proficiency level in making predictions while they developed in terms of making inferences, making connections, determining text importance and getting the meaning through text clues. After exposure to scaffolding, the level of students still remained at Approaching Proficiency but with a higher mean score. Hence there was a significant difference in reading comprehension skills of students before and after exposure to scaffolding. While the reviewed study focused on reading comprehension only as the dependent variable, hence the results cannot be applied to the other language skills, the present study determined the effects of scaffolding on not only reading but also writing, listening and speaking, producing data that could be replicated in all language skills.

Also, Muhidin, Wibawa, Khaerudin, Doriza and Rahmadi (2023) probed the effect of scaffolding self-regulated learning on target achievement among university students in Negeri Jakarta University, Indonesia. The study was exploratory case study whose participants were 26 private university students who were enrolled in the fifth semester as their third year studies. Results indicated that students over-targeted achievements and were less likely to achieve their decided targets. Also, self-regulated learning required advanced scaffolds to promote higher outcomes. The reviewed study was purely qualitative thus producing a narrow set of data which is difficult to generalize. Contrary to that the current study was sequential explanatory, collecting two sets of data at two phases, hence more comprehensive and generalizable data produced.

Another study in Germany by Kleickmann, Trobst, Jonen and Vehmeyer (2015) investigated the effect of scaffolding in teacher professional development with regard to student achievement in science. The study participants included 73 teachers and 1,039 students. Expert scaffolding was implemented in a 3-tired way: first, the teachers were divided into 4 groups. The first three groups comprised of 18 teachers while the fourth group was made of 19 teachers. The first group received professional development with extensive scaffolding.

The second group was provided with reduced scaffolding while the third group received no scaffolding but was provided with curriculum materials only. The fourth group was a baseline group which did not participate in science-related professional development but completed a questionnaire on teachers' outcomes only. The findings revealed that scaffolded professional development was significantly superior to professional development through self-study in terms of students' achievement. The participants of the reviewed study were teachers, hence the results would not be replicated to students. Besides, the study employed experimental research only. Contrary to this, the present study was carried out among students and mixed methods approach was employed to provide results that could be replicated in different situations.

Additionally, Pakstan by Aslam, Khanam, Fatma, Akbar and Muhammad (2017) investigated the effects of scaffolding on academic achievement among post-graduate students. The study adopted the experimental design. Sixty masters students participated in the study and were distributed as follows: 30 students formed the experimental group and 30 others formed the control group. The pre-test and post-test were piloted before administration. To control extraneous variables, both groups were taught the course "Research Methods in Education" for one semester (16 weeks). In the process, the experimental group received scaffold instruction while the control group was taught using the traditional lecture method. At the end of the semester, the post-test was applied to both groups. Comparison of the gain scores of the two groups revealed that students guided by scaffold instruction achieved better grades than those taught using the conventional lecture method. While the reviewed study adopted experimental design only that produced numerical data and lacked the respondents' opinions, the present study employed mixed methods research so that in addition to numerical data, the respondents' opinions were captured. Both data were triangulated to provide more accurate results

A similar study by Mohamed & Al Amiry (2019) examined the effect of scaffolding on the achievement of chemistry among fourth grade students of Dhulnnurain Secondary Schools in Baghdad governorate of Karkh/3. Behavioral objectives were formulated within the levels (assimilation, remembering, application and analysis), according to Bloom's classification of the field of knowledge. In addition, achievement tests consisting of objective paragraphs of the type of selection were prepared. The multiplicity of psychometric properties were also

ascertained. The results indicated that students who were taught using scaffolding strategy performed better in the achievement test. The reviewed study focused on chemistry, hence its findings could not be replicated in English language. On the other hand the reviewed study established the effect of scaffolding on achievement in English language.

In addition, Pandhu (2018) investigated the effect of scaffolding on achievement in science in relation science cognitive styles and intelligence in India. The sample was obtained from 8th class students (N=80) from two different schools in Fasilka District in Punjab affiliated to PSEB Mohali. The study employed experimentation technique where scaffolding instructional materials were prepared by the researcher and implemented to the experimental group while the control group was taught using the traditional methods. During data analysis, gain scores were computed by calculating the differences of pre-test and post-test for all the students. The study found out that the achievement of the group taught through scaffolding was significantly higher than the group taught through traditional methods. Next, the achievement was not significant at two levels of cognitive styles. Moreover, the achievement gain score of high intelligent group were significantly higher than low intelligence group. Finally, the interaction effect of methods of teaching and cognitive styles was not significant. The reviewed study used a small sample which would increase the sampling error margin, while the present study sampled more participants to reduce the sampling error margin.

A similar study in Indonesia by Kusmaryono, Gufron and Gusdiontoro (2020) investigated the students' achievement in in learning after scaffolding. Mixed methods design was adopted with sequential explanatory design. Random sampling technique was used to sample participants from students of class X-IPA-1 and X-IPA-2 in SMA Negeri Semarang. Quantitative data was analyzed using normality test, paired sample t-test and N-gain test. Qualitative data analysis was done through interactive methods namely, data collection, data reduction, data presentation and drawing conclusions. Data validation techniques were done through triangulation. The results showed an increase in student learning achievement from 33.0% to 34.5%. Through scaffolding, students were able to reflect and correct mistakes in solving previous problems. This means scaffolding can be effective to help students move across different zones of proximal Development. The reviewed study investigated the effects of scaffolding on achievement in learning in general, hence the results cannot be generalized to achievement in English as a subject. On the other hand, the present study investigated the

effect of scaffolding on achievement in English, hence the results can be applied to a specific area; learning of English.

Moreover, a study in Indonesia by Naibaho (2019) examined the effectiveness of scaffolding on students' speaking achievement. The study population was students of Universtas Kristen speaking class batch 2017. Action research design was employed in two cycles. Study instruments were test sheet and observation sheet. The data obtained were analyzed using descriptive statistics. The results showed that scaffolding is effective on improving students' speaking achievement. Whereas the reviewed study was action, which might have lacked repeatability hence the reliability of the results would be difficult to ascertain, the present study employed experimentation and interview techniques. The techniques allowed for repeatability of the research to ascertain the reliability of the results

In like manner, in India, Bansal (2017) investigated the effect of scaffolding on students' academic achievement in science among high school students. The study employed true experimental research design. Participants were 100 high school students; 50 male and 50 female sampled from two schools. One school was experimental while the other was control. The experimental group was taught using scaffolding techniques while the control group was taught using the traditional method for two weeks. A t-test was used to find out the significant difference in the students' academic achievement of the two groups both for the pre-test and post-test, before and after scaffolding strategies on the experimental group. The results indicated a significant difference in the mean scores in students' academic achievement of the two groups, that is, students taught by scaffolding performed better than those taught by traditional methods. The reviewed study employed pre-test posttest experimental technique with one experimental and one control group, and this might have allowed confounding and extraneous variables to interfere with the results. Contrary to this, the present study employed Solomon-four group design with two treatment and two control groups, and this ensured that confounding and extraneous variables did not interfere with the results.

Further, a study was carried out in Colombia by Valencia-Vallejo, Lopez-Varga and Sanabria-Rodriguez (2019) to investigate the effects of scaffolding on learning achievement

among students with different cognitive styles in the field of Dependence-Independence when learning math content in an e-learning environment. Participants were 67 students of higher learning from the University of Bogota. The study adopted the experimental design with 2 groups in pretest and post-test. One group interacted with an e-learning environment which included within its structure metacognitive scaffolding. The other group interacted with an environment without scaffolding. The findings indicated that scaffolding promoted significant difference in learning achievement. In the reviewed study, participants were subjected to an e-learning environment which is artificial hence may produce inaccurate results. But in the present study participants were in their naturally occurring schools and classes, hence more accurate results were obtained.

Additionally, in Sri Lanka a study by Karalliyadda (2017) investigated the association between learning styles and academic achievement among first year Agriculture students of Sri Lankan universities. Scaffolding instruction was one of the learning styles. The study administered a cross-sectional survey using structured questionnaires. The results suggested that the learning styles were independent of the students' gender and high school academic discipline pertaining to agriculture or biology. The study reported no significant association between scaffolding and academic achievement. The reviewed study was correlational which could make it difficult to determine whether scaffolding influenced achievement or a different extraneous variable might have had the influence. However, the present study was more experimental which made it easy to establish whether scaffolding had an effect on achievement.

A similar study was carried out in Egypt by Abdelazz and Al Zehmi (2020) to measure the impact of scaffolding on non-achieving learners' grammar competencies in the middle school. The study adopted quasi experimental research design where 47 learners participated. Technology scaffolding tools were used to teach while necessary support was provided to the learners to improve their usage of English grammar for 6 lessons. Data was analyzed using Analysis of Covariance (ANCOVA) technique to compare the results of the control group and the experimental group. The findings revealed a significant improvement in achievement among the experimental group while the control group reported no significant difference. The reviewed study focused on grammar as the independent variable hence the data collected

could not be generalized to all the language skills. This contrasts with the present study which focused on listening, speaking, reading and writing.

Moreover, in Nigeria, a study by Joda (2019) determined the effects of instructional scaffolding strategy on senior secondary school biology students' academic achievement. The study formulated 2 research questions and 2 hypotheses. Quasi experimental pre-test, post-test group control research design was employed. The study population entailed all senior secondary two (SSII) students in Jalingo Education Zone. Random sampling technique was used to select four intact classes with 240 students as the sample size. A 50-item Biology scaffolding Achievement Test instrument was used to collect data. Kuder Richardson formula 20(KR-20) was used to estimate the reliability of the instruments. The experimental group was taught using scaffolding technique while the control group was taught through lecture method. The treatment lasted for 4 weeks. The mean and standard deviation were used to answer the research questions while Analysis of Covariance was used to test the hypotheses. The findings indicated that students taught instructional scaffolding had a significantly higher academic achievement than those taught using lecture method. While the reviewed study was carried out among biology students, which made generalization of the results to all subjects impossible, the present study was carried out among English language students.

Also, Filgona and Sakiyo (2020) tested the efficacy of scaffolding in teaching social studies among Junior secondary school students, with gender as the intervening variable. The study took place in Nigeria and it adopted a quasi-experimental intervention with no randomization of participants into classes. Participants were 272 junior secondary school II students from government owned schools. Data was obtained using social studies achievement questionnaire. Reliability of the questionnaires was established using Guttmann split-half statistic and a reliability index of 0.78 obtained. Research questions were answered through descriptive statistics of mean and standard deviation. Hypotheses were also tested using one-way ANOVA and Tukey HSD post hoc. The findings indicated that students exposed to scaffolding in teaching social studies achieved better results compared to those taught using the conventional methods. While the reviewed study adopted quasi experimental design whose results may be affected by the pre-test, the present study employed Solomon-four research design whose results was controlled by the post-test only.

In like manner, Samuel, Iwanger and Oka (2020) carried out a study to compare the effects of scaffolding and other teaching techniques on students' achievement in genetics. The study adopted a pre-test post-test group quasi experimental design. Participants of the study were 1,957 senior secondary III students in North Senatorial District, Nigeria. The sample comprised of 83 students from two intact classes in randomly selected public co-educational schools. Data was collected using standard progressive matrix, cognitive style checklist and Genetics achievement Test. Reliability of the genetics achievement test was determined using Kuder-Richardson formula 20 (KR20) and a reliability coefficient of 0.80 obtained. Descriptive statistics of mean, standard deviation and Kolmogorov Smirnov were used to ascertain the normality of distribution of achievement scores. Hypotheses were tested using Analysis of Variance at a 0.05 significance level. The study found out that achievement was higher among students taught using scaffolding compared to those taught using traditional methods. The reviewed study was comparative, meaning that the studies were not actually carried out but a comparison of the results from various researches was done, hence any developments over time are not taken into consideration. But the present study performed an empirical study in order to determine the effect of scaffolding on achievement and obtain more reliable results.

On a similsr note, Ona (2022) investigated the effects of scaffolding on on students academic achievement in quantum physics in Enugu Education Zone, Nigeria. 2 research questions and 2 hypotheses were tested at 0.05 significance level. The study adopted pretest post-test experimental design. Data was collected using questionnaires. Study population comprised of all SS2 physics students in the zone. Multi stage random sampling technique was used to select 2 schools comprising of 85 students. Experimental group was taught using scaffolding strategies while control group was taught normally. Reliability of questionnaires was tested using Kuder Richardson formular-20 which yielded a coefficient of 0.87. data was analyzed using mean, standard deviation and ANCOVA. Results showed that students in scaffolding group achieved better than their counterparts. While the reviewed study collected data using pretest post-test experimental design hence yielding only quantitative data, the current study collected data using both experiment and interviews. While the experiment gave numerical data, interviews gave the opinions of respondents which explained, confirmed and supported quantitative data, hence more comprehensive data was obtained.

Another study by Hassen, Adugna and Bogale (2023) examined the effects of scaffolding strategies on students' writing achievement and perception in an Ethiopian EFL setting. It adopted quasi experimental technique. Two sections were selected from the 9 sections in grade 10 and randomly identified as comparison and experimental groups. In each group 48 students participated. Data was collected through pre-post writing tests and follow up questionnaires. Results from paired samples t-test revealed that treatment had a significant impact on improving students' writing achievement in each aspect as indicated by p=.00, pa as at a=0.05for each aspect of writing. The results implied that scaffolding treatment enabled experimental group participants to improve in each aspect of writing skills. Analysis of questionnaire data demonstrated that the experimental group participants had a positive perception towards the value of the scaffolding strategies instruction for improving their writing skills. He reviewed study investigated the effect of scaffolding on achievement in writing only, hence the results cannot be generalized to the other skills of language learning. The present study however investigated the effects of scaffolding on all the language skills which included listening, speaking, reading as well as writing, thus a wider range of language skills were covered and more comprehensive and rigorous data obtained.

Also, in Ethiopia, a study was carried out by Getachew and Afawossen (2016) to determine how an innovative classroom strategy of scaffolding influenced academic achievement of students in applied mathematics. Explanatory sequential mixed methods research design was employed in the study. First, quantitative data was collected and analyzed using quasi-experimental design, followed by qualitative data collection through interviews. Data was obtained from mathematics achievement tests which were developed in relation to the course outline. Students' scores in the mid-term exam served as a pre-test and the final exam served as the post-test. The content validity of the exam was tested. The study reported a statistically significant difference between the experimental group and the control group on mean academic achievement (t=2.75, df=121, p=.007). Further, there was a medium magnitude of the mead difference (MD=5.77) between the experimental and the control groups (n<sup>2</sup.=.4978). While the reviewed study was carried out among mathematics students whose results cannot be replicated in an English language learning, the present study focused on the English language students.

An additional study in Uganda by Ludigo, Mugimu and Mugagga (2019) analyzed the relationship between student centered, teacher centered and student-student pedagogical

strategies and academic achievement of students. Scaffolding was analyzed as one of the student-centered and student-student strategies. The study adopted a correlational design. Study participants were 383 students. Data was collected using questionnaires. Quality control of data was ensured by carrying out confirmatory Factor Analysis and calculating Cronbach's alpha. Data was analyzed using descriptive and inferential statistics of regression analysis. The results revealed that student-centered strategies, which included scaffolding had a positive influence on academic achievement of students, while teacher centered strategies did not. Since the reviewed study was correlational, the research variables were not under the control of the researcher which might question the credibility of the results. However, the present study fully controlled scaffolding in class and monitored closely how scaffolding affected the learners' achievement in English.

Additionally, Namubiru (2019) to examined the relationship between active learning scaffolding technique and academic achievement among adolescents in secondary schools in Kampala District, Uganda. The study employed correlational design to find out the relationship between the two variables. Participants were 100 students obtained from senior 3 (25), senior 4 (45) and senior 5 (30), selected through simple random sampling technique. Data was collected using Likert Scale questionnaires. The findings suggested a statistically significant relationship between the scaffolding technique and academic achievement. The reviewed study was correlational; therefore, it uncovered a relationship between scaffolding and achievement. However, the study did not provide an explanation why the relationship existed in the first place. But the present study was experimental, thus showing clearly how scaffolding had an effect on achievement.

Also, a study by Kibos, Wachanga and Changeiywo (2015) determined the effects of constructivist teaching approach on students' achievement in chemistry. The study was quasi-experimental involving Solomon-four non-equivalent group design. The study population was 1260 form two learners of Baringo Sub-County out of which a sample of 160 students was purposively selected to participate in the study. The sample was picked out from four co-educational boarding secondary schools in the sub-county. The four schools were randomly assigned to experimental and control groups. The experimental groups were exposed to the constructivist approach while the control group were taught using the conventional teaching methods. The Chemistry Achievement Test (CAT) was used to collect data. The reliability

coefficient of the CAT was calculated using Kuder-Richardson formula 21 (KR-21) to obtain reliability co-efficient of 0.7823. A pre-test and post-test were performed on the students, followed by a post group discussion. Data was analyzed using both descriptive and inferential statistics. Quantitative data was analyzed by t-test, ANOVA and ANCOVA at a 0.05 significance level. Results of the study showed that the constructivist teaching-learning approach is highly effective in enhancing students' chemistry achievement. The reviewed study was experimental where artificial conditions were created for the participants which might have led to inaccurate results being obtained. However, the present collected data using the rigorous Solomon-four Experimental group design and interview technique. Data was triangulated to ensure more accurate results.

Moreover, Jepkosgey (2018) examined the effect of a scaffolding technique of co-operative learning on English language speaking skill among form three students in Kenya. The study adopted a quasi-experimental non-equivalent pre-test post-test control group design. Participants were students in two intact classes randomly selected from two schools. Data collection instruments were questionnaires and learners; English speaking skills achievement test which was administered as a pre-test and post-test to both the experiment and control groups. A pilot test conducted produced a Cronbach's alpha co-efficient of 0.7. Quantitative data was analyzed using descriptive and inferential statistics. The results revealed a statistically significant effect of co-operative learning on learner's achievement in English language speaking and the effect was positive. The reviewed study only focused on one language skill; speaking, meaning that the scope of the study was narrow which made it difficult to generalize the results. On the other hand, the present study focused on listening, speaking, reading and writing thus covering a wider scope and this made generalization of the findings possible.

Finally, Isoe, Mugambi and Wawire (2022) examined academic scaffolding as a predictor of achievement motivation for learning chemistry among secondary school students in Kenya, as supported by scaffolding theory by Bruner and achievement motivation theory by McClelland. Convergent parallel mixed research design was used to examine the relationship between the variables. The study population was 10528 form 3 Chemistry students in 284 public schools in Kiambu County in 2020. Seventeen schools were sampled using stratified random sampling followed by simple random sampling to pick out 440 students who participated in the study. A pilot study involving 40 students was carried out in one school to

establish validity and reliability of the research instruments. Data was collected using questionnaires and interview schedules and analyzed using inferential and descriptive statistics. The results indicated a moderate positive statistically significant correlation between academic scaffolding and achievement motivation for learning chemistry, r(336), p=50. The reviewed study examined the relationship between scaffolding and achievement, hence there is no known cause-effect relationship. On the other hand, the present study investigated the effect of scaffolding on achievement through a rigorous, empirical experiment to unearth the effect scaffolding learning has on achievement.

2.6. Summary of Literature Review and Gaps

The researcher reviewed various studies that were related to the effects of scaffolding on subject interest, academic buoyancy, self-efficacy and achievement among English Language learners. In the process, the researcher identified various gaps in the reviewed studies and suggested how the gaps would be addressed.

To begin with, most studies employed quasi-experimental research technique only, particularly, the pre-test post-test control group design, where there would be one experimental and one control group. Such a design is prone to the influence of confounding variables such as selection bias, prior knowledge and experience, pre-experience anxiety, motivations and expectations and demographics such as age, gender and the school category. Moreover, the quasi-experimental research design can be affected by pre-test sensitization which may influence the bahaviour of the experimental group. The challenges were addressed by the use of Solomon-four group design. Solomon-four group design not only controled the influence of confounding variables on the results but also overcame the problem of pre-test sensitization. This is because Solomon-four Group design had the ability to compare the differences before the treatment and after the treatment as well as cross reference with the comparison with the other two groups not measured at the beginning of the study.

In addition, reviewed studies had employed quantitative research only, producing data which was superficial. This is because the data had numerical descriptions only and lacked the detailed and elaborate accounts of participant opinions, views and beliefs. Furthermore,

experimental techniques subjected participants to artificial experimental conditions which would not reflect the real situations. The present study dealt with the shortcomings by employing the mixed methods research design specifically, sequential explanatory design where both quantitative and qualitative data were collected, analyzed and the results compared. The two sets of data produced more detailed and more comprehensive results, besides overcoming the weaknesses of one technique with the other.

Moreover, many studies were correlational where the relationships between variables were uncovered without manipulating the variables. This would mean that no cause and effect would be established as the researcher would not be certain that one variable caused another to happen or it could be a different variable that caused the correlation. However, the present study carried out an empirical experiment to determine a cause-effect relationship between scaffolding and the various learner constructs of subject interest, self-efficacy, academic buoyancy and achievement.

Another gap identified was in terms of variables. Considering the independent variable, most studies had o-operative learning as the element of scaffolding. On the other hand, the present study focused on teacher scaffolding, especially withdrawal of support and transfer of responsibility, to expand existing knowledge. In terms of the dependent variables, most studies were concerned with science subjects, especially Chemistry and Biology. But since Scaffolding theory by Lev Vygotsky was centered on language acquisition, the present study was interested on English language learning.

Finally, most studies were carried out elsewhere in the world and not in Kenya. Since the results of the studies carried out in other countries would not be replicated in the Kenyan situation, the present study was carried out in Kenya.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents a vivid description of the methodology that was employed by the current study. It gives a detailed explanation of the research design, the area of study, the study population, the sample size and the sampling techniques and outlines the research instruments that were used to collect both quantitative and qualitative data. Also a detailed account of how validity and reliability of the research was established is given in addition to the procedure of data collection, the methods that were used to analyze both qualitative and quantitative data as well as the ethical considerations.

3.2 Research Design

The present study adopted the sequential explanatory design within the mixed methods approach (Creswell, 2014). Mixed methods approach involved collecting, analyzing, integrating and interpreting both qualitative and quantitative data (Creswell, 2014) hence, rich, comprehensive data was obtained. Also, mixed methods provided breadth and depth in understanding and corroboration while at the same time it offset the weaknesses that may have arisen by using one method (Creswell, 2014). Moreover, mixed methods approach allowed the researcher to examine the effects of scaffolding on the three dependent variables more accurately by approaching it from different vantage points. Thus, the researcher obtained a complete and comprehensive understanding of the research problem that either qualitative or quantitative method alone could not offer (Creswell, 2014).

3.2.1 Sequential Explanatory Design

Sequential explanatory design involved collection and analysis of quantitative data first followed by collection and analysis of qualitative. Quantitative data had a priority in testing the null hypotheses of the study while qualitative data was a follow up for quantitative data (Creswell 2014). Quantitative data was collected using Solomon-four quasi experimental technique and qualitative data was collected using interview method. Both results were interpreted together. Sequential explanatory design was beneficial because qualitative findings gave confirmation, explanation and support of quantitative data findings, leading to more comprehensive data, increased validity and enhanced understanding of the effects of scaffolding on subject interest, self-efficacy, academic buoyancy and achievement (Bekhet

and Zauszniewski 2012; Creswell, 2014). Both sets of data also supported each other in explaining since qualitative data shed light on unexpected findings from quantitative data. The unexpected finding entailed a relationship between three variables (subject interest, academic buoyancy and self-efficacy) and achievement which was unearthed during interviews and was confirmed by quantitative data.

Sequential explanatory design was suitable for the present study because it enabled the researcher to test the consistency of the findings from both interviews and the experimental techniques, thus, increasing the chance to control the threats of confounding variables that would have influenced the results. Additionally the study was based on psychological aspects of human behaviour which could be well understood when studied from various perspectives (Cohen, Manion and Morrison, 2018). Therefore, both quantitative and qualitative data gave the researcher a deeper and wider understanding of the effects of scaffolding-learning process on the learner aspects that were studied.

3.2.1.1 Quantitative Phase

Quantitative data was collected using Solomon-four quasi experimental group design. Quasi experimental design was appropriate for this study because the researcher used participants in their naturally occurring groups which constituted the schools and the already existing classes. This means that sampling and assignment of subjects to the various study groups (experimental and control groups) was non-random (Jones and Bartlett, 2000).

Solomon-four group design involved the researcher randomly assigning participants to four groups; two experimental groups that underwent the prescribed treatment of scaffolding learning technique and two control groups which were not taught using scaffolding but served as the benchmarking point for comparison (Levy and Ellis, 2011). The researcher sampled the four groups and then went ahead to label them as Experimental group 1, Control group 1, Experimental group 2 and Control group 2. Two groups; Experimental group 1 and Control group 1 were pre-tested while the other two groups (experimental group 2 and control group 2) did not receive the pre-test. But experimental group 2 received the intervention. Finally all the four groups were post-tested (Sandler and Huck, 2015). Pre-test and post-test data from the four groups were then compared.

Solomon-Four Group Design had advantages over the other experimental designs in that it is more rigorous for experimental studies (Thayer and Martha, 2014). This is because it

provided effective and efficient tools for determining cause and effect relationships (Abbott and Mckinney, 2013). Next, the design overcame the problem of pre-test sensitization while maintaining the benefits of conducting a pre-test. This was achieved by the random assignment of participants to either receive or not to receive a pre-test and to receive or not to receive a treatment (Navarro and Siegel, 2018). Moreover, the design enabled the researcher to compare the differences before the treatment and after the treatment as well as make a cross reference with two other groups not measured at the start of the study (Allen, 2017). Furthermore, the results obtained were robust and generalizable because the experiment was able to determine how pretesting would affect the final outcome observed (Leedy and Ormrod, 2010). In overall, the design helped deal with threats to both internal and external validity in the experiment (Allen, 2017; Cohen, Manion and Morrison, 2007). Indeed, the two extra groups helped reduce the influence of the confounding variables and helped the researcher to determine whether the pre-test itself had an effect on the subjects. It allowed the researcher to fully control the variables and made it possible to check that the pretest did not influence the results (Njagi, 2019). Table 3 illustrates Solomon-four group Design.

Table 3: Solomon-Four group design (Cohen, Manion and Morrison, 2007 p. 278)

Group	**t1 (Pre-test)**	**t2 (Treatment)**	**t3 (Post-test)**
Experimental grp 1	O1	X	O2
Control grp 1	O3	_	O4
Experimental grp 2	_	X	O5
Control grp 2	_	_	O6

Table 3 illustrates that the researcher performed six tests (labeled O1-O6) at various times. At time one (t1), the pretests were done to two groups; Experimental group 1, and one control group 1 and are labeled as O1 and O3 respectively. This was followed by time two (t2) where scaffolding treatment was provided to the experimental groups 1 and Experimental group 2. The treatment is labeled X. At time three (t3), four tests were done to all the groups and are labeled O2, O4, O5 and O6 where all the participants filled in the posttest questionnaire and did the posttest EAT.

Similarly, in the present study, the researcher purposively selected four schools which comprised of the four groups and randomly assigned them to two experimental and two control groups. Students in the first experimental group and the first control group filled in

the pre-test questionnaires as well as did English Achievement Test (EAT). After this, students in both experimental schools (Experimental group 1 and experimental group 2) were subjected to scaffolding learning while those in the two control groups (control group 1 and control group 2) were taught in the normal way. Finally, students in the four groups filled in the post-test questionnaires and also sat for the EAT and finally the results were analyzed.

3.2.1.2 Qualitative Phase

Qualitative data was collected using interview technique. An interview is a professional interaction which takes place with a goal of getting participants to talk about their experiences and perspectives and to capture their language and concepts in relation to a topic that you have determined (Kvale, 2007). The researcher thus, conducts face to face questioning and probing of the participants (Crewell, 2014). The interviews involve unstructured and generally open-ended questions that are few and intended to elicit views and opinions from participants (Creswell, 2014). During the process, data can be kept using audio tapes. Interviews are advantageous in that this being a sensitive topic, the rapport created between the researcher and the respondents can lead to generation of more insightful responses. This is because interviews create an opportunity for the researcher to probe for additional information, as well as monitor the tone, facial expressions and body movements, hence a rich understanding of the perceptions, motivations and feelings of the respondents (Steber, 2017; Green, 2017).

Interviews was appropriate for this study because the study touches on human psychological variables, which included subject interest, self-efficacy and academic buoyancy, hence the respondents were expected to give their own views, feelings and experiences that would not be captured by the pre-test and post-test questionnaires. Hence it explored understanding, perceptions and constructions on things that participants had some kind of personal stake in (Braun and Clarke, 2013). Thus, teachers and students were able to give their experience on scaffolding and its effects on learner aspects. At the same time, interviews enabled students give open-ended information on the effects of scaffolding on their psychological aspects. Moreover, interview data allowed the researcher confirm, support and explain the findings of the experiment (Creswell, 2014).

Finally, interview technique gave teachers and learners an opportunity to comment on the effects of scaffolding learning on the learners subject interest, self-efficacy, academic

buoyancy and achievement. The respondents explained, supported as well as confirmed the statistically significant results that were obtained in Solomon-four experimental design. Figure 2 illustrates the sequential explanatory design.

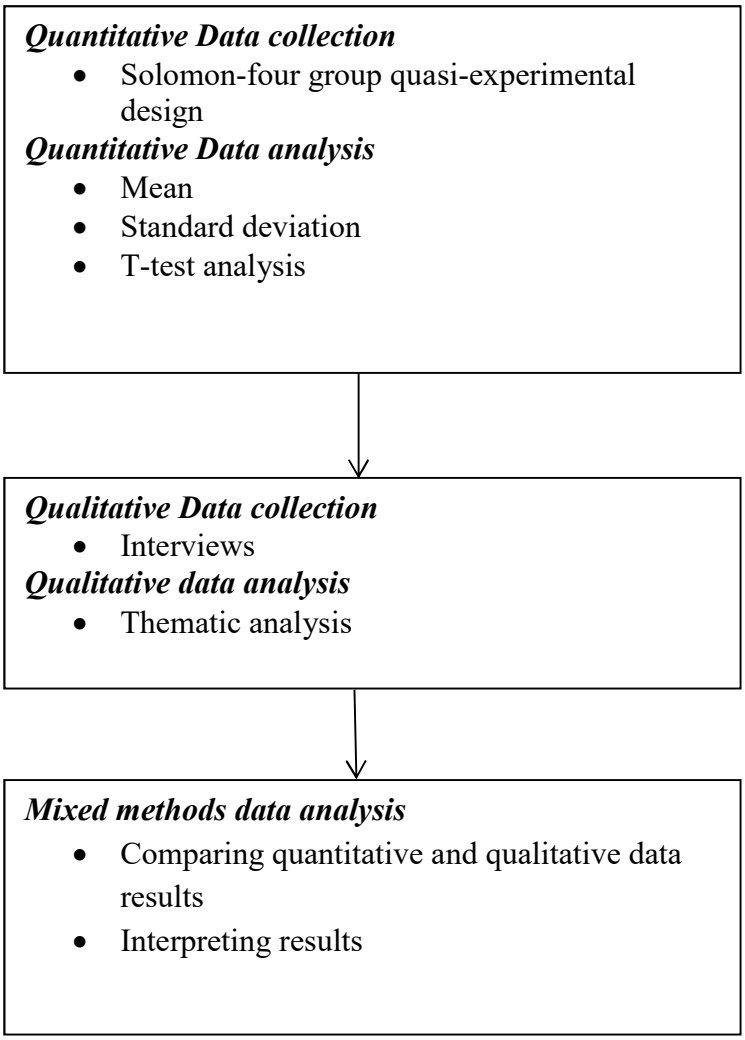

Figure 2: The Sequential Explanatory Design (Creswell 2014, p. 270)

The framework in Figure 2 shows that quantitative was collected and analyzed first, followed by qualitative data collection and analysis. Quantitative data was collected using Solomon-four pre-test, post-test non-equivalent group quasi experimental design while qualitative data was collected through interview technique. Then, both data were compared and interpreted together as illustrated in Figure 2.

3.3 Area of Study

The study was carried out in the secondary schools of Kenyenya Sub-County, Kenya. The Sub-county covers an area of 100.3 Km2 and lies 0^{o} 53'17.3 South and 34^{o} 43'44.9'' East. It

is bordered by Trans-Mara West Sub-County to the East, Etago Sub-County to the South, Gucha Sub-County to the West and Nyamache Sub-county to the North. The population in Kenyenya Sub-County as per the Kenya National Bureau of Statistics 2019 is 131,325. The educational institutions in the sub county include 45 public secondary school, 70 public primary schools, 1 Teachers' Training College and 2 Technical Training Institutions. The sub-county was selected for the current study because a study has reported the use of inappropriate methods to teach English as a subject in the area (Maiko, 2018). Additionally, the KCSE performance of English in Kenyenya Sub-County is comparatively lower than the neighbouring sub-Counties (Table 2).

3.4 The Study population

A study population is a complete set of elements that possess some common characteristics defined by the sampling criteria established by the researcher for which the data obtained can be used to make conclusions and get relevant information that will be used in the research (Kothari, 2009). Thus, the study population for the current study comprised of form three students in all public secondary schools in Kenyenya Sub-County and all TSC employed teachers of English handling the form three class. There are 45 public secondary schools with 2678 form three students and 78 form three teachers of English in the sub-County. The form three class was selected for this study because apart from the four language skill of reading, writing, listening, speaking, more skills are introduced in form three. These include literally analysis of literature set books.

3.5 Sample Size and Sampling Techniques

3.5.1 Sample size

A sample is a group of people, objects or items obtained from a larger population for measurement, so that the findings from the research sample are generalized to the population as a whole. According to Cohen, Manion and Morrison (2007), the sample size depends on the purpose of the study, and the nature of the population under scrutiny. A lager sample is better because it gives greater reliability to the study and also enables more sophisticated statistics to be used (Cohen, Manion and Morrison, 2007). Additionally, the larger the sample, the smaller the sampling error, (Orodho, 2017). A reasonable sample should be 30% of the study population (Kothari, 2004; Cohen, Manion and Morrison, 2007) as it will give the salient characteristics of the study population to an acceptable degree (Mugenda and Mugenda, 2007). With regard to Solomon-four research design, four schools were

purposively selected for this study; two boys' schools and two girls' schools which had a total of 364 students. This is because the experimental technique dictates that the subjects must be in the same natural environment. Hence four groups had to be selected from their naturally occurring environments. Interview respondents comprised of 10 teachers and 10 learners.

3.5.2 Sampling techniques

Sampling technique involves the procedures or methods adopted by researchers in order to arrive at the required sample size out of a given population (Orodho, 2009). The current study employed purposive sampling technique to obtain a representative sample. There are three schools categories in Kenyenya Sub-county, and these include Extra-county schools, County schools and Sub-county schools. Purposive sampling technique was used to pick out 4 extra-county schools; 2 girls' schools, 2 boys' schools to take part in the study. Since the study required four groups, each group comprised of one school. Purposive sampling was appropriate for the present study because the study was majorly quasi experimental, hence the sample was picked out to suit the experimental requirement that the subjects had to be in their naturally occurring groups, comprising of schools. Moreover, teacher interview respondents were also sampled purposively while students from participant schools were randomly sampled to be interview respondents. Teachers were purposively sampled considering their expertise in the application of scaffolding learning technique; hence they could give their views and opinions that could vividly explain quantitative data results. Additionally, learners were picked out using the simple random technique since a large population of learners had participated in the study, hence, simple random sampling method could avoid researcher bias. Table 5 summarizes the sample size of the present study. Table 4 summarizes the sample size and the sampling techniques employed by the present study.

Table 4: Study Population, Sampling Techniques and Sample Size

Group	Study population	Sampling technique	Sample size
Experimental group 1	2678	Purposive	120
Control group 1	2678	Purposive	80
Experimental group 2	2678	Purposive	111
Control group 2	2678	Purposive	53
Sample Total			**364**
Teachers interview respondents	78	Purposive	10
Learner interview respondents	364	Simple random	10
Total sampled interview respondents			**20**

Table 4 shows the study population, sampling techniques and sample sizes of both quantitative and qualitative data participants. The population of students was N=2678 while the study population of teachers was N=78. A sample of n=364 learners of English was selected to participate in quantitative data collection. For qualitative data collection, the study population of teachers was N=78 while that of students was N=364. This is because learner interview respondents were selected from the quantitative data collection sample. A sample of teachers was n=10 and learners n=10 were picked out using purposive and simple random sampling respectively to participate in interviews. Mason (2010) recommends 10 participants as regards the principle of saturation where a sample size of 10 can be extremely fruitful for interview research.

3.6 Research Instruments

The present study collected quantitative data using pretest and posttest questionnaires and the English Achievement Test (EAT) and qualitative data using interview schedules.

3.6.1 Questionnaires

A questionnaire is a research instrument containing a series of questions and other prompts for the purpose of gathering information from respondents. Each item in the questionnaire is developed to address a specific objective or hypothesis of the study (Orodho, 2009). The study made use of pre-test and post-test questionnaires. The questionnaires were divided into four sections A to D: section A expected the respondents to give their demographic information regarding their gender and school category. Section B covered items concerned

with subject interest and contained 12 five-point Likert items adapted from a study by Rotgans (2015) and Balbalosa (2010. Section C had items that measured the level of the learners' self-efficacy before being subjected to scaffolding teaching. There were 15 items that measured self-efficacy on 5-point Likert scale response. The items on self-efficacy were adapted from studies by Gaumer and Noonan (2018), and Abdul and Muhammed, (2007). Moreover, section D constituted academic buoyancy items. There were four academiv buoyancy items on a 5-point Likert scale as adapted from Martin and Marsh (2008). The questionnaires were meant to measure the level of subject interest, self-efficacy and academic buoyancy among the students before and after being subjected to the experimental conditions (scaffolding learning). Pre-test and posttest questionnaires enabled the researcher determine the effect of scaffolding treatment on participants at the end of the study. The questionnaire is labeled Appendix I.

3.6.2 English Achievement Test (EAT)

The English Achievement Test contained sort answer questions obtained from the topics that had been covered within the six weeks of scaffolding learning. The English Achievement Test had a total of 35 items. The test was standardized and it was norm referenced. Standardization ensured that the questions, condition of administration, scoring procedures and interpretations were consistent and the tests were administered and scored in a predetermined manner. The EAT was set by the researcher from the material that had been covered by the whole sample. The questions were clear, short and open-ended. All the participants sat for the test at the same time. The researcher then constructed the marking scheme which was coordinated among the participating teachers to ensure consistence in the scoring. Marking of the test was done in the same venue to ensure similarity of external conditions. Grading was done according to the performance of the learners and the grading was determined by the researcher. The English Achievement Test is labeled appendix IV.

3.6.3 Interview schedules

An interview schedule is a list of structured questions that have been prepared to serve as a guide for interviews, to gather information about a specific topic (Luenendonk, 2019). Since the questions are prepared beforehand, it makes it easier to carry out and complete the interview successfully by facilitating the conduct of the interview. Interview schedule also

increases the likelihood of collecting more accurate data because having been prepared earlier, the questions are expected to be well thought-out and have focus. According to Lindlof and Taylor (2017), interview schedules can increase the credibility and reliability of data collected. Moreover, the schedule allows researchers to collect more information since they create the opportunity for follow up questions and probing (Luenendonk, 2019). The present study used interview schedules for teachers and students. In the current study, interview schedules were constructed basing on quantitative data findings

3.6.3.1 Interview Schedules for teachers

The interview schedule was constructed at the end of quantitative data collection and analysis through pre-post survey as well as Solomon four group experiment. This is because the interview was meant to confirm, support or explain quantitative data findings at the end of the experiment. In addition, interviews collected the respondents feeling as they got the opportunity to express what would not be included in the questionnaires. Therefore, the questions on the interview schedule were based on the findings of the study as guided by the study objectives; survey questions as well as the learners' performance in EAT. There were 21 guiding questions on the interview schedule, 6 on subject interest, 8 on self-efficacy, 4 on academic buoyancy and 3 on achievement. The questions only acted as guidelines since the researcher did a lot of probing of the respondents. Teachers' interview schedule is labeled Appendix II.

3.6.3.2 Interview Schedule for Learners

The schedule was developed after quantitative data analysis in order to explain, confirm, or support the results. Learners' interview schedule contained 16 items based on the research objectives. The questions also helped to standardize the interview. There were 4 items on subject interest, five items on academic buoyancy, four on self-efficacy and three items on achievement. The interview questions were short and open-ended. Interview schedule for learners is labeled Appendix III

3.7 Validity and Reliability of Questionnaires

3.7.1: Internal Validity

Internal validity of the questionnaires was investigated by subjecting the students' survey data to suitability tests using Kaiser-Meyer-Oklin measure of sampling adequacy (KMO Index) and Bartlett's Test of Sphericity. Gravetter & Wallnau (2000) affirm that Bartlett's Test for Sphericity relates to the significance of the study and shows the validity of responses obtained in relation to the problem that the study seeks to address. Subsequently, validity of the questionnaire data set for analysis was assessed for each sub-scale and the results summarized as in Table 5.

Table 5: KMO and Bartlett's Test

Subscales	**Kaiser-Meyer-Olkin (KMO index)**	**Bartlett's Test for Sphericity**		
		Approx. Chi-Square	**Df**	**Sig.**
Subject interest	.788	318.216	66	.000
Learners' self-efficacy	.842	507.295	105	.000
Academic buoyancy	.697	75.935	6	.000

Source: Survey data (2023), SPSS Analysis

Table 5 shows the results of the Kaiser-Meyer-Oklin measure of sampling adequacy (KMO Index) and the Bartlett's Test for Sphericity for each subscale of the students' questionnaire. Bartlett's test for Sphericity were all significant ($p<0.001$, $p=0.000$) and Kaiser-Meyer-Olkin indices were all > 0.6 (subject interest, .788; self-efficacy, .842 and academic buoyancy, .697). This is in line with the recommendation by Kaiser (1974) that the Kaiser-Meyer-Oklin measure of sampling adequacy index > 0.6 is of sufficient internal validity. Equally, according to Tabachnick & Fidell (2001), Bartlett's Sphericity test statistic should be less than 0.05 for an adequate internal validity. Therefore, the questionnaire had sufficient internal validity and would be used to collect data.

3.7.2 Reliability of Research Instruments

Reliability of the instruments was determined through a pilot study. Creswell, (2014), points out that reliability of instruments happens when the instruments have internal consistency and have been tested several times to ensure stable results every time. Therefore, reliability concerns the faith that one can have in the data obtained from the use of an instrument

including the degree to which the instrument controls for random error (Mohajan, 2017). Reliability is very important in psychological research since it tests if the study fulfills its predicted aims and hypotheses and also ensures that the results are due to the study and not any possible extraneous variables. In fact, if a study is reliable, it can have positive implications for other areas of psychology and could be used to improve issues (Tasminri, 2011). The current study ensured reliability of the questionnaire through split half technique and by using Cronbach's alpha coefficient analysis; a measure of internal consistency, both of which were obtained using SPSS Version 26.

The present study carried out a pilot study which involved 112 students obtained from two schools in a sub-county neighbouring Kenyenya Sub-County, through the following steps: to begin with, two schools that did participate in the actual study were randomly sampled to take part in the pilot study. Next, the pre-test questionnaires were administered to students as they would in the real study, followed by a 2 weeks treatment among the piloting experimental group. Posttest questionnaires were also filled in after 2 weeks. After this, the questionnaire items were divided into two halves, whereby one half contained odd numbered items and the other half even numbered items. This was followed by scoring the items in each half and them summing up the scores in all the questionnaires. Finally, the total scores from both halves were correlated. The following results on Table 6 were obtained:

Table 6: Split Half Reliability Test Correlation

Correlations

		half1	half2
half1	Pearson Correlation	1	.922**
	Sig. (2-tailed)		.000
	N	112	112
half2	Pearson Correlation	.922**	1
	Sig. (2-tailed)	.000	
	N	112	112

**. Correlation is significant at the 0.01 level (2-tailed).

Since the coefficient obtained after Pearson correlation could not reflect the reliability of the whole instrument, an adjusted coefficient was calculated using Spearman Brown Prophecy formula:

$$\text{r full} = \frac{2x\ r1/2}{1 + r1/2}$$

$$r\ full = \frac{2\ x0.922}{1 + 0.922}$$

$$r\ full = \frac{1.644}{1.922}$$

$$r\ full = 0.855$$

According to Kothari (2004), a reliable questionnaire should have a reliability coefficient of 0.6 and above. Using split-half analysis, a coefficient value of r= 0.055 was obtained which was considered of very high reliability.

Internal consistence is the degree to which an instrument is error free, reliable and consistent across time and across the various items in the scale (Pallant 2000). Internal consistency measures how closely related a set of items are as a group. Bonett (2008) and Oso and Onen (2011) recommend use of Cronbach's alpha coefficient analysis noting that it is the most consistent test of inter-item consistency reliability for a Likert scaled questionnaire. In the interpretation of the reliability results, the maximum Cronbach's alpha coefficient is 1.0. George and Mallery (2003) classify Cronbach's alpha coefficient values as: >.9 = Excellent; > .8 = Very Good; > .7 = Good; > .6 = Acceptable; and < .6 =Weak. Similarly, Oso and Onen (2013) pointed out that a questionnaire has a good internal consistency if the Cronbach's alpha coefficient is above 0.6. In the current study, the reliability for questionnaire items were computed separately for subject interest, self-efficacy and academic buoyancy and the coefficient alpha values of the variables were reported in Table 7.

Table 7: Internal Consistency: Cronbach's Alpha Results for the Questionnaires

Scale	No. Items	Deleted items	Cronbach's alpha	Conclusion (Reliable/Unreliable)
Subject interest	12	None	.793	Good
Learners' self-efficacy	15	None	.896	Very good
Academic buoyancy	5	None	.726	Good

Source: researcher (2022), SPSS Analysis.

Table 7 reveals that all the sub-scales met the required level of internal consistency of reliability. All the items in each subscale hanged up well with the other items and therefore there was no item deleted from any subscale. The Cronbach's alpha values ranged from a low of 0.726 (Academic buoyancy subscale) to a high of 0.896 (Learners' self-efficacy subscale). The Cronbach's alpha for all the three variables reveal that the instruments had adequate reliability for the study. This is in line with the recommendation by Oso and Onen (2013) that a coefficient of at least 0.60 is of adequate internal consistence, implying that the instrument has acceptable inter-item consistency reliability standard. All items were correlated with the total scale to a good degree in all the subscales. Therefore, the questionnaire was suitable for data collection because it adequately measured the constructs for which it was intended to measure and could be replicated to yield same result.

3.7.3 Validity of Solomon Four-Group Design

Solomon four-group design used in the present study involved an experiment where the student participants were randomly assigned to either 1 of 4 groups that differ in whether the student participants received the treatment or not, and whether the outcome of interest (subject interest, learners' self-efficacy, academic buoyancy and academic achievement) was measured once or twice in each group. The study envisaged that conducting a study with a pre-test/post-test design (a repeated-measures study), there is a threat to validity due to testing effects, where scores on the post-test are influenced by exposure to the pre-test. In this regard, testing effect was controlled by use of a Solomon four group design where the participants in the study were randomly assigned to four different conditions:

Experimental group 1: A treatment group with both pre-intervention (pretest) and post-intervention (posttest) measurements; Control group 1: A control group with both pretest and posttest measurements; Experimental Group 2: A treatment group with only a posttest measurement and Control Group 2: A control group with only a posttest measurement.

Conditions of experimental group 1 and control group 1 represented a typical pre-test/post-test design with a control group and conditions of experimental group 2 and control group 2 replicated conditions of experimental group 1 and control group 1 except no pre-test was included. Having these additional conditions allowed the researcher to determine if any changes occurred simply due to the pre-test. This was done by comparing conditions in control group 1 (pre-test and post-test with no intervention) to condition in control group 2 (post-test with no intervention), and by comparing condition of experimental group 1 (intervention with pre-test and post-test) to condition experimental group 2 (intervention with post-test).

Internal and external validity of Solomon-four experiment was also achieved through manipulation of the independent variable; scaffolding and elimination technique. In the process of manipulation, there were two experimental groups that underwent scaffolding learning process and two control groups that were taught without scaffolding. The results from the two sets of groups were compared. Elimination involved selecting single gender schools to participate in the study while eliminating mixed schools. Elimination eased the comparison of the results of girls and boys separately.

3.7.4 Trustworthiness of Qualitative Data

Qualitative research measures things that numbers may not be able to define. Therefore, qualitative research focuses on trustworthiness of data rather than the data itself (Devault, 2019). Thus, credibility, dependability, conformability and transferability in qualitative data which constitute trustworthiness of qualitative data are substitutes of validity and reliability in quantitative research.

Credibility refers to the confidence in the truth of the study findings. It is how the researcher presents the realities of the findings as accurately as possible (Devault, 2019). Credibility substitutes internal validity in quantitative research. To ensure credibility, the researcher ensured that the study participants were identified and described accurately (Elo, Kaarianen, Kanste, Polkki, Utriainen and Kyngas, 2014) and triangulation of qualitative and quantitative data. Moreover, in the present study credibility was arrived at by ensuring that the groups that participated were similar before the application of scaffolding, hence the post-test differences were as a result of scaffolding treatment.

Dependability refers to the stability of data over time and under different conditions (Elo, Kaarianen, Kanste, Polkki, Utriainen and Kyngas, 2014). It is the extent to which the findings of the study would be persistent if the study would be repeated by other researchers (Olivia, 2016). To ensure dependability, the researcher collected two sets of data at two different times. Quantitative data was collected using Solomon- four group design and analyzed, followed by collection and analysis of qualitative data using interviews. Both data gave similar results which were triangulated.

Conformability refers to the objectivity, that is, potential congruence between two or more people about the accuracy, relevance or meaning of data (Elo, Kaarianen, Kanste, Polkki, Utriainen and Kyngas, 2014). To achieve conformability, qualitative data was compared with experimental data, whereby in the current study qualitative findings explained, confirmed and supported quantitative findings.

Transferability refers to generalization or application of findings to other settings or groups (Elo, Kaarianen, Kanste, Polkki, Utriainen and Kyngas, 2014). Transferability is a substitute of external validity in quantitative research. To attain transferability of the findings, the present study applied thick description to show that the findings of the study could be applicable to other contexts, circumstances and situations.

Authenticity refers to the extent to which researchers fairly and faithfully show a range of realities (Elo, Kaarianen, Kanste, Polkki, Utriainen and Kyngas, 2014). Authenticity was achieved through triangulation where qualitative findings were used by the present study to confirm quantitative findings.

3.8 Data Collection Procedures

The present researcher began to collect data after obtaining the necessary documents that gave authorization to carry out the research. To begin with, the researcher obtained a letter from Jaramogi Oginga Odinga University of Science and Technology (JOOUST), Appendix VII, which introduced the researcher to various authorities as a bona fide student of the university, hence, was in a position to acquire more documents that authorized research to take place. The researcher then obtained a research authorization letter and a research permit from the National Commission of Science, Technology and Innovation (NACOSTI), labeled Appendix VIII. The research permit from NACOSTI enabled the researcher get a research

authorization letter from the Kisii County Director of Education, Appendix IX. After this, the researcher wrote a letter of introduction to the sampled schools to ask for permission to collect data from teachers and students, Appendix X. The letter of permission was accompanied by the informed consent forms which the participants filled in to accept or decline to take part in the study. All these documents gave the researcher confidence to carry out the study in Kenyenya Sub-County. Data was collected through experimentation and interviews.

3.8.1 Procedure of Solomon-four Experiment.

Quantitative data collection went through three stages; pretest, intervention and posttest. First, the researcher prepared a scaffolding module, learning materials and lesson plans that would run for eight weeks. This was followed by students being randomly assigned into four groups; two experimental groups and two control groups. Also, teachers in participating schools were trained on scaffolding teaching for one week

3.8.1.1 Pre-test.

Two groups, experimental group 1 and control group I filled in pretest questionnaires. The pretest questionnaires were: subject interest questionnaires, self-efficacy questionnaires and academic buoyancy questionnaires. Learners were given freedom to fill in the questionnaires truthfully and the activity took place for two days. The questionnaires were meant to ascertain the levels of learner variables; self-efficacy, subject interest and academic buoyancy before the application of scaffolding learning. Students in experimental group 1 and control group 1 also did an English Achievement Test as a pretest for achievement to establish the learners' achievement level before scaffolding treatment. The pretest exam took 2hrs 30 minutes.

3.8.1.2 Intervention

At the intervention stage, learners in experimental group 1 and experimental group 2 were exposed to scaffolding learning techniques and materials for duration of eight weeks. At the same time, learners in control group 1 and control group 2 were taught using the conventional teaching methods. Learners in experimental groups were divided into study groups to give room for collaborative and co-operative learning. Teachers in the schools also prepared scaffolding teaching materials and aids which aided scaffolding learning. During the

intervention period, the researcher visited and monitored the intervention groups to ensure that scaffolding learning was actually taking place.

3.8.1.3 Post-test

At the end of the eight-week period, all the students in the four groups (experimental groups 1 and 2 and control groups 1 and 2) filled in the post-test questionnaires as well as sat EAT as a post-test for achievement. while the experimental groups were used to determine the effect of scaffolding on subject interest, self-efficacy, academic buoyancy and English achievement, the control groups acted as a benchmark for comparison, to establish no significant difference in the variables after the post-test. The post-test questionnaires on subject interest, self-efficacy and academic buoyancy were filled within two days while the EAT post-test covered a duration of 2hrs 30 minutes. Finally, pre-test and post-test data was analyzed, compared and conclusions drawn.

3.8.2. Procedure of Interviews

Before the actual interview, the teacher respondents were supplied with a letter of informed consent in which the purpose of the study had been clearly stated. However, on behalf of the students, informed consent was sought from the principal. The respondents read the letter thoroughly before deciding whether to participate in the study or not. Also, the respondents' confidentiality and anonymity was assured by the respondents being asked not to introduce themselves and not to mention the names of their schools during the interviews. Further, the respondents were asked for permission to audio-record the interviews. For those who were uncomfortable with audio-taping, the researcher wrote down their responses on the schedules and in a notebook. Teachers' interviews took place in the HOD's offices and may take 45 minutes to 1 hour, while students' interviews were carried out in the guidance and counseling offices.

3.9 Data analysis

Since the study employed mixed methods research design, both qualitative and quantitative data were analyzed separately. Quantitative data was analyzed after which qualitative data was collected and analyzed.

3.9.1 Quantitative Data Analysis

Quantitative data analysis was carried out using descriptive and inferential statistics which included Mean, Standard Deviation t-test analysis as per the study objectives. Descriptive statistics were used as well to describe the distribution of data across the sample.

3.9.1.1 Mean and Standard Deviation

Pretest and posttest data from subject interest, self-efficacy and academic buoyancy questionnaires as well as from EAT pretest and posttest was analyzed using mean and standard Deviation. To find out whether scaffolding intervention had had an effect on the four variables, pretest and posttest data from the experimental groups was compared with that of the control groups. This was followed by interpretation of data which enabled the researcher to draw conclusions on whether scaffolding was effective in teaching English or not.

3.9.1.2 T-test analysis

T-test analysis was also very useful in testing the null hypotheses using paired samples t-tests, where the mean differences between the various groups was calculated. Through the paired samples t-tests, the study established the effectiveness of randomization at the sampling stage. At the same time the study determined whether the groups that had undergone the treatment scored better than the control groups. Moreover, the t-tests enabled the researcher to establish whether there was a statistically significant difference in mean scores between the intervention groups and the control groups. Finally through the paired samples t-test, the study ascertained whether confounding or extraneous variables interfered with the results of the study or not. The results were tabulated, interpreted and conclusions drawn.

Thus, the study hypotheses were tested using paired samples t-test, to find out whether there was a significant effect of scaffolding on the various psychological variables among students. Table 8 shows the hypotheses testing matrix.

Table 8: Quantitative Data Analysis Matrix

Research hypothesis	Independent Variable	Dependent Variable	Statistical Test
There is no statistically significant effect of scaffolding on subject interest among secondary school students	Scaffolding	Subject interest	t-test analysis
There is no statistically significant effect of scaffolding on self-efficacy among secondary school students	Scaffolding	Self-efficacy	t-test analysis
There is no statistically significant effect of scaffolding on academic buoyancy among secondary school students	Scaffolding	Academic buoyancy	t-test analysis
There is no statistically significant effect of scaffolding on academic achievement among secondary school students	Scaffolding	Achievement	t-test analysis

Table 8 shows that in the hypotheses of the present study, the independent variable was scaffolding while the dependent variables were the subject interest, self-efficacy, academic buoyancy and achievement among English students. The hypotheses were tested using t-test analysis. From the results of the paired samples t-test determined whether, the null hypotheses were rejected or accepted.

3.9.2 Qualitative Data Analysis

The most basic definition of qualitative data is that it uses words as data (Braun and Clarke, 2013). It is an approach for exploring and understanding the meaning individuals and groups ascribe to a social or human problem (Creswell, 2014). Data analysis therefore involves inductively building from particular to general themes and the researcher making interpretations of the meaning of the data. Braun and Clarke (2012) have outlined the steps in qualitative data analysis as illustrated in table 9.

Table 9: Qualitative data analysis matrix (Braun and Clarke, 2012)

Phase	Process
Data familiarity	Reading or listening to audio data repeatedly to familiarize with content depth and breadth and identify meanings and patterns. Also transcription of verbal data to written form.
Creating initial codes	Creating codes to identify themes and patterns; the most basic segments of raw data that can be assessed in a meaningful way regarding the phenomenon.
Sorting themes	Sort and combine themes to form comprehensive themes from the entire set of data
Reviewing themes	Recombining major themes while taking into account the validity and accuracy in reflecting meanings evident in the data set
Defining/ naming themes	Identifying the essence of each theme and the aspect of data it captures in relation to the research objective for each theme
Reporting	Final analysis with clear extracts of examples to tell the story of the data convincingly, coherently, logically and without repetition

Table 9 shows the six phases through which qualitative data was analyzed. The first phase was data familiarity. Here the researcher severally listened to as well as read data that had been collected for the purpose of familiarizing with it (Braun and Clark, 2012). Next, initial codes were created to ease identification of meaningful patterns and themes, after which the researcher established the relationship between the categories. Themes and categories had been generated using codes. The third phase involved sorting and combining minor themes to form comprehensive themes from the entire set of data. The themes were then viewed to ensure validity and accuracy in reflecting meanings evident in the data set. The next stage was, analyzing and interpreting information by identifying meaningful patterns and themes and grouping the data collected into them. Data was then analyzed through the thematic framework, followed by defining and naming of the themes. The final phase was reporting were the extracts were analyzed, whereby conclusions were drawn. The final phase was done in combination with quantitative data.

Table 10 shows sample excerpts, their codes and the themes they represented:

Table 10: Sample Excerpts, Codes and Themes (Source: Research Data,2023)

Interview extract	**Code**	**Theme**
Let me say that there is notable improvement in the manner in which assignments are cleared. Unlike in the past, I do not have to follow them up. I just find the assignment books on my table. Actually the students consult a lot. I cannot compare with the past. At least this time our learners are more motivated. They do come for consultations more often than in the past. I think this is because we have given them a lot of time to do their studies unlike when we just want to clear the syllabus. I feel if the topics are reduced and we give learners time to do more of the learning on their own, we would expect good results. (ToE1)	INT1	Subject interest
Since we adopted the new technique, in fact there is a difference in the way our students are doing their personal studies. In the past we would do guided learning where if you give them a section to read on their own, you had to monitor strictly to make sure they are doing the right thing. Nowadays we see the students very busy studying on their own which I think has made them to seek clarification here and there. They are coming to me just to ask a few questions unlike in the past when I was the one to ask them the questions, I can say that as the learners are studying on their own, they are more active in coming for further clarification and guidance. At least they seem to have sense of direction on their own. (ToE1)	EFF1	Self-efficacy
In the past, a bad mark really discouraged me and I got ashamed. But since I started learning together with my friends, I have realized that a low mark means I have not learned properly, so I need to do a lot of consultation. So when I scored lowly in the last CAT, I went to the teacher and he showed me the mistake I had committed. It was a very minor mistake in writing and I hope to improve next time. I do not fear the teacher or my classmates anymore. (LoE3)	BUOY3	Academic buoyancy
My learners do not only believe in their abilities but they are surely putting that belief in practice. I am saying this because this is the time I am seeing students who are very focused, though the duration has been short. It is the time I do minimum supervision in class. Even during the CAT, let me say that I did not invigilate that much. Earlier the learners could go to the exam room with written materials, now I think they believe that they can perform well without the materials. And surely they have proved that. At the beginning, I asked them to freely set their targets, I did not interfere. Though they set very low targets, many of them achieved, and those who did not achieve are striving to achieve them. So I think my students believe that they can do better. That could be the reason why their performance is better. (ToE2)	ACH2	Achievement

Table 10 shows the extracts obtained from the interview respondents, their codes and the themes in which they belonged. The first extract from ToE1 talked about subject interest and was coded INT1. The extract was obtained from the first objective and it expresses the increase in subject interest among learners where the respondent talks about learners completing their homework sin time without being coerced to do so. Also, learners are consulting teachers more often than they would before learning through scaffolding technique. The second extract was labeled EFF1 and it talks about the improvement in self-efficacy among learners. The extract belongs to the theme referred to as self-efficacy. The extract labeled EFF1 suggests an improvement in self-efficacy where learners do their studies competently without having to rely too much on the teacher. The next extract was drawn from the third objective and is coded BUOY3. It belongs to academic buoyancy theme. The respondent talks about scaffolding having made a bad mark affect their confidence positively. The last extract labeled ACH2 was obtained from the fourth objective on the effects of scaffolding on the learners' achievement. The extract deals with the students focus on the set goals and striving to achieve the goals. The extracts, codes and themes were arrived at after the researcher familiarized with the data and created the first themes. This was followed by sorting and reviewing the themes, they were combined to form more meaningful themes. The themes were finally named with regard to the study objectives. The data obtained was reported in corroboration with quantitative data.

3.10 Ethical Considerations

Ethical considerations refer to the acceptable behaviour or code of conduct that a researcher must exhibit when collecting and analyzing data (British Educational Research Association, 2018). Such conduct may be dictated by the research setting, the nature of participants, the methods of data collection, the type of data collected and what to be done to the data (Cohen, Manion and Morrison, 2007). Creswell (2014) states that, the integrity and reliability of research findings rely heavily on adherence to ethical principles. Hence, the present study considered the following:

To begin with, the researcher sought the participants' informed consent and co-operation from the subjects who participated in the study. This meant that the subjects were allowed to knowingly, voluntarily, intelligently and in a clear and manifest way accept to take part in the study (Mantzorou and Fouka, 2011). Since the participants of the present study were students,

consent had to be sought through their significant other who were the school administrators. In this case, informed consent was very important since students would be exposed to a new learning condition which would possibly bring about psychological interference. In addition, the study would probably interfere with the students' privacy, since it touched on psychological variables deemed personal. The researcher therefore wrote a letter of informed consent in which the purpose of the study was clearly stated. In addition, the letter precisely stated any possible interference with the normal learning processes. The school administrators and the students thus made an informed decision whether to participate in the study or not. Space was provided for them to sign as they accepted to take part in the study.

Moreover, anonymity and confidentiality of the participants was respected. This included respect to their rights of beneficence, respect to their dignity and fidelity. The study achieved this by ensuring that the questionnaires did not allow them to indicate their names or any information that might have revealed their identity. Confidentiality was further be ensured by the researcher with-holding all provided information from public viewership. This means that only the researcher had access to the research instruments.

The researcher also respected the privacy of the respondents. Privacy is the freedom an individual has to determine the time, the extent, and the general circumstances under which private information was shared with or with-held from others (Mantzorou and Fouka (2011). With this regard, the researcher allowed the school administrators to decide when the research would be done in their schools, owing to the fact that schools carry out different activities at different times.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study as well as the interpretation and discussion of the results. It is subdivided into six sub-sections including return rates of research instruments and demographic characteristics of the participants. The next four sub-sections deal with data analyses as per the study objectives and hypotheses. Two phases of data analysis are presented per objective; quantitative data analysis of the data obtained from Solomon Four group design and qualitative data obtained from interview technique. Pretest and posttest data obtained through questionnaire technique are analyzed using descriptive statistics to describe the views of the respondents on each sub-scale before and after scaffolding learning, while the inferential statistics aided to make inferences. Students were further subjected to the English Achievement Test (EAT) as a pretest and posttest and the results analyzed using descriptive and inferential statistics and the results compared. Moreover, inferential statistics of t-test was used to investigate the differences between the variables. All tests of significance were computed at $\alpha = 0.05$. The Statistical Package for Social Sciences (SPSS) version 26.0 was used to analyze the data. For the qualitative data analysis, thematic approach was used.

4.1.1: Questionnaire Return Rate

The return rate of questionnaires from the respondents is tabulated on Table 11. The summary of return rate reveals that the questionnaires were adequate for the study.

Table 11: Questionnaire Return Rate

Respondents	Administered instruments	Returned instruments	Return rate (%)
Experimental Group 1	120	103	85.8
Control Group 1	80	78	97.5
Experimental Group 2	111	101	91.0
Control Group 2	53	51	96.2
Total	364	333	91.5

Key: *Experimental Group 1-Pretested and treated; Experimental Group 2 –Treated but not pretested; Control Group 1-Pretested but not Treated; and Control Group 2-Not Pretested and not Treated.*

Source: pretest and posttest questionnaire data (2022)

From table 11, the study targeted a total of 364 sampled form three students on whom the questionnaires and the English Achievement Test (EAT) were administered. Experimental group 1 had 85.8% rate of return, experimental group 2 had a return rate of 91.0%, control group 1 was at 97.5% and control group 2 has 96.2% rate of return. In overall, a total of 333 sampled students took part in the study translating to an overall response rate of 91.5%. This response rate was a sufficient representation as per the recommendation of Creswell (2014) that a response rate of 50% is adequate, 60% is good and 70% and above is excellent for analysis and reporting of results. Based on this assertion, the current study's response rate of 91.5% is therefore excellent. The recorded high response rate was attributed to the fact that the instruments in this study were personally administered by the researcher to the respondents, who were pre-notified of the intention of the study. It was also due to extra efforts that were made in form of visits to the respondents to fill-in and return the questionnaires, as well as do the English Achievement Test.

4.1.2: Demographic Characteristics of Participants

The study sought to investigate the demographic characteristics of the student respondents, which was considered necessary for the determination of whether the respondents were representative enough for generalization of the results of the study. The demographic information investigated was the gender of the students. The study sought to explore the gender of the participants, which was considered as the basic genetic differences among the study participants. Information on gender was considered important to this research because it is anticipated that performances of the students may vary given their gender. Gender characteristic was also considered when sampling interview respondents who included teachers and students. Table 12 shows the summary of the gender distribution among the participants who took part in the study.

Table 12: Distribution of Respondents by Gender

Respondents	Gender	Frequency	Percentage (%)
Experiment participants			
Students	Male	174	60
	Female	116	40
Total		**290**	**100**
Interview respondents			
Teachers	Male	6	60
	Female	4	40
Total		**10**	**100**
Students	Male	5	50
	Female	5	50
Total		**10**	**100**

The gender distribution of student participants was further presented in figure 3.

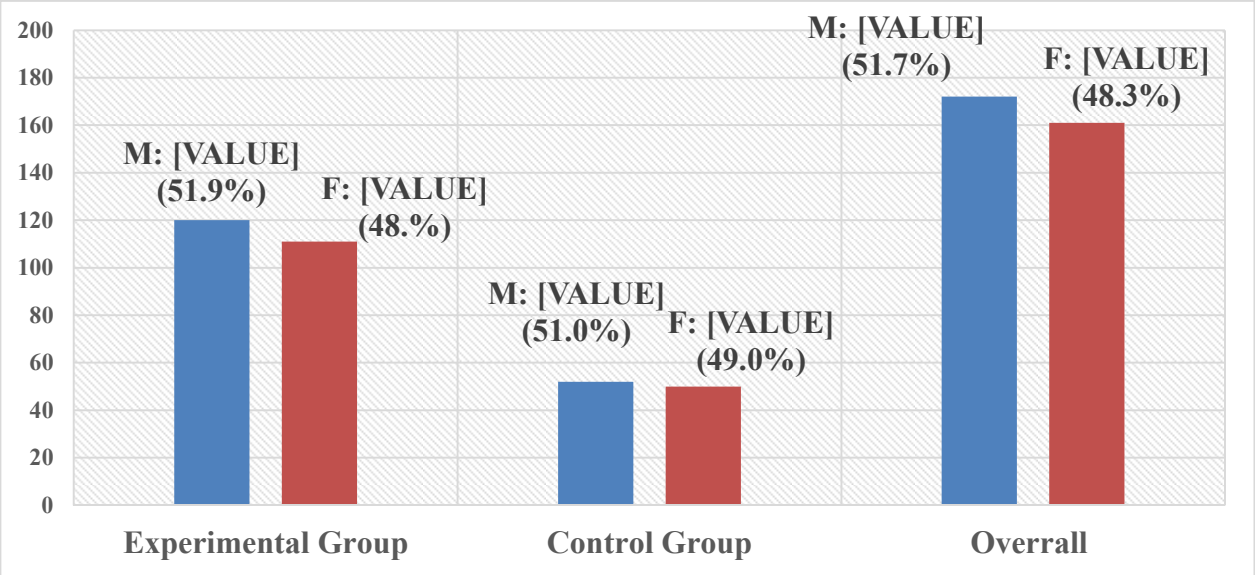

Figure 3: Gender Distribution of the Study Participants

Source: Primary data (2022)

The exploratory analysis of the background information of the students who took part in the study indicates that, in overall, slightly a large number (51.7%) of the participants were males compared to females (48.3%), reflecting a slight disparity in gender among the secondary schools in the sub-county. Given that the sampling procedures employed in this study gave

equal opportunities for participation to both genders, it can be inferred that the dominant gender among form three students in all public secondary schools in Kenyenya Sub-County is generally male. All the same, both genders were represented in the study implying that the results of this study could be generalized to a wider population because it captured both gender. This is because each gender can have a unique contribution to research that cannot be filled by the other gender in its entirety.

4.2: Effects of scaffolding on Subject-Interest among English Language Learners

The first objective of the study sought to investigate the effects of scaffolding on subject-interest among form three English learners in Kenyenya Sub-County. This objective was addressed using both descriptive statistics to explore the views of the respondents and inferential statistics to test hypothesis. The null hypothesis to be tested was: there is no statistically significant effect of scaffolding on subject interest among English language learners. The students in experimental group 1 and control group 1 filled in a pretest questionnaire to determine their level of subject interest before the application of scaffolding learning. After the treatment, students on experimental groups 1 and 2, all students in the four groups; experimental groups 1 and 2 and control groups 1 and 2 filled in posttest questionnaires to establish their level of subject interest and the results were compared.

4.2.1: Students' Level of Subject-Interest before Scaffolding Learning

The level of subject interest was obtained from a survey among students in experimental group 1. The study envisaged that students with high subject interest develop attentiveness or curiosity when learning a concept in English as a subject. In this study, the students' interest in the subject was to be exhibited through their active participation in the classroom processes, which would indicate that the students derive fun and enjoy the processes of learning English. Before the intervention, the student respondents in the experimental group were given twelve itemed questionnaires, where they were to respond to the statements using 5-point likert scale. The responses were shown by the level of frequency of the action from 1-never, 2-rarely 3-sometimes, 4-often and 5-always. The findings were summarized in frequency percentages, mean and standard deviation, as tabulated in Table 13. The findings were sequentially followed by interviews which took place among teachers and learners in the control groups. the survey and interview results were collaborated during interpretation.

Table 13: Level of Students on Subject-Interest (n=103

STATEMENT	1	2	3	4	5	M	SD
I often ask questions in an English class	9 (8.7%)	13 (12.6%)	48 (46.6%)	26 (25.2%)	7 (6.8%)	3.1	1.0
I often contribute to class discussions	4 (3.9%)	16 (15.5%)	33 (32.0%)	36 (35.0%)	14 (13.6%)	3.4	1.0
I often make class presentations	10 (9.7%)	18 (17.5%)	55 (53.4%)	17 (16.5%)	3 (2.9%)	2.9	0.9
I ensure that I complete my assignments before the next lesson	9 (8.7%)	24 (23.3%)	37 (35.9%)	20 (19.4%)	13 (12.6%)	3.0	1.1
I do teach other students	14 (13.6%)	22 (21.4%)	45 (43.7%)	15 (14.6%)	7 (6.8%)	2.8	1.1
I do consult the teachers when doing assignments	16 (15.5%)	19 (18.4%)	49 (47.6%)	17 (16.5%)	2 (1.9%)	2.7	0.9
Learning English puts me in a good mood	6 (5.8%)	14 (13.6%)	39 (37.9%)	24 (23.3%)	20 (19.4%)	3.4	1.1
When studying English, I get fully focused and forget everything around me	7 (6.8%)	17 (16.5%)	47 (45.6%)	22 (21.4%)	10 (9.7%)	3.1	1.0
I always look forward to English lessons because I enjoy them a lot	7 (6.8%)	15 (14.6%)	43 (41.7%)	30 (29.1%)	8 (7.8%)	3.2	1.0
I listen attentively to my teacher of English	10 (9.7%)	17 (16.5%)	36 (35.0%)	30 (29.1%)	10 (9.7%)	3.1	1.1
I actively participate in the discussion, answering exercises and clarifying things I did not understand	11 (10.7%)	13 (12.6%)	40 (38.8%)	24 (23.3%)	15 (14.6%)	3.2	1.2
I get frustrated when the lesson is interrupted or the teacher is absent	15 (14.6%)	20 (19.4%)	43 (41.7%)	16 (15.5%)	9 (8.7%)	2.8	1.1
Overall mean rating of subject-interest						3.1	1.0

Key: ***1****-Never;* ***2****-Rarely;* ***3****-Sometimes,* ***4****-often and* ***5****-Always;* ***M****-mean;* ***SD****-Standard deviation.*
Source: *Survey Data (2022)*

The results of the questionnaire data on table 13 show that subject interest among form three learners of English language in secondary schools, before application of scaffolding technique, is just above average. This was reflected by a mean rating of 3.1 in the scale of 1 to 5 with a standard deviation of 1.0. The findings suggest that the subject interest among the students of English language is only moderate. The study also found out moderate

participation in classroom activities before the application of scaffolding learning. A half the number of students asked questions during a lesson of English language. This was confirmed by a mean response rating of 3.1 (*SD*=1.0), with only 26 (25.2%) of the students often and another 7 (6.8%) others always ask questions in an English language class. While 9 (8.7%) of the surveyed students never at all and 13 (12.6%) others only rarely ask questions during English lessons, but close to a half 48 (46.6%) of the respondents indicated that they only sometimes ask questions during English lessons. This depicts that only a few of the students who took part in the study always had interest in English language, as a subject. The findings concur with the findings of a study by Sugino (2019) that before the application of scaffolding simulations, there was less student participation which suggested less interest in the subject.

Moreover, interview respondents were asked a question on the frequency in which their students asked questions during the English language lesson before scaffolding learning. The respondents gave their sentiments as follows:

> *Very few of my students could ask questions and I often got worried. Even if I allowed them time to ask any question they just kept quiet, maybe because of shyness. In the past I used to be so much worried but with time I got used to it and simply worked towards syllabus coverage. I do not force them to ask questions. However, once in a while there are those who ask and they even encourage the others to participate in trying to answer the question. (ToE1)*

Another respondent commented that:

> *My students rarely ask a question in class. In fact, I am the one who asks them questions and in most cases I end up answering the question I asked. I think they fear one another given their poor language background.(ToE3)*

And yet another one said:

> *We do not ask questions that much. More time of the lesson is spent by writing notes and listening to the teacher's explanation. But towards the end of the lesson when the teacher gives us time to ask any question, those who have do ask. Personally I do not ask any question because, by the time the lesson is over, I have not digested the notes, so I get a question when it is too late when reading on my own. That is when I may go to the teacher, though in most cases I ignore. (LoE2)*

The 3 excerpts from ToE1, ToE3 and LoE2 indicate that students of English rarely asked questions during the lessons, hence little participation. The teachers would go an extra mile to give room for students to ask questions but the students would not. This is an indication

that the students do not have the curiosity to learn more about the language but just want to take only what the teacher gives them, for instance, by writing down notes. The findings from the pretest questionnaire were therefore confirmed.

Equally, on whether the students effectively contribute to class discussions, before going through the intervention program, the results of the study revealed that it was only sometimes for sizeable proportion of learners, as reflected by a mean rating of 3.4 (SD=1.0). This was further confirmed by 50 (48.6%) of the students who either agreed that they often or always found it quite easy to often contribute to class discussions. However, 20 (19.4%) of the students indicated that they either only rarely or never at all often found it easy to contribute to class discussions and 33 (32.0%) said they only occasionally contribute to class discussions. This finding implies that subject interest among form three learners in secondary schools is moderate given that only a few them mostly or always contribute to class discussions. The mean score for those participating in classroom participation was 3.4 with a standard deviation of 1.0. The findings of this study are similar to the findings of a study by Banda and Musonda (2018) that fewer students participated in co-operative learning at the initial stages of the application of cooperative learning.

Additionally, some extracts obtained from interview respondents supported the findings:

> *Before applying the new method, there was little or no discussion at all among my students. This is because as a teacher, I did not initiate discussion work due to time constraints. Even students could not hold discussions, and I guess they did not know the importance of having them. They always engaged in individualized studies. However, when guided and closely monitored, they would have discussions. For instance, when exams are approaching, we can give them a topic or a question to discuss in their groups and they would try to participate. Otherwise, on their own, my students are often reluctant to engage in discussion work. (ToE1)*

Another respondent aired similar sentiments, thus:

> *Our students do not have discussions. They have been allocated discussion groups but I don't think the groups are functional. Even when the students are pushed, most of them do net concentrate but technically attend the discussions to satisfy the teacher. If the students are given work in groups, for instance to discuss a theme in literature, they wait for the few students deemed serious to do the work and the rest copy from them. In fact, a student was overheard wondering aloud what to discuss in English language as a subject. Generally, in English the discussion groups are very dormant. (ToE2)*

And another one reported that:

> *We have discussion groups but we are not very active in them. In fact the groups have disappeared. I do not remember all my group members. Once in a while, we are given a question and we are told to do it in groups. Honestly, we rarely discuss. it is the chairperson to sit and do the work on his own or with a few willing members and they submit the work. Personally, I am not that active in group discussions. (LoE2)*

The extracts from ToE1, ToE2 and LoE2 reveal absence of discussion in English as a subject. It comes out clearly that most English Language learners rarely participate in discussions unless they are forced to. Lack of contribution in class discussions is more evident in the extract of ToE2 who reveals that students, instead of doing research and making contributions during discussions, they copy from the more serious students. Moreover, the said discussion groups do not emanate from the students themselves, but they have been formed by the authorities and the students find themselves in any group. This shows a serious lack of interest among students to be active participants in discussions. Interested students would willingly form their own discussion groups and actively participate in them, which is not the case among the study sample. From the extracts, the study therefore established little interest in learning of English since students with interest would contribute during discussions.

Likewise, when the study sought to establish the frequency in which the learners made class presentations before scaffolding treatment. The results of the study revealed that it was not always easy for many of them to make presentations as indicated by a mean rating of 2.9 with a standard deviation of 0.9. Only 20 (19.4%) of the students who took part in the study agreed that they either often or always made class presentations. However, more than a half 55 (53.4%) of the respondents confirmed that they made class presentations only sometimes. 20 (19.4%) of the participants indicated that they rarely or never made class presentations, a sign of low interest in English as a subject. Similarly a study by Annisa and Sutapa (2019) revealed that students only showed interest in learning science after close supervision.

During interviews, it emerged that students rarely made class presentations on English as a subject as clearly brought out in the following excerpts.

> *My students would not make presentations because, how can they make presentations if they did not contribute in discussions? You know, presentations come from discussions. Once in a while we have tried the method but we have failed terribly. We even give rewards but our learners are shy. We have even in our absence allowed them to make presentations in literature but it has not borne fruit. In general, I can say, there is a small number of students that are brave enough to present what they have discussed in class. Maybe, as teachers,*

we have not trained our students to not only have discussions but also do presentations in class. (ToE1)

The comments by ToE1 were echoed by ToE3 as follows:

It is the same, same students who are active in discussions that can again make presentations in class and they are very few. In the whole form 3 class you can count them. Majority are just recipients and very shy. If they realize we are pushing them, they can even skip classes on lame excuses. Generally my learners are afraid to be active in class especially presentations. (ToE3).

Yet another respondent said*:*

I am not comfortable in making presentations because my classmates like laughing when maybe I commit an error while speaking. Even our teacher sometimes corrects you in front of the class, s I fear making a presentation. But some class mates who are brave do. Another reason is that if it is a discussion, it is only the secretary of our group who has the mandate to present what we discussed. (LoE2)

The results in the excerpts from ToE1, ToE3 and LoE2 confirm the questionnaire findings that only 16.5% and 2.9% often and always make class presentations respectively. According to ToE1, only a small number of students can make class presentations and the respondent attributes the lack of bravery to present among learner to lack of training by the teachers. This could suggest that teachers have not discovered or rather embraced an appropriate language learning technique. ToE3 comments that there are some specific students who have the capability to make class presentations and a great majority does not. Moreover, LoE2 laments that failure of the learner to present is due to language barrier as well as the conventional roles of each group member where the secretary is strictly the one to make presentations. Therefore, from the excerpts, and the questionnaire data it is clear that learners rarely make class presentations which is a clear indication of low interest in English as a subject before scaffolding intervention.

On the same note, the results of the survey show that although some of the respondents always complete their English language assignments before the next lesson, others rarely do. This was indicated by a mean rating of 3.0 (SD=1.1), with 33 (32.0%) of the students accepting that they rarely complete their English assignments in time but a similar proportion 33 (32.0%) of them alluded that they mostly ensure that they complete their assignments before the next lesson. However, 37 (35.9%) of them indicated that they only sometimes complete their assignments before the next lesson. The findings are in agreement with the

findings of a study in Indonesia by Padmadewi and Artini (2018) which reported low interest in learners to do problem-based writing before they were taken through scaffolding.

During interviews when respondents were asked whether students completed assignments in time, their responses were as follows:

> *Of course many students complete their assignments in time for fear of punishment. If you relax the punitive measures, the students stop completing their assignments. I remember last term we tried to avoid punishment with the intention of training our students to be responsible. I am telling you we regretted. So I am sure those who do their work do it for fear of punishment. But not all of them. We have a few responsible ones who can complete and even submit their work without being followed. Majority we force them. (ToE1).*

Similar remarks were given as follows:

> *Sometimes they clear, sometimes they don't. There are some topics they finish in time while other topics they do not. My students rarely complete comprehension exercises unless we apply punishment. I think they have a poor reading culture. But grammar they finish, though they sometimes copy from one another. So for assignments they are not badly of. They try. I can say they are fifth, fifth.(ToE4)*

And another one commented:

> *When it comes to completing assignments, they have no option. We check them regularly. But if you forget or relax for some time the students also relax. So we always have to follow them to ensure the assignments are done so that we gauge ourselves whether we are teaching or not. Those who fail to do have to undergo punishment.*
>
> *...when you check their work thoroughly, you realize that they copy from one another. But at least many of them do the work given. (ToE2)*

On this a student commented that: *"Sometimes I complete my assignments but sometimes I do not. When the teacher is very busy and forgets to check the assignments for some time, we stop doing them. But when the teacher checks them regularly, I complete so that I am not punished." (LoE1)*

From the extracts from ToE1, ToE4, ToE2, and LoE1 the study found out that majority of the students complete their assignments thus confirming the questionnaire results. The study however established that even if the students complete the assignments, there is an element of punishment that motivates them to finish their assignments, as suggested by the respondents. Moreover, the study established that some students can go to the extent of copying answers

from the few responsible students who do the work. Clearly, the results explain why a good number of students complete their assignments in time where 35.9 sometimes clear their home works, while 19.4 often and 12.6 often and always finish their assignments respectively. They complete the assignments simply to avoid punishment and not because they have interest in the subject.

On whether the respondents teach other students, the results of the study established that less than a half 45 (43.7%) of learners agreed that they sometimes teach other students and 36 (35.0%) others confirmed that they rarely or never teach other students at all. However, only 22 (21.4%) of the surveyed students alluded that they often or always teach other students, which was translated to a mean rating of 2.8 (*SD*=1.1) on the subject interest scale of 1 to 5. This suggested that peer learning in English language, as a subject, was fairly low among the surveyed form three students before the application of scaffolding technique. The findings are similar to those of a study in Finland by Ursin, Jarvinen and Pihlaja (2020) that before scaffolding, there was little student engagement in learning.

A question on whether students participated in peer teaching was posed to interview respondents and the following is what they had to say:

> *We have peer teaching and we have selected peer teachers in every subject, English included. In English, we have some students who are a bit more serious and strict and those are our peer teachers. Students do not select the peer teachers. it is the teacher that identifies a student who performs well and appoints him a peer teacher. Here they are called 'subject champions'. (ToE1)*

Similar sentiments were given by another respondent thus:

> *Here we have peer teaching lessons in English as a subject. We give learners questions or topics and then one of them teaches the class mostly in the evenings. Peer teaching can be done by willing students but in most cases we select peer teachers (ToE3)*

From the extracts from ToE1 and ToE3, the study established that peer teaching is initiated by teachers and not through the initiative of the learners. The study found out that teachers go ahead to even pick out the peer teachers, who are believed to be capable. This explains why only 7(6.8%) students always teach the other students while only 15(14.6%) often teach their peers. However, from ToE3, the study found out that there are very few learners volunteer to teach the other students. Therefore, considering the survey and interview findings, it is clear that before the application of scaffolding learning, learners did not have the interest of

teaching their peers as majority of those who carried out the activity did it through the teachers' enforcement.

Likewise, with regard to whether students of English always consult teachers, the results of the survey indicate that this was only occasionally done. This was reflected by a mean rating of 2.7 with a standard deviation of 0.9. A good number of students agreed that they never and rarely consult their teachers when doing assignments at the rate of 16(15,5) and 19(18.4) respectively. At the same time, 49 (47.6%) of them occasionally consult the teachers while 17(16.5%) and 2(1.9%) often and always consult their teachers respectively. The rate at which students consult their teachers is very low suggesting that subject interest is low. The findings agree with a study in Kenya by Song and Glazewski (2023) who reported failure of learners to self-regulate to consult their teachers before going through scaffolding learning.

When asked on the frequency of students consultation, the interview respondents commented as follows:

> *According to the school program, consultations take place between 4:00 pm and 5:00 pm when the students are already tired. Very few students come for consultations even when the assignment seems difficult. But we often encourage our students to try any question in class before resorting to see the teacher. However some few students come for consultation during break rime or lunch break but this is very rare. (ToE1)*

Another respondent gave similar remarks as follows:

> *Students do come for consultations but very rarely. In fact, you may not see a student even for a whole term. I think our students fear consulting even when a topic or a question is very difficult. When we have encouraged them to consult with us they do but after some time they stop and we wonder why. For the few occasions they see us they are always in groups. When they come as a group it means they either fear consulting at individual level or they have trued the question as a group and it has become difficult for them. Consultation at individual level is very rare among my students. (ToE2)*

Similar sentiments were given by another respondent as:

> *Once in a while I go to my teacher for consultation on a given assignment. We also go for consultation when exams are approaching and we are doing our revision. But during the normal days, I do not consult. (LoE4)*

The extracts from ToE1, ToE2 and LoE4 support the questionnaire findings that a small percentage of students consult their teachers when doing assignments. It is clear that the students who consult their teachers do not do it out of interest but because they are forced by

circumstances, such as when they are doing group work or when exams are approaching and they must pass the exams. Lack of consultation is a clear indication of low interest in English as a subject.

Another important finding of the study is that slightly more than a half the number of participants appreciate the learning of English. This was reflected by a mean response rate of 3.4 (SD=1.1) on the item which sought to find out whether learning English language puts the respondents in a good mood. Whereas some 20 (19.4%) of the respondents said they hardly or never at all, 44 (42.7%) of them agreed that learning English often and always put them in a good mood. In fact, at a mean response rate of 3.1 (SD=1.0) close to a third 32 (31.1%) of the students who took part in the study generally agreed that when studying English, they always or mostly get fully focused and hardly forget anything around them. Also, 24 (23.3%) of the respondents accepted that they rarely get focused when studying English and they always forget things around them. Similarly, a study in Iran by Shahidzade, Fazilatfar and Razmi (2022) that while teachers were optimistic on scaffolding learners' emotions about language learning, many learners had negative emotions.

When asked on how learning of English affected the mood of the students, the interview respondents stated that:

> *It all depends on the topic. If it is literature where the students have to enjoy the story telling sessions, singing, joke, puns, they feel happy. But when we do topics such as writing skills, the class is always gloomy because most writing skills need explanations from the teacher. So I can say the mood depends on the topic.*
>
> *…when students are in class, they have no option but to remain focused. As a teacher, I have to make sure that my students remain focused on the lesson, otherwise I will be wasting time. When the students seem to lose focus, I engage them, for instance I can make them read a section construct a sentence or answer a question. It my duty to ensure students are not distracted. (ToE1)*

The remarks were supported by another respondent who said:

> *I may not say that I am always happy or always sad when learning English. I can be wery happy when we learn a good topic like literature because it is entertaining and interesting. It is also easy to understand. But a topic like poetry is difficult. In fact I get very bored and very sad during poetry. But even when the topic is bad and the teacher makes simple examples I can be happy. (LoE4)*

The extracts from ToE1 and LoE4 clarify the survey findings that many students are always in a good mood during the English lessons and that a good number remain focused on the

English lessons. According to ToE1, the mood of the student depends on the topic. Interesting topics are enjoyed by students while topics deemed less interesting make the students gloomy. About focus, the respondents explained that the teacher has a duty to ensure that the student remains focused by engaging and making active learners who seem to lose focus. Therefore, from the interview, the study found out that whereas the mood of the students is dependent on the topic, focus on the lesson is teacher-instigated. Moreover, the topics where a learner actively participates improves their mood compared to the topics that are teacher centered. Thus, subject interest increases with increased learner participation.

On whether the students enjoy English lessons, the findings of the study show above average rating (mean=3.2; SD=1.0) with 38 (36.9%) of the respondents agreeing that they mostly or always look forward to English lessons because they enjoy them a lot. On the other hand, 22 (21.4%) of the respondents said they never or only rarely look forward to English lessons because they do not enjoy them at all. A good number of students, 43 (41.7%) stated that they sometimes look forward to English lessons as they sometimes enjoy the lessons. The study thus established that majority of the participants had low subject interest. The findings agree with the findings of a study in India by Bansal (2017) which reported a negative attitude among students hence lo subject interest before the application of scaffolding learning.

The study went on to carry out interview on how often the students looked forward to English lessons and the extracts that follow show the responses:

> *Well, my students are not much excited about our lessons. Sometimes I go to class and the students, instead of being ready for English, I find them busy reading a different subject. Some are usually ready but majority are rarely prepared for the lesson. Even when our lesson is the first one, you find them busy, maybe completing an assignment of a different subject. (ToE1)*

Another respondent remarked as follows:

> *There are some lessons I look forward to, for example oral literature or set book reading. But there are others I don't feel like attending. Unfortunately some lessons come as a surprise. Unless we are learning an entertaining topic like oral literature, we really do not get ready for the lessons. (LoE3)*

Yet another respondent said:

> *Students do look forward for the lesson. A little delay of maybe five minutes, they send the prefect for me. However, sometimes I may go to class and find them doing their own things. They make a changeover while the lesson is in progress. So in my opinion, sometimes the students look forward to the*

English lesson, while sometimes they have to be reminded that the lesson has started. (ToE2)

The extracts from ToE1, LoE3 and ToE2 confirm the finding that majority of the students sometimes looked forward to the lessons of English before the application of scaffolding learning. . Very few students looked forward to the English language lessons. This is because, in most cases, a teacher could go to class only to find students learning different subjects or doing assignments of different subjects. The study thus established that before scaffolding learning, there was low subject interest as evidenced by failure of students to look forward to the English lesson.

Likewise, the finding of the study reveals that majority of students are never very keen during lessons. This was reflected by a mean rating of 3.1 (SD=1.1) on the item which sought to establish whether students always listen attentively to their teacher of English. While only 40 (38.8%) of the respondents alluded that they either always or mostly listen attentively to their teacher of English during lessons, 36 (35.0%) of them agreed that they only sometimes pay very keen attention to their teacher of English but more than one out of every four 27 (26.2%) of the respondents were truthful enough and confirmed that they rarely or never listen attentively to their teacher of English. This findings are concur with the findings of a study in the US by Yong (2021) found out that learners who had not been taught using scaffolding technique would not engage in classroom activities.

When a question on students' keenness was posed to interview respondents, they had this to say:

Students' attention is not automatic but it is stimulated by a teacher. For instance when I go to class, I try to attract their attention. When they appear like they are losing attention, I engage them. Again, it depends on the topic. If for example we are doing reading activity, those reading silently will definitely end up daydreaming. So we make them alert by picking the readers at random. But generally the students are averagely attentive in class since language learning must entail reading, writing, speaking and listening. Sometimes we force students to be attentive though they may be disappointing. Sometimes again it may be difficult to stimulate the attention of some learners (ToE2)

The extract by ToE2 explains the pretest results where 38% of the participants listen keenly to their teacher, 35% sometimes listen keenly while 26% never and rarely listen to their teacher. ToE2 explains that learners' attention or keenness has to be stimulated though not always as some learners may be difficult to respond to the stimulant of the teacher. So, from the findings, those learners who manage to listen keenly are those who positively respond to

the teachers' stimuli while those who do not listen keenly are those who fail to respond positively to the teacher's stimuli. From the explanation, it is clear that before the employment of scaffolding learning, students would not listen keenly to their teacher of English, a clear indication of low subject interest.

On class participation, the pretest results indicate that while some students are usually active others are only occasionally or never active at all in English class. This was shown by a mean response rating of 3.2 (SD=1.2) with only 39 (38.1%) of the respondents indicating that they always or mostly actively participate in the discussion, answering exercises and clarifying things they do not understand. On the other hand, 11 (10.7%) said they never, 13 (12.6%) said they rarely and some 40 (38.8%) of them indicated that they only sometimes actively participate in the discussion, answering exercises and clarifying things they do not understand during English lessons. Similarly, a study in Finland by Ursin, Jarvinen and Pihlaja (2020) reported lack of student engagement in learning activities before the application of scaffolding.

Interview respondents were probed on the frequency of their learners' participation during English lessons and the following were extracts from their responses.

> *Students do actively participate in some topics while in other topics they do not. I may say they participate but not as actively as expected. Can you imagine that you may ask a question and the whole class remains quiet? In such a case you end up answering on their behalf and the lesson ends up being teacher centered. However in reading and writing they have to be active. Also when tackling an interesting topic such as oral literature they become active as a whole class. When it comes to where individual participation is required, our students can really disappoint. But when coerced, for instance to perform a narrative, a riddle or to role play, they do it, though not whole heartedly. In fact, participation though averagely happening is not voluntary. (ToE2)*

The remarks by ToE2 were echoed by LoE3 as follows:

> *There is classroom participation that is a must such as reading, writing and listening and I participate. But things like role-play and dramatization and even speaking, few of us do them. Personally I cannot do dramatization since my language is not that good. Same to many of us. We fear what the teacher will say (LoE3)*

The excerpts from ToE2 and LoE3 are a confirmation of the pretest results that before scaffolding learning technique, students averagely participated in classroom activities. The respondents go on to explain that some students who participate are actually forced and do

not do it voluntarily. Though the respondents associate lack of participation to unwillingness or shyness, the study established that lack of participation could have been due to lack of subject interest.

Equally, on lesson interruption, it emerged that whereas some of the students always feel frustrated when English lessons are interrupted others only occasionally or never at all feel any frustration. This was reflected by a mean rating of 2.8 (SD=1.1) with only 25 (24.2%) of the respondents either mostly or always get frustrated when the lesson is interrupted or the teacher is absent. However, 15 (14.6%) never at all, 20 (19.4%) rarely and 43 (41.7%) only sometimes get frustrated when the lesson is interrupted or the teacher is absent. The study is comparable with a study in China by Zhang (2023) teachers without rapport with their teacher could not engage with learning activities freely.

On a similar note, interview respondents were asked how their students responded to lesson interruption or absence of a teacher. The excerpts show the responses:

> *If the lesson is interrupted, my students can be happy or sad depending on the purpose of the interruption. But mostly they get relieved.*
> *…if I am absent, the reaction is similar, depending on the topic. But I think my absence makes them happy since they get some free time to relax.(ToE3)*

The excerpt by Toe 3 explains that if the English lesson is interrupted, most of the students feel happy and relieved because they get time to relax. This explains why a small percentage, (24.2%) of the respondents get frustrated at the interruption of the lesson or absence of a teachers.

From the pretest therefore the study established that the level of subject interest was generally low among students. Students could not enjoy the English lessons and they remained passive in the learning process since they rarely asked questions in class, sought for clarification or even participated in class discussions. Lack of activity or enjoyment clearly indicates low interest in English as a subject. Similarly, Herpatawi and Tohir (2022) reported that learners who had low interest were less motivated to learn.

4.2.2: Comparison of Students' Level of Subject-Interest

All the students in the four groups, two intervention and two control groups, filled in subject-interest questionnaires. This happened after both experimental group 1 and experimental group 2 participants had been subjected to scaffolding learning for a period of 6 weeks while those in the two control groups (control group 1 and control group 2) had been taught in the normal way. All the four groups filled in the post-test questionnaires. The responses were captured in a five-point Likert scale from 1 to 5 and were converted into continuous scale data by computing the mean response in each item. This enabled the researcher to compute means per item for comparison of the items of the subject-interest among different levels (pretest/posttest and between intervention and control groups). After the analysis of the survey results, interviews were carried out among participants in the experimental groups. The interviews helped to confirm, support, clarify and explain the survey findings. Both survey and interview data were interpreted together.

The improvement in subject interest according to the survey is summarized in Figure 4.

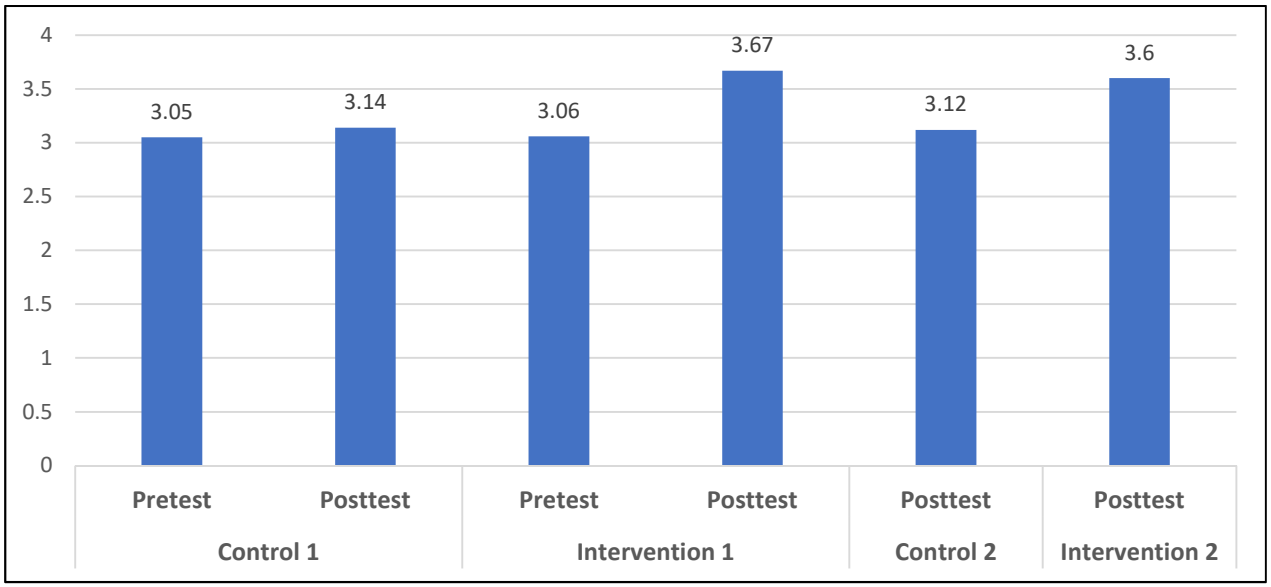

Figure 4: Subject-Interest Rating Before and After Intervention

Figure 4 shows the pretest and posttest composite mean ratings of the four study groups. The subject interest pretest mean rating of experimental group 1 was 3.06 while the pretest subject interest mean rating of control group 2 was 3.05. The difference between the pretest mean was 0.01. After undergoing scaffolding learning, experimental group 1 produced a subject interest posttest composite mean of 3.67 while control group 1 which learned using the normal methods gave a posttest composite mean of 3.14. The posttest mean difference

between experimental group 1 and control group 1 was thus o.53. Moreover, the mean rating of experimental group 2 which was taught using scaffolding technique was 3.6 while control group 2 which was taught normally produced a composite mean of 3.12 thus bringing out a mean difference of 0.48. The study therefore found out that the experimental groups that were taught using scaffolding learning method attained a higher posttest subject interest mean of 3.67 and 3.60 by experimental group 1 and 2 respectively. On the contrary, control groups which were taught using the normal methods attained a lower subject interest composite mean of 3.14 and 3.12 by control group 1 and control group 2 respectively. The results are tabulated in table 14.

Table 14: Comparison of Pretest and Posttest Subject Interest Results.

Indicators	Intervention 1		Intervention 2	Control 1		Control 2
	Pretest	Posttest	Posttest	Pretest	Posttest	Posttest
I often ask questions in an English class	3.1	3.7	3.6	3.0	3.1	2.9
I often contribute to class discussions	3.4	3.5	3.6	3.3	3.4	3.4
I often make class presentations	2.9	3.6	3.5	2.9	2.9	3.0
I ensure that I complete my assignments before the next lesson	3.0	3.6	3.6	3.1	3.1	3.0
I do teach other students	2.8	3.4	3.2	2.6	2.7	2.7
I do consult the teachers when doing assignments	2.7	3.7	3.6	2.6	2.7	2.7
Learning English puts me in a good mood	3.4	3.5	3.5	3.4	3.5	3.4
When studying English, I get fully focused and forget everything around me	3.1	4.1	4.1	3.3	3.4	3.4
I always look forward to English lessons because I enjoy them a lot	3.2	3.7	3.5	3.2	3.3	3.3
I listen attentively to my teacher of English	3.1	3.8	3.8	3.1	3.1	3.2
I actively participate in the discussion, answering exercises and clarifying things I did not understand	3.2	4.1	4.2	3.2	3.2	3.3
I get frustrated when the lesson is interrupted or the teacher is absent	2.8	3.4	3.2	2.8	2.9	2.8
Composite mean rating of subject-interest	**3.06**	**3.67**	**3.6**	**3.05**	**3.14**	**3.12**

The pretest and post test data were compared and the study established considerable improvement in subject interest among learners who had been taught using scaffolding technique as shown on Table 14. For instance the response of learners to the frequency with which they asked questions during an English lesson improved significantly in the experimental groups as compared to the control groups which comprised of learners who

were taught using conventional methods. In experimental group 1, the mean rate of how often the learners asked questions in an English class was at 3.1 during pretest and at 3.7 during posttest stage, signifying a considerable change in rating. This rate is comparable to that of experimental group 2 of 3.6. However, the control groups which were not exposed to scaffolding learning exhibited low mean rates; control group 1 had a pretest mean of 3.0 and a posttest mean of 3.1 whereas control group 2 had a mean rate of 2.9. The study therefore established that the students who were taught using scaffolding technique improved significantly in the rate at which they asked questions during the English question, which clearly indicated that scaffolding method had a positive effect. The findings are in agreement with the findings of a study in Japan by Sugino (2019) that scaffolding encouraged students' participation by transforming less motivated students to active students. Interview respondents also gave their thoughts on the improvement on the rate at which students asked questions:

> *For the time I have employed the new method, the students are asking a number of questions. Those students who have been dull and shy are emulating their active counterparts. Some even ask questions outside the classroom and this is quite encouraging.*
> *I think the new method has exposed the learners unlike the other methods where they receive only what I give them. Now they can discover on their own. They remind me, especially in literature, they remind me information, though in form of a question. For instance, "…is selfishness a theme in…" They are doing a lot of research in their groups and in the process they are coming up with so many questions which they ask in class.*
> *I think the other methods deny them the opportunity to ask questions. If I dictate notes and they copy, will they be able to ask a question? In the new method, if they discover information that is not very clear to them, they ask a question so that I clarify for them. I think that is why the students are asking me more questions than they used to I the past. (ToE1)*

Another respondent had this to say:

> *My students are more active in asking questions than ever. They are really enjoying the new technique, so, I think they are asking questions so that they do the right thing for fear of reverting to the old methods. The students do not want to mess. They want to be guided well so that they do perfect work. I think most of the questions they ask are for the purpose of guidance towards the right direction. At the same time, I think they want to compare my answer with theirs in order to confirm whether they are doing the right thing. (ToE2)*

And another one said:

> *I do ask questions in class so that I understand properly what the teacher is teaching us. Also our teacher is encouraging us to do most of our studies*

without having to depend on him so much, so if I have to do my personal studies well,, I do ask questions for the purpose of guidance. Also we ask questions during our group work so we understand what the topic well (LoE4)

According to the responses in the extracts from ToE1, ToE2 and LoE4, the study found out that scaffolding technique had a positive effect on the frequency with which the students asked questions in class. ToE1 explains why they think the students are more active in asking questions. According to the respondent, scaffolding technique has made students to discover new information on their own, and it on the new information that they base the questions they ask. At the same time, the conventional methods do not give students the opportunity to ask questions because the students believe the teacher is the one to give them all the content they need. Toe2 also explains why there is improvement in the rate of asking questions. In their opinion, the students are enjoying scaffolding technique and for the fear of reversing to the old methods, they want to ask questions in order to do the right thing. Purposely, the students do not want to mess up the new good method. Secondly, the students ask questions for the purpose of guidance towards perfection. Lastly, the students ask questions in order to use the teacher' response with the information they have discovered so that to confirm that whatever studies they are doing on their own are right. From the responses therefore it is clear that scaffolding has a positive effect on learners' rate of asking questions.

Likewise, on how often the students contributed in group discussions, there was some improvement in the intervention group 1 from a mean of 3.4 to 3.5. Experimental group 2 also attained a mean of 3.6. On the other hand, learners in control group 1 got a mean of 3.4 which dropped to 3.3 by the end of 6 weeks. Control group 2 who were not pretested achieved a mean rate of 3.4. The results show that learners who went through scaffolding learning contributed in group discussions more frequently than those who were taught using the normal teaching methods. Moreover, learners were asked to indicate how often they made class presentations and experimental group 1 improved from a mean rate of 2.9 to 3.6 while experimental group 2 learners attained a mean rate of 3.5. On the other hand, control group 2 students maintained a mean rate of 2.9 both in the pretest and the posttest as their control group 2 recorded a mean rate of 3.0. on whether the learners teach other students, there was an improvement in the mean rating in experimental group 1 from 2.8 to 3.4 while experimental group 2 got a mean of 3.2. However, control group 1 had a pretest men of 2.6

and a posttest mean of 2.7. Control group 2 also recorded a mean rating of 2.7 showing no significant difference in the pretest and posttest mean rating in the control groups. On the same note, how actively they participate in the discussion, answering exercises and clarifying things they did not understand improved from a mean of 3.2 to 4.1 in experimental group 1 and 4.1 among experimental group 2 participants. On the contrary, control group 1 got a pretest and posttest mean of 3.2 while control group 2 got an almost similar posttest mean of 3.3. These findings show that those students who were learned using scaffolding technique made class presentations more often that those who learned using the normal technics. The findings concur with the findings of a study in Nigeria by Okechukwu (2020) where a significant difference in basic science attitude mean score of pupils taught with modeling and cuing questions and those taught with the conventional method was recorded.

The study went ahead to probe interview respondents on the frequency with which the English language learners contributed in discussions and made presentations. The following extracts were obtained:

> *I often encourage my learners to form discussion groups and they normally have a chair who ensures that every member contributes in the discussion. Therefore participation is mandatory for all members.*
>
> *Presentations are normally made by the secretary of each discussion group. But since I introduced the new method, my learners are making group presentations in turns. I can say they are enjoying the discussions as well as the presentations. I think this is because, unlike when we give them a topic or a question to discuss, this new method requires that I allow them to identify their areas of weakness on their own and tackle them. I think this is what has given my learners confidence because they do what is within their ability. (ToE1)*

Similar remarks were made by anther respondent:

> *Discussion groups have been functional but of late the groups are more active, I think because I have given my students enough time to do their studies. I have given my learners the opportunity to pick a topic or a question and they discuss and I may or may not be present during their discussions. The chair of each group ensures that as many learners as possible contribute during the discussion.*
>
> *About class presentations, the learners are more active. They can present what they discussed. They can also present items such as poems as well as reading aloud. I think the learners are more active because nowadays I am not forcing them to do topics they don't enjoy. I have allowed them to choose the topics and questions for discussion. I think, the new method has made learners believe in their abilities. They are no longer shy or afraid.(ToE2)*

Another respondent also noted a difference in the English language learners.

> *Nowadays I am very active in group discussions. We have organized ourselves well. We do research on the topics we are given and we bring the points we have got. So I have to contribute during the discussions. If the point I have brought is not correct, my group members help me. That is why I have to raise the points without fear. (LoE3)*

According to the extracts from ToE1, ToE2 and LoE3, learners participate in class discussions which are done in groups. The respondents go on to explain that the chair of each group performs the role of selecting the group members who make contributions during the discussion. This explains why the mean rate of contributions is not much different between the pretest and posttest. Moreover, the respondents ToE1 and ToE2 express that they give their learners opportunities to select the topic or question that they want to discuss. LoE also admits that for the learners to benefit from cooperative learning, they have to actively make contributions during group discussions because they assist each other. This could suggest that during the application of scaffolding technique the English language learners select the material within their Zone of Proximal Development. For this reason, the mean rate of making class presentations significantly increased between the pretest and the posttest.

The survey further sought to know whether the language learners ensured that they completed their assignments before the next lesson. The mean rating for experimental group 1 improved from of 3.0 to 3.6 while the mean of experimental group 2 was at 3.6. On the other hand, no significant difference was achieved in the pretest and posttest mean in learners in control group 1 and control group 2 when asked how they completed their assignments before the next lesson. Control group 1 learners attained a mean rating of 3.1 both in the pretest and the posttest while control group 2 learners got a mean rating of 3.0.

Equally, after receiving the intervention it emerged that the learners in experimental group 1 improved in how they consulted the teachers when doing assignments from a mean of 2.7 to 3.7. Similarly, the learners in experimental group 2 attained a mean rating of 3.7. However the control groups did not improve much as control group 1 had a pretest mean of 2.6 and a posttest mean of 2.7 while control group 2 had a man of 2.7 rating of the frequency of consulting teachers when doing assignments. The findings of the current study are comparable to those of a study in the US by Song and Glazewski (2023) which reported an increase in the rate learners asked for clarification after learning using scaffolding method.

Interview participants were probed on the rate at which learners cleared their assignments and consulted teachers during assignments and they had this to say:

> *Let me say that there is notable improvement in the manner in which assignments are cleared. Unlike in the past, I do not have to follow them up. I just find the assignment books on my table. Actually the students consult a lot. I cannot compare with the past. At least this time our learners are more motivated. They do come for consultations more than in the past. I think this is because we have given them a lot of time to do their studies unlike when we just want to clear the syllabus. I feel if the topics are reduced and we give learners time to do more of the learning on their own, we would expect good results. (ToE1)*

The remarks were echoed by another respondent as follows:

> *I do finish my assignments in time, and while doing the assignments, I consult my teacher when I find a problem. Of course we are encouraged to first consult fellow students who perform better but when the students cannot help, I go to our teacher. I complete the home work because we have enough time and the homework we do is not the difficult one. Our teacher insists that we begin with simple exercises, when we have mastered them we move to the difficult ones. So I finish because I like doing them. (LoE4)*

The responses by ToE1 and LoE4 confirm an improvement in the rate at which learners clear their assignments before the next lesson as well as the rate at which the learners consult their teachers. According to the respondents, the learners finish the assignments in time. Also, the learners seek the teachers' support as they do their assignments. The support is given when the learners go to the teachers to consult. The respondent anticipated for better learning outcomes if scaffolding learning technique would be employed throughout. Moreover, LoE4 clarifies that learners do enjoy the assignments because they learn within their ZPD. To achieve their optimal ZPD they consult their teachers. This is coupled with the application of cooperative learning; hence, the learners enjoy the scaffolding learning process. Thus from the responses from ToE1 and LoE4 the study established that scaffolding teaching technique has a positive effect on how the learners did their assignments as well as made consultations.

In addition, the learners' level of focus improved significantly; this was shown by the fact that when studying English before the exposure to the treatment, learners' ability to get fully focused and forget everything around them was rated at 3.1 but after exposure to the scaffolding technique the rating improved to a mean of 4.1 among the experimental 1 participants. Also, experiment group 2 recorded a similar mean rating of 4.1. However,

control group 1 made an insignificant difference from 3.4 in the pretest to 3.5 in the posttest while their control group 2 counterparts attained a mean rating of 3.4. Also, during pretest, the statement "I always look forward to English lessons because I enjoy them a lot" received a mean rating of 3.2 and during posttest the mean improved to 3.7 by the first experimental group and 3.5 by the second experimental group. The control groups on the other hand attained a pretest mean of 3.2 and posttest mean of 3.3 in both control1 and 2. Likewise, the learners' ability rating to listen attentively to their teacher of English rose from a mean of 3.1 before the treatment to 3.8 after treatment among experimental group1 students and 3.8 among experiment group 2 learners. But the control groups did not improve much as control group 1 got a pretest and posttest mean of 3.1 while control group 2 got a posttest mean of 3.2. the findings concur with the findings of a study in the US by Yong which (2021) which reported notable increase in engagement frequency and attentiveness among students after they received teacher scaffolding.

Interview participants were asked how focused and attentive their learners were after scaffolding learning and the respondents gave the following sentiments.

> *True, the learners are mostly very attentive during the lesson because they do most of the learning activities. For instance in discussion, reading, writing or role play, the learner has to remain focused and attentive, otherwise he will lose track. In fact, there is no way a learner will participate fruitfully if the learner loses focus. Also unlike earlier, the learners listen more attentively because they know my work as a teacher is minimal. I just guide and show the way and they do the learning. They are mostly alert when I want to give an explanation or a clarification, for instance on the format of writing, characterization etc. so unlike the time of lecture method, y learners are more attentive and focused. (ToE1).*

Similar remarks were given by ToE2 as follows:

> *Compared to last time, our students pay a lot attention to the learning activities because they know that is their work. You know as a teacher, I have very little to do when I employ this method. So, since the learners are doing much of the work, naturally they have to remain focused. Maybe if I discover something to clarify, the learners remain very attentive unlike the other method where they even sleep when the lesson is ongoing. At the moment most of the learners are very attentive and alert in class so that they don't mess their work. (ToE2)*

LoE also gave some sentiments:

> *We are very attentive in class. Personally, I do not want to lose out on any information. I do not want to score poorly. Our teacher says, she has given us*

all the time to do our studies. So I have to do my best so that not to betray myself.(LoE5)

The remarks by ToE1, ToE2 and LoE5 explain why there is an improved mean rating in terms of how focused and attentive the learners are during scaffolding learning. According to the respondents, the learners remain focused on the learning activities because they get fully involved. At the same time, the learners own the learning process which makes them attentive whenever an explanation or a clarification is made by the teacher. Moreover, the learners want to achieve the best out of what they are taught, in order to achieve their goals. From these explanations, it is clear that scaffolding method has a positive effect on the focus and attentiveness of learners to the process of learning.

Finally, the degree on how learners enjoy and look forward to the lesson improved significantly among the experimental groups from a pretest mean of 3.2 to 3.7 in experimental group 1 and 3.5 in experimental group 2. Contrary to this there was minimal improvement among the control groups from 3.2 to 3.3. On how the learners get frustrated when the lesson is interrupted or the teacher is absent rose from a mean of 2.8 to 3.4 among experimental group 1 and 3.2 among experimental group 2. Whereas the control groups mean rating remained at 2.8 both in the pretest and posttest. The difference in the pretest and the posttest mean ratings suggest that the scaffolding teaching technique improves the learners' general subject-interest. The findings support those of a study in Oman by Shemy (2022) that scaffolding made the learners in the intervention group develop positive attitudes towards the content they were learning. Similarly, an interview respondent gave some remarks:

I may agree with learners that they are enjoying the lessons and they get frustrated when the lesson doesn't take place. Actually, the enjoyment can be deduced from the active role taken up by the learners. You can see the enthusiasm with which they do their things including assignments, discussions, presentations, asking questions etc. from there I can conclude that my learners are enjoying and if that is the case frustrations can come in case there is no lesson. (ToE2)

Another respondent said:

We are really enjoying our lessons. I do not want to miss any English lesson. We are doing our studies on our own most of the time. Sometimes a teacher comes to class and finds that we have already started to discuss a question or a topic, or if it is a reading lesson we start reading before the teacher arrives. If a teacher forgets we send the prefect to remind him that the lesson has started. We don't want to miss the lessons because even the topics I have not been enjoying are not that difficult. (LoE5)

From the extracts, ToE2 and supports the findings that more learners are enjoying the learners process and that they get frustrated when the lesson does not take place. The respondent goes on to explain that the learners enjoy because they actively participate in the learning process and they own the process. LoE5 fully supports this assertion and adds that if the teacher delays, learners stat off the lesson on their own because after all, the learning process belongs to them. The learners can go to the extent of reminding their teacher about the lesson. This is clear evidence that scaffolding has made learners enjoy the learning process.

From the findings, the study therefore established that the learners' interest to learn English as a subject improved after going through scaffolding technique.

4.2.3: Experimental Findings on the Effect of Scaffolding on Subject-Interest

The first hypothesis to be tested was:

$H_0$1: There is no statistically significant effect of scaffolding on subject interest among English language learners in Kenyenya Sub County.

The study sought to investigate the effect of scaffolding learning technique on subject-interest among form three secondary school students' English learners in Kenyenya Sub-County. The intervention was, scaffolding teaching technique to which English language learners were subjected for duration of eight weeks. Given that the study used Solomon four group design, the study sampled four groups which were randomly assigned to two experimental groups (experimental group 1 and 2), and two control groups (control group 1 and 2). Paired samples t-tests were used to determine the difference in English language subject-interest between the experimental and control groups. The different combinations of pretested and un-pretested groups with treatment and control groups allowed the researcher to ensure that confounding variables and extraneous factors did not influence the results. Pre-test questionnaires were administered to experimental group 1 and control group 1 to evaluate the level of the learners' subject interest before scaffolding teaching and learning. Later, post-test questionnaires were administered to all the four groups in order to determine whether students' exposure to scaffolding learning process had an effect on their subject interest.

To ascertain whether randomization took place during sampling stage, paired samples t-tests were performed between the pretested groups (experimental group 1 and control group 1) and the posttest only group, (control group 2) and the results tabulated on Table 15.

Table 15: Subject Interest Similarity Test

		Paired Differences			T	Df	Sig.
		Mean	SD	SEM			
Pair 1	Exp. grp 1-Pretest Control group .grp 1-pre-test	-.22	10.92	1.24	-.18	77	.861
Pair 2	Experimental grp 1 pretest Control.2-Post-test	-.24	8.90	.74	-.179	55	.575
Pair 3	Control grp 1 pretest Control.2- Post-test	-.48	.68	-564	7.67	50	.365

Table 15 shows no statistically significant difference in subject interest mean scores between Experimental group 1 pretest and Control group 1 pretest scores, t(77)= -.18, p= .861. Equally, there is no statistically significant mean scores difference in pair 2 and pair 3; t(55) = -.179;p=.575 and t(50)= 7.67, p=.365. since the results on Table 13 show no statistically significant difference in the three paired samples t-tests, the study established that randomization took place during the sampling process, hence the groups of participants were similar in subject interest before the study began.

The study proceeded to calculation of the composite mean scores of subject interest for all the four groups tabulated the results on Table 16.

Table 16: Descriptive Statistics of Level of Interest in English as a subject for the Four Groups Used in the Study

	Group	N	Mean	Std. Error	Std. Deviatio
Pretest Scores	Experimental grp1-Pretest Subject-Interest	103	31.6117	.64158	6.51128
	Control grp1-Pretest Subject-Interest	78	31.4744	.85177	7.52265
	Exp. Grp 2-Pretest Subject-Interest	101	-	-	-
	Control2-Pretest Subject-Interest	51	-	-	-
Posttest Scores	Exp. grp1-Posttest Subject-Interest	103	42.9059	.45991	4.62207
	Control grp1-Posttest Subject-Interest	78	31.7179	.80249	7.08735
	Exp. grp2-Posttest Subject-Interest	101	42.4126	.64614	6.55760
	Control grp2-Posttest Subject-Interest	51	32.6078	.94353	6.73819

Source: ***English language subject-interest rating (2023)***

Table16 shows that the subject-interest posttest scores for experimental Group-1 learners who received scaffolding learning techniques, recorded highest posttest mean score of 42.9 (SD=4.6) up from a pretest mean of 31.6. Experimental group 2 who had also received treatment of scaffolding learning attained a posttest mean42.4 (SD=6.6) though the E2 learners had not been pretested. Control group 1 students, who were not exposed to scaffolding learning process in English language, recorded pretest score of mean=31.5 (SD=7.5). However, it was not significantly lower than pretest score for Group-1, which was at 31.6 (SD=6.5). Generally, the experimental groups 1 and 2 recorded a higher mean score of 42.9 and 42.4 respectively unlike the control groups 1 and 2 which got a posttest mean of 31.7 and 32.6 respectively. Figure 4.4 further shows graphical presentation of the relative difference in mean rating for subject-interest for the four groups of students.

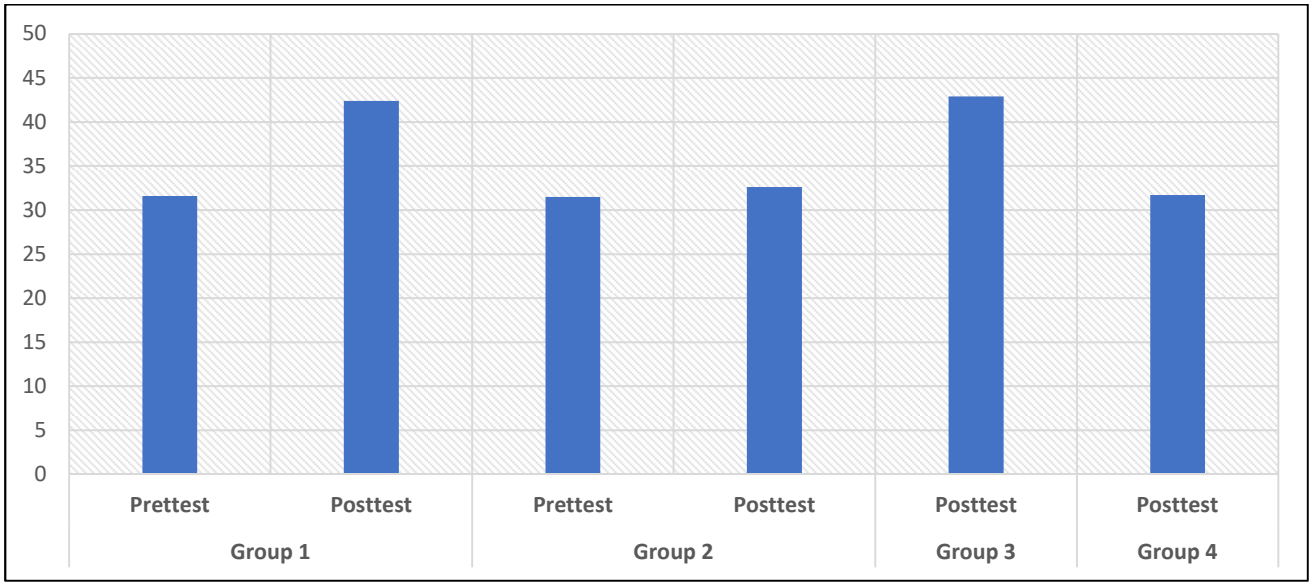

Figure 5: Mean Rating in Subject Interest

Key: group1-experimental group 1, group 2- control group 1), group 3- Experimental group 2, group 4- Control group 2

Source: Study data (2023)

Figure 5 clearly shows that experimental groups 1 and 2 recorded a relatively higher English subject-interest posttest mean scores. Experimental group 1 and 2 were the intervention groups that had been exposed to scaffolding learning techniques. On the other hand, their counterparts Control groups 1 and 2 who did not receive the treatment reported lower mean scores. Moreover, there was no substantial difference between pretest and posttest ratings in subject interest mean scores between the control groups 1 and 2. However, to investigate whether there was any statistically significant difference in subject interest ratings between experimental and non-experimental groups, three different steps involving use of t-test were applied and findings were compared. Table 17 shows a comparison between the post-test ratings in English language interest attained by experimental group 2 and control group 2 learners.

Table 17: A Solution with the Post-test Only Design with Non-Equivalent Control Groups
Paired Samples t-test

	Paired Differences					T	Df	Sig.
	Mean	SD	SEM	95% Confidence Interval of the Difference				(2-tailed)
				Lower	Upper			
Experimental group 2 Control group 2	10.51	10.19	1.15	8.21	12.81	9.11	77	.000

Table 17 shows paired sample t-test investigating solution with the Posttest Only Design with Non-Equivalent Control Groups. From the results, it can be concluded that there is significant difference between Experimental group2 and Control Group 2 learners, t (77) = 9.11; p=.000 <.05. Experimental group 2 participants had been subjected to scaffolding learning method while control group 2 participants had learned using the conventional methods. Given that the difference is statistically significant at 5% significance level, it was concluded that scaffolding learning strategy is effective in improving English language subject-interest among the form three secondary school learners. This is because learners who had gone through scaffolding technique scored a significantly higher subject interest posttest mean score than those who learned in the normal way. The findings concur with those of a study in Mexico by Acosta-Gonzaga and Ramirez-Arrelano (2022) that teacher support fosters students emotions of being enthusiastic, interested in class, joyful in learning and proud of their learning achievements.

However, it is not known whether the existing difference in interest in English as a subject is exclusively due to use of scaffolding learning strategies or any other superseding variable which is not included in the study. Therefore, the study further explored solution with the Two Control Group Design, as refinement over the finding, as shown in Table 18.

Table 18: Paired Samples Test: Solution with the Two Group Control Group Design

		Paired Differences			T	Df	Sig.
		Mean	SD	SEM			
Pair 1	Exp. grp 1-Pretest exp.grp 1- Post-test	-10.84	7.60	.76	-14.33	100	.000**
Pair 2	Control 1-Pretest control.1-Post-test	-1.19	9.32	1.30	-.92	50	.364
Pair 3	Exp.grp1- Post-test Control.1- Post-test	9.47	8.82	1.24	7.67	50	0.001**
Pair 4	Exp.grp.1 -Pretest Control.1 -Pretest	-.22	10.92	1.24	-.18	77	.861
Pair 5	Exp.grp1- Post-test control.2 -Post-test	10.17	8.68	.98	10.34	77	.002**

*Significant at 5% level ** significant at 1% level

From Table 18, a paired sample t-test on Pair 2 (control Group 1 pretest and control group 1 post-test) suggests that there was no difference established between before and `after values in the control group [t (50) = -.92, p =.364 (ns)], but a test on Pair 1 reveals that there was significant difference [t (100) = -14.33, p <.001] between pretest and post-test score of experimental group 1. These values indicate a significant effect of treatment (scaffolding learning strategies) on the subject interest among learners in the experimental group1. Pair 3 which pairs posttests of experimental group 1 and control group 1 shows a statistically significant difference in scores between the two groups [t(50)= 7.67, p<.001). Equally, Pair 5 further confirms that there is significant difference at 1% significant level between experimental group1 posttest scores and control group 2 posttest scores [t(77) = 10.34, p=.002. t

The statistically significant difference in mean scores between experimental groups and control groups as well as pretest and post-test mean scores of experimental groups shows that scaffolding strategies had a positive effect on subject interest among English learners. learners who has been taught using scaffolding method had a higher subject interest mean score than learners who had been taught normally. The higher subject interest mean score can be attributed to scaffolding learning strategies. Similarly in South Korea, Lange, Gorgunova,

Shmeleva and Costley (2022) reported that scaffolding strategies maintained learners' interest in learning.

In addition, pair 4 suggests that the randomization process was successfully applied to get samples for the experimental and control groups. This was implied by the fact that there was no significant difference [t (77) = -.18, p =.861 (ns)] established between Experimental Group1 Pretest and Control Group 1 Pretest. Hence, assuming that pretesting has no effect on post test results, the study established that the use of scaffolding learning strategy is effective in improving English language interest among secondary school learners.

Contrary to the findings, the study noted an effect of pre-testing on post-test scores because the mean difference increased from -10.84 to 10.67 from pair 1 to 5. This was confirmed through the use of solution with the Four Control Group Design, whose results are shown in Table 19.

Table 19: Paired Samples Test- Solution with the Four Control Group Design: Subject-Interest

		Paired Differences			T	Df	Sig.
		Mean	SD	SEM			
Pair 1	Exp.grp 1-Pretest Exp.grp 1- Posttest	-10.84	7.60	.76	-14.33	100	.000**
Pair 2	Control.1-Pretest control.1 –Posttest	-1.19	9.32	1.30	-.92	50	.364
Pair 3	Exp. grp 1 -Pretest control.1 –Pretest	-.22	10.92	1.24	-.18	77	.861
Pair 4	Exp.grp1 Pretest Control.1 Posttest	-1.69	8.71	1.22	-1.38	50	.173
Pair 5	Exp.grp.2-Posttest Control.2- Posttest	10.51	10.19	1.15	9.11	77	.000
Pair 6	Control.1- Pretest Exp.grp.2- Posttest	-10.76	10.32	1.17	-9.21	77	.000
Pair 7	Exp.grp.1- Posttest Exp.grp2- Posttest	-.48	7.20	.72	-.66	100	.509
Pair 8	Contol.1- Posttest Control.2- Posttest	-.69	8.68	1.22	.565	50	.575

From Table 19, a paired samples t-test for Pair 2, t (50) = -.92, p=.364 (ns) suggests that there was no statistically significant difference in subject-interest between pretest and posttest mean scores for control group 1. However, test results for Pair 1 reveals that there is statistically significant difference at 1% significance level between pretest and post-test scores of the Experiment group 1, t (100) = -14.33, p<.001, implying a statistically significant effect of scaffolding learning strategies on learner interest in English as a subject. Further, from the test in Pair 3, the study found out no statistically significant difference between experimental group 1 and control group 1 pretest results; [t(77)= -.18, p=.861]. This shows the randomization process was effective during sampling of the experiment and control groups. However, t-test in Pair 4 confirms that there is no statistically significant difference between Experimental Group-1 pretest and Control Group-2 post-test, t(50)= -1.38, p=.173, hence, the use of scaffolding learning strategy has significant positive effect on interest in English subject among secondary school learners. In addition, t-test on pair 5 proves that there is a statistically significant difference between Experimental Group2 post-test and Control Group 2 post-test (without pretest) at 1% significance level [t(77) = 9.11, p<.001]. Since the two groups, experimental group 2 and control group 2 were not pretested; the statistically significant effect of scaffolding learning on the learners' subject interest was as a result of the intervention only. This means that the pretest procedures did not influence the overall result, thus the extraneous variable was well controlled. Therefore, t-test in pair 4 and pair 5 suggests that there is a statistically significant effect of scaffolding learning strategy on learner interest in English. The findings agree with the findings of a study by Sun, Kangas, Ruokamo, and Siklander (2023) that scaffolding enhanced learners interest in and enjoyment of the learning area.

Moreover, the mean difference of t-test in pair 3 is not significantly higher than that of pair 4 implying that, although pretest could have increased the learner's sensitivity or responsiveness to the experimental variable (subject-interest questionnaire items), this influence was negligible.

On the other hand, the result of the test in Pair 6, between control group 1 pretest and experimental group 2 posttest [t(77)=-9.21, p.001] shows a statistically significant difference between the two groups since p<.001. But pair 7 which comprises of experimental group 1 and experimental group 2 posttest shows no statistically significant mean difference, t(100) =-.66, p=.509. Lastly, pair 8 t-test shows no statistically significant mean difference between

control group 1and control group 2 posttest, t(50),=.565, p=.575. The t-test result for pair 6-8 suggests that external factors had not interfered with the study.

Thus, using the results in Pair 1 supported by findings in Pairs 2-8, there was sufficient evidence to reject the null hypothesis that "there is no statistically significant effect of scaffolding on subject interest among learners". It was therefore concluded that although there could have been some confounding effect of pretest, there was statistically significant effect of scaffolding strategies on learners' interest in English among secondary school students. Hence, the use of scaffolding strategy is effective in improving leaners' interest in English as a subject.

These findings agree with the findings of a study by Annisa and Sutapa (2019) who in their determination of the effectiveness of scaffolding as a strategy to increase children's interest in science established that scaffolding effectively improved students' interest in science by 41.6%. Similar findings were given by Sugino (2019) who established the usefulness of scaffolding simulations, such as role play, on learners' interest in learning, where the study reported that scaffolding simulations help students understand the topic and encouraged their participation.

4.3: Effects of Scaffolding on Self-Efficacy among English Language Learners

The second objective of the study sought to investigate the effects of scaffolding on self-efficacy among English learners in Kenyenya Sub-County. The objective was addressed using both descriptive and inferential statistics. Descriptive statistics were used to explore the distribution respondents' level of self- efficacy and inferential statistics were used to investigate the effect of scaffolding on self- efficacy.

4.3.1: Students' Level of Self-Efficacy before Scaffolding Learning

The study operationalized self- efficacy as a belief by the respondents in their capacity to execute behaviours necessary to achieve a certain goal. Therefore, it was envisaged that a student with high self- efficacy is able to show confidence in solving unexpected problems in their study, able to effectively learn on their own, set high goals and accomplish something difficult by focusing on their progress instead of feeling discouraged.

Before the intervention, the student respondents in the experimental group were given fifteen statements whose constructs showed the level of self-efficacy in order to ascertain the level of

self-efficacy among the sampled learners before they would be subjected to scaffolding learning method. The respondents were expected to respond to the statements using 5-point rating scale; 1- never, 2-rarely, 3-sometimes, 4-often and 5-always. Their views were summarized in frequency percentages, mean and standard deviation, as tabulated in Table 4.9. After the analysis and tabulation of the views, participants in the control groups were interviewed and their responses collaborated with the survey findings on Table 20.

Table 20: *Level* ***of Students on Self-Efficacy (n=103)***

Item	1	2	3	4	5	Mean	SD
I am competent in learning on my own	9 (8.7%)	16 (15.5%)	39 (37.9%)	27 (26.2%)	12 (11.7%)	3.2	1.1
I feel that I have the ability to keep things unforgotten	11 (10.7%)	16 (15.5%)	45 (43.7%)	22 (21.4%)	9 (8.7%)	3.0	1.0
I can arrange for the help of my teachers whenever I need it	15 (14.6%)	11 (10.7%)	53 (51.5%)	19 (18.4%)	5 (4.9%)	2.9	1.0
I can set higher goals in my study	23 (22.30%)	24 (23.3%)	35 (34.0%)	12 (11.7%)	9 (8.7%)	2.8	1.0
I find it easy to read and understand textbooks in English	16 (15.5%)	13 (12.6%)	44 (42.7%)	23 (22.3%)	7 (6.8%)	2.9	1.1
I can complete my home works myself without any help from guidebooks, previous notes, etc	16 (15.5%)	20 (19.4%)	50 (48.5%)	15 (14.6%)	2 (1.9%)	2.7	0.9
I can deal efficiently with unexpected problems in my study	20 (19.4%)	23 (22.3%)	37 (35.9%)	20 (19.4%)	3 (2.9%)	2.6	1.1
If I miss some classes for some reasons, I can compensate the loss fairly well	14 (13.6%)	20 (19.4%)	38 (36.9%)	22 (21.4%)	9 (8.7%)	2.9	1.1
When I learn a new concept, I can recall the related knowledge from the earlier classes	11 (10.7%)	18 (17.5%)	46 (44.7%)	17 (16.5%)	11 (10.7%)	3.0	1.1
I can answer the essay type questions very well.	14 (13.6%)	19 (18.4%)	45 (43.7%)	16 (15.5%)	9 (8.7%)	2.9	1.1
I can score well in short answer type questions	14 (13.6%)	20 (19.4%)	44 (42.7%)	16 (15.5%)	9 (8.7%)	2.9	1.1
I can manage to solve difficult problems if I try hard enough	11 (10.7%)	18 (17.5%)	38 (36.9%)	27 (26.2%)	9 (8.7%)	3.0	1.1
When I am confronted with a problem, I can usually find several solutions	10 (9.7%)	16 (15.5%)	46 (44.7%)	18 (17.5%)	13 (12.6%)	3.1	1.1
I am confident that I will achieve the goals that I set for myself	12 (11.7%)	20 (19.4%)	48 (46.6%)	12 (11.7%)	11 (10.7%)	2.9	1.1
Mean overall rating on students' self-efficacy						3.0	0.6

Key: 1-Never; 2-Rarely; 3-Sometimes, 4-often and 5-Always; M-mean; SD-Standard deviation. Source: Survey Data (2023)

Table 20 shows the pretest mean rating on the self-efficacy items as reported by the participants. For instance, the study sought to establish whether the students were confident enough to learn on their own and the results showed that while 39 (37.9%) of the respondents generally agreed that they were often competent in learning on their own, 25 (24.2%) of them

accepted they were not competent enough to learn on their own, translating to competency level of 3.2 (SD=1.1). Likewise, on the ability to keep things unforgotten, 11 (10%) of the respondents agreed that they never keep things unforgotten, 16 (15%) rarely do so while 31 (30.1%) of the respondents admitted that they either often or always have the ability to keep things unforgotten. However, a sizeable proportion 45 (43.7%) of the sampled students indicated that they sometimes have the ability to keep things unforgotten, suggesting a moderate self-efficacy, translating to self-efficacy mean rating of 3.0 with a standard of 1.0. the findings concur with those of a study in the USA by Laston (2022) which revealed that the conventional methods made learners unable to comprehend and retain the information read. The study went further to find out from interviewees how the learners expressed confidence to learn on their own, as well as how they would retain learned information before scaffolding learning and the following data was obtained.

> *I agree that most of my students cannot learn on their own. I have tried to entrust them with the responsibility but they have always disappointed me. For instance there are times I would be absent from school for one reason or the other, then I would leave behind some work to be done. Believe me the students could not manage on their own. The best they could do is wait for the very few that could manage do their work and then copy from them. About retention of information, the situation was always the same. If a student can copy another student's assignment, obviously it means they have not read. So if you give them a test, they have nothing to write since they did not read or do the assignment in the first place. In other words, I can say that most of my students were not confident of studying on their own. The lack of confidence is expressed when they cannot answer a test from the area they learned on their own correctly (ToE1)*

Similarly, another response was as follows:

> *Earlier, I couldn't learn on my own. It becomes difficult to know whether what I am doing is right if the teacher is not there. but even if I learned on my own, I find it difficult to apply the little knowledge in answering an exam unless the teacher verifies it. I remember there is a time our teacher told us individually to read Blossoms chapter 4 and 5 and identify the themes and features of style and also do characterization. I tried the best I could. Then when the teacher came to class he surprised us with a CAT, an Extract question from Chapter 4. I was afraid to answer the questions using what I had learned because I was not sure whether they were right and I failed. Later I discovered that I already had the right answers only that the teacher was not there to confirm them. (LoE2)*

The extracts from ToE1 and LoE2 confirm the findings of the study that before scaffolding learning method was adopted, most English learners neither had the confidence to learn on their nor kept the things they had learned unforgotten. According to ToE1, the learners lacked

confidence to the extent that those who did not believe in their abilities would copy the assignments from those they taught were more capable. At the same time, they could perform dismally in exams since they easily forgot what they had learned or copied from their counterparts. LoE2 further expresses that they could learn on their own but could not trust themselves. They only believed they were doing the right thing if the teacher endorsed it. This is a display of low self-efficacy from LoE2. Thus before scaffolding learning was adopted, self-efficacy of the learners was relatively low.

On the ability of the students to seek help from their teachers when they need it, the pretest results showed a moderate mean rating of 2.9 (SD=1.0). Many of the students; 53(51.5%) believed that they only sometimes seek for the help of their teachers whenever they need it. In fact, 26 (25.3%) of the respondents were never or rarely able to seek for the help of their teachers whenever they need it, but some 24 (23.3%) of the surveyed students held the view that they are always able to arrange for the help of their teachers whenever they need it. The findings concur with the findings of a study in Colombia by Valencia-Vallejo, Lopez-Vargaand Sanabria-Roriguez (2019) which reported that before the application of scaffolding, learners self-efficacy was low hence no independence. The study went ahead to interview some respondents on the ability of the learners to seek the help of teachers and this is what they had to say.:

> *My learners seem not to need any help from me. They choose to die with their problems. We have tried to encourage them but we have not succeeded. I think the learners have formed an attitude towards English. Some give up as early as in form one. Most learners have language barrier due to a poor language background. We have always encouraged them to speak in English for them to improve. When they come to the office we insist that they speak in English. I think this could be the reason they shy away and keep off. (ToE2)*

Another respondent gave sentiments that actually explained the remarks by ToE2:

> *I rarely go to seek the help of a teacher because when I go he will ask me to show him how I have tried to answer the question and I find that I have not tried because the question is very difficult for me. I think if I need the teacher to help me it is good that he helps me without restrictions. But our teacher tells us to try a question in class before we go to him. There are some questions that even if I try hard they are still difficult. Another reason I don't want to see my teacher is that they always want us to speak in English although I am more comfortable in Kiswahili. So when you break the Language our teacher becomes angry and they even laugh at you (LoE2)*

The extracts from ToE2 and LoE2 explain why a small number of participants make arrangement to seek the teachers' help when needed. According to ToE2 a learner who needs help must meet some criteria before the help is accorded; the learner must be able to speak good English. The remarks are echoed by LoE2 that a student is forced to speak in correct grammar for them to qualify to get the help of a teacher in addition to trying to tackle the issue either alone or with his peers, which according to the learner seems impossible. From the responses, low self-efficacy comes out clearly among the learners. The low self-efficacy here is characterized by pessimism, where the learners already feel they are not capable of trying to tackle an issue on their own. This is coupled with fear of criticism where the learners fear to speak broken English before teachers who may sometimes laugh at them. Thus, before scaffolding teaching was adopted, learners found it difficult to arrange to seek for the help of teachers.

On goal setting the study found out that before the application of scaffolding learning few of the students set higher goals to achieve. This was reflected by a mean rating of 2.8 (SD=1.0). In fact 21(20.4%) of the sampled students indicated that they were often and always confident that they could set higher goals in their studies. The students who sometimes set higher goals were 35 (34,0), meaning they sometimes set higher goals. However, 47(45.6%) of respondents held that they hardly had confidence to set higher goals in their studies. On the level of goal achievement, the results of the survey show that there is a moderate rating of 2.9 (SD=1.1) in the scale of 1 to 5, suggestive of moderate self-efficacy levels among the students. This was corroborated by the fact that out of all the students who took part in the survey, 48 (46.6%) of them indicated that they are only sometimes confident of achieving their set goals. In addition, 32 (31.1%) of the respondents indicated that they hardly have confidence in achieving the goals they set, a sign of low self-efficacy. Just slightly more than a fifth of the respondents indicated that they usually have confidence in achieving the goals that they set for myself, emancipation high self-efficacy among some group of students. The findings concur with the findings of a study in Sweden by Grotherus, Jeppsson and Samuelsson (2018) which reported that before scaffolding learning, students had low expectations about their performance in the test cycles. The study further interacted with interview respondents on the confidence on goal setting and they responded as follows:

> *Sometimes I do set goals but I find it difficult achieving them. When I have not achieved my set target for this term for example, I will not set a new target next term until I have achieved the one I set. Like at the beginning of term one,*

we were told to set targets. I did not achieve mine, and I have not achieved it even now. Sometimes I get tired working towards nowhere. We are told to set high targets but achieving them is difficult. (LoE1)

Another respondent said*: We are always told to set achievable goals.so I don't want to set very high targets that I cannot achieve. I set low targets that I can achieve. (LoE2)*

The sentiments of LoE1 and LoE2 were echoed by ToE2 as follows:

We encourage our learners to set their goals in terms targets. They write their target down and we use the same to set the school target. However we do not allow our learners to set very low targets because they may not work hard. We encourage them to 'aim at the sun and land on the moon'. But the issue is on achieving the targets. They rarely meet their targets. (ToE2).

The extracts from LoE1, Loe2 and ToE2 support the fact that very few learners have the confidence to set high goals and at the same time explain the situation vividly. Learners lack the confidence to set high goals because they are forced to yet they know they are incapable of achieving them. On the other hand when the same learners are given opportunity to set goals freely they set very low ones which they can easily achieve. Thus a characteristic of low self-efficacy is displayed.

Additionally, participants were asked to state whether they are able to read and understand textbooks in English. The results recorded a mean rating of 2.9 (SD=1.1), where some 29 (28.1%) of the respondents accepted that they never or rarely find it easy to read and understand textbooks in English. Nonetheless, 44 (42.7%) others agreed that they could sometimes find it easy to read and understand textbooks in English, while but 20 (29.1) confirmed that they could often and always read and understand textbooks in English. Similarly, a study in Indonesia by Wachyunn (2017) reported that scaffolding provides a differential effect on reading comprehension gain for the lower and higher ability students where lower ability students benefited more than higher ability students.

In addition, interview respondents were probed on the ability to read and understand textbooks in English and literature and they gave the following responses:

Reading the textbooks on my own is very challenging. The only area I can read on my own without the help of a teacher is comprehension and oral narratives. But still there are some words and phrases that I may not understand, so if the teacher is not there I use the dictionary. But sometimes I may think I have understood, yet I find it difficult to answer the questions. When we answer with the teacher, the questions become very easy. When reading literature textbooks, if the teacher is not there, I read like a story

book or a newspaper. I need the teacher to help analyze the book for me so that I can understand them text deeply. Without the help of a teacher I can lie to myself that I have understood (LoE2)

Similar sentiments were given by another respondent.

My learners seem not to understand the textbooks on their own. Let's start from grammar. The textbooks have given very clear guidelines on every chapter. But surprisingly, my learners cannot follow the very simple and clear instructions. But when I explain to them they seem to understand. And the same applies to all the other topics such as comprehension, writing and literature. Reading literature set texts is even worse rated in terms of reading and understanding. My learners can never read ahead. I think they do not trust themselves. They believe that I have to be in class with them for them to understand even the simplest things such as themes and style (ToE3)

From the extracts by LoE2 and ToE3, it comes out clearly that the English language learners are fully dependent on their teachers for them to understand the textbooks of English, in grammar, reading, writing and literature. They do not confidence that they can read on their own and understand, a characteristic of low self-efficacy. The extracts thus support the pretest findings of the study.

Moreover, the sampled English language learners were asked to indicate whether they could complete their homework without any help from guidebooks or previous notes. The results of the study revealed that while some students completed their homework without of any help, others seek the help of guide books and previous notes. This was shown by a mean rating of 2.7 (SD=0.9) with 16 (15.5%) of the respondents who never and 20 (19.4%) others who rarely completed their homework without any help from guidebooks and previous notes. On the other hand, nearly a half 50 (48.5%) of the respondents could sometimes complete their homework without any help from guidebooks and previous notes and only 17 (16.5%) of the respondents, were more often able to complete their homework without any help from guidebooks and previous notes. A very small percentage of the sample (16.5%) were able to do their home works on their own, meaning that before the application of scaffolding learning, the level of self-efficacy among the learners was very low among the learners who did not receive scaffolding learning. The findings are comparable to the findings of a study in Thailand by Piamsai (2020) which reported inability in task completion among learners who had not gone through scaffolding. Interviews were also carried out on the learners' ability to clear home works without the help of note or guide books and the following information obtained:

> *When we are given home works I am now trying to do most of them without having to refer to my notes or guidebooks or the dictionary. This is because before I do the homework, I make sure that I have read and understood where the homework is set from. Another reason I do not refer to the note is that we do more of the homework with members of my group, so the one who has understood helps me. So before I go to the notes of any guide book, I make sure I have sought for help from my classmates. (LoE3)*

The sentiments were echoed by another interviewee:

> *I do discourage my students to avoid the use of guidebooks and read the textbooks between the lines, so whenever I give them home works, I make sure that they do their original work; they should not copy directly from their notes or guide books. Also, we encourage group work so much so that the weak learners can learn from their peers. I think in the recent past, since we started applying your method, my learners are trying to implement our guidelines and they are doing well (ToE3)*

From the comments by LoE3 and ToE3, the study found out that scaffolding has improved the learners' self-efficacy where they are able to complete their home works without having to rely of notes and guidebooks. The learners are getting support from their superior others, including their peers. In addition, the learners are applying scaffolding method to read and understand before they tackle their home works. Also, the learners are employing cooperative learning scaffolding technique while doing their home works. The interviews therefore confirmed as well as explained the quantitative results.

The sampled learners were further required to indicate their ability to deal with unexpected problems. On this, it emerged that only a few of the students were able to effectively handle unexpected problems in their study as shown by only 23 (22.3%) of the sampled students who believed that they can deal efficiently with unexpected problems in their studies. Some 43 (41.7%) of the respondents accepted that they can never or rarely deal efficiently with unexpected problems in their studies, while 37 (35.9%) of the participants could sometimes deal with unexpected problems. This means that a sizeable proportion of the respondents have low personal judgment of how well they can execute courses of action required to deal with unexpected situations, a sign of low self-efficacy before exposure to scaffolding method. Similarly, a study in the USA by Margulieux (2021) participants who received scaffolding performed better in problem solving than those who did not receive scaffolding.

On a similar note, interview respondents were probed on their ability to deal with unexpected problems and gave their comments as follows:

I find it difficult to deal with something that I did not expect. If for example we are given a CAT and I was not informed to prepare in advance, I may not perform well. So it is better when we are informed what we are expected to do. (LoE2)

The remarks by LoE2 were echoed by ToE1 who said:

Most learners need preparation before they engage in an activity, especially learning activities. If for instance I give them a question, a CAT or any other issue to solve my learners get confused. In fact they will seek for clarification at every step. They will want you to be there to give guidance throughout the activity. Otherwise, most of our learners cannot solve unexpected problems amicably. (ToE1)

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From the excerpts by LoE2 and ToE1 therefore the study found out that most of the participants could not deal with unexpected problems before the application of scaffolding. The learners admit that they are mostly dependent on the teacher in case of any unexpected issue. Dependence on the superior others in every step of learning is a characteristic of low self-efficacy.

Another area that was tested was the ability for the learners of English to compensate for missed lessons which was rated at 2.9 (SD=1.1), with only three out of ten 31 (30.1%) of the students who took part in the study being able to compensate any loss fairly well. Close to a third 34 (32.0%) of the respondents admitted that if they miss some classes for some reasons, they are never or rarely able to compensate the loss fairly well. A great number of participants 46(44.7%) are not sure whether they can compensate lost lessons or not. This suggests that while a few of the students are able to recover missed lessons of English, many of them are not able to recover any lost lesson, an indication of low self-efficacy among the students of English before scaffolding method was employed. A similar study in Indonesia by Anggadewi (2023) found out that through scaffolding technique, learners took up the responsibility of organizing and having remedial studies on their own, while those who did not undergo scaffolding did not. Additionally, during interviews, responds gave various comments on learners' ability to compensate for lost lessons shown in the excerpts:

My students do miss lessons because of sickness and many other life challenges but when it comes to compensation we have an uphill task. I mean they do not compensate. A student can miss school for several days, but when they come back they begin from where they stopped. So I don't think they have the capability to compensate the lost lessons. I am the one to

ensure that the learner compensates by summoning them and reminding them that they have to catch up, and this of course happens to the noticeable learners. (ToE2)

Another respondent gave similar views:

When the learner loses a lesson we have modalities of ensuring that the lesson is compensated. We do this through the subject champions who have to remind the learner that he has to catch up with the rest. The subject champion has to report to the teacher that the learner is back and follow up has to be made. During the follow ups, the learner plays the greater part, hence for a lazy learner, compensation is a difficult task. It becomes worse when a student misses one lesson and nobody notices. Such a lesson will go uncompensated. So, as a teacher, I may not perfectly make the follow ups due to the workload. (ToE1)

Yet another one said:

If I miss a lesson, I try to compensate by copying notes from the other students or doing the assignments that were given. But the problem is that we do not have enough time because the lessons go on throughout the day and even during lunch break there are some programs. But I cannot compensate all lessons if they are many. I may write notes and ignore the assignments. This is because there may be some assignments where I may need a teacher to help, yet I may not get time to see the teacher. (LoE2)

From the excerpts by ToE1, ToE2 and LOE2, it is revealed that before the application of scaffolding technique the learners were not able to compensate for lost lessons. The extracts confirm the pretest survey findings. It comes out clearly that the teacher sometimes takes up the responsibility of assisting the learner to compensate but the learners may not be in a position. Moreover, there is the time factor which explains the inability of the learners to compensate as well as incapability to do some assignments without the help of a teacher. The study thus found out a characteristic of low self-efficacy among the learners.

Moreover, the study also sought to establish whether the sampled learners could answer essay questions very well. It emerged that students who could correctly answer essay questions were fewer than those who could not. This was reflected by a mean rating of 2.9 (SD=1.1) with only 25 (24.2%) of the surveyed students indicating that they could often or always answer the essay type questions very well, while 45 (43.7%) others said they could sometimes answer the essay questions and 33 (32.0%) of them agreed that they were never or

rarely able to answer the essay type questions very well. Similarly, the findings of the study show that even for the short answer questions many of the students could not answer them very well. This was revealed by a mean response rating of 2.9 (SD=1.1) of a statement that "I can score well in short answer type questions". Whereas only about a quarter 25 (25.2%) of the respondents said they could often score well in short answer type questions, 44 (42.7%) said they could only score well at times but not often, while 34 (33.0%) of the surveyed students confirmed that they rarely or never at all score well in short answer type questions. The findings are comparable to the findings of a study in Indonesia by Maryantini, Marhaen and Dewi (2020) before adoption of scaffolding, learners' lacked autonomy and writing competence since they were taught using the conventional methods. The findings are confirmed by interview respondents as follows:

> *I try my best to answer essay questions but I do not score well. I think I do not include all the required details in my writing because for me to write an essay well especially one based on a set book, I need to have read the set book very well with the help of a teacher. The problem is that we move to the next set book before we analyze the former one well enough. I score average marks. Short answer questions are equally challenging especially a close test, grammar, poetry and the extract questions. We are required to read and understand or do a lot of practice before we answer the questions, but the problem is lack of enough time to read and understand properly. With the help of a teacher I can easily understand, but on my own I find it difficult. Even when we revise the questions with the teacher, I find them very easy but on my own the questions are quite challenging, both essay and short answer questions. (LoE1)*

The remarks were expounded by another respondent as follows:

> *Essay type questions do pose a challenge to my students, both the creative essays and those based on literature set books. For creative essays, my learners lack creativity, which is coupled with the poor linguistic background. So their essays are mostly average. Similarly, the essays based on set books require a student to give a lot of details for them to score well and this call for comprehension skills which most of our learners lack. So the ability of my learners to answer essay questions is average. Short answer questions may appear simple but on the contrary they are more perplexing. A student needs to do a lot of practice if they have to score well. But our students seem to not to practice. When the lesson ends, they stop there and wait for the exams. So the inability to answer both essay type and short answer questions is reflected in the poor performance in exams. (ToE2)*

From the interview extracts, it is confirmed that most students do not have the ability to answer both the essay type as well as the short answer questions. LoE1 suggests that when

they do the questions on their own, they are more difficult but with the teacher's support, the questions become very easy. The respondent further feels that the teacher's presence is paramount for them to comprehend the text books and the other topics prior to answering questions. Also, ToE2 puts it clearer that the inability to answer the questions is majorly due to lack of comprehension skills as well as lack of enough practice by the students. Thus, from the extracts, the study established low self-efficacy among the learners which is shown by their dependence on the teacher during their studies and when answering questions.

On a similar note, when the study sought to find out how effective the respondents were able to solve difficult problems, it emerged that only 36 (34.9%) of the respondents indicated that they often solve difficult problems if they try hard enough, but 29 (28.2%) of the respondents accepted that however hard they try they hardly solve difficult problems. In addition, some 38 (36.9%) of the respondents said they were only able to sometimes and not often able to solve difficult problems however hard they try to solve them. Likewise, the results of the survey revealed that when confronted with a problem, only a few students are able to find several solutions. This was confirmed by a mean rating of 3.1 (SD=1.1) with only 31 (30.1%) of surveyed students said they usually find several solutions when confronted with problems, but some 46 (44.7%) of the respondents confirmed that when confronted with a problem it is only in some occasions that they find several solutions. Conversely, about one out of every four of the sampled students accepted that they hardly or never at all find solutions when confronted with a serious problem, suggestive of a low self-efficacy. Similarly, a study in Thailand by Piamsai (2020) showed no significant improvement in task completion, organization, lexical variety and structural variety and accuracy when learners were taught normally. Interview respondents gave their remarks as follows:

> *Sometimes I may face difficult problems during my personal studies which I find difficult to solve. For instance when practicing essay writing or even during exams I may find a very difficult question that I cannot interpret. Outside exams, I may request a teacher to assist me but during exams I just give up and I fail. During our studies when we find a difficult problem our teacher assists us to find a solution. We may not find solutions on our own because they may be wrong. But at times if we find a solution we go to our teacher to confirm whether we have found the right solution. (LoE1)*

The remarks were echoed by another respondent who said: *"My learners face difficulties but some come to me for assistance. Some even come to me to find out whether they are on the right track in their studies". (ToE2)*

From the extracts by LoE1 and ToE2 it is confirmed that the learners do not trust that they can deal with difficult problems in their studies. They fully depend on their teachers. Even if they try to tackle some issues, they do not believe in the solutions they find unless the solutions are confirmed by the teacher. This is a clear indication of low self-efficacy among the learners.

Also, learners were asked to indicate their ability to connect previous knowledge to current concept and a mean rating of 3.0 (SD=1.1) was produced, suggesting a moderate self-efficacy level. Although 29 (28.2%) of the surveyed students accepted that they are not able to accurately relate new concepts to knowledge from the earlier classes, 46 (44.7%) of them said they are sometimes able relate the two, but 28 (27.2%) of the respondents indicated that when they learn a new concept, they can recall the related knowledge from the earlier classes. On a similar note, a journal by Vasquez, Remy and Sanchez (2022) reported that without scaffolding, students could not make connections between previous knowledge and new knowledge. The results were echoed during interviews thus:

> *My learners are average when it comes to relating previous knowledge to the current lesson, in most cases, however, I am the one who triggers their memory and actually relates the previous content to the current, and from there they get to relate the two. I can do so by asking questions from the previous lesson and some of the learners try to answer the questions. What I am not sure is whether they know the purpose of the question at the beginning of the lesson or not, but generally they are about average on this. (ToE1)*

Another assertion was given as follows:

> *I can relate the previous knowledge to the current lesson especially when the teacher reminds us or asks us related questions. Also the teacher reminds us what we had learned earlier and this helps me relate it to what we are doing currently. (LoE3)*

From the excerpts by ToE1 and LoE3, the study established that some learners are able to relate previous knowledge to the current lesson. However, it comes out more clearly that the memory f the previous knowledge is mostly triggered by the teacher by asking questions or by directly reminding the learners what they had learned earlier. This means that learners, on their own, may not relate previous knowledge to the current lesson but need the assistance of a teacher. The study therefore found out that the students fairly have the ability to relate previous knowledge to the current, a sign of moderate self-efficacy.

The results on table 4.9 reveal that the selected students generally had moderate self-efficacy levels before they were taken through scaffolding learning as was inferred from an overall mean rating of 3.0 with a standard deviation of 0.6 in the self-efficacy rating scale of 1 to 5. This suggests that the students' moderately believed in their abilities to meet challenges ahead of them and complete a task successfully. Therefore, from the pretest, the study established that the level of self-efficacy among the sampled learners of English language as a subject was generally low, before the exposure of the learners to scaffolding learning technique.

4.3.2: Comparison of Students' Level of Students' Self-Efficacy

This section sought to compare the students' efficacy levels, as measured at different levels by the questionnaire. The students in the four groups, two intervention and two control groups, all filled in the posttest self-efficacy questionnaires. The responses were captured in a five-point Likert scale from 1 to 5 and were converted into continuous scale data by computing the mean response in each item. This allowed the researcher to compute means per item for comparison of the items of the self-efficacy among different levels (pretest/posttest and between intervention and control groups), as summarized in Figure 6. The results were followed by interview data collection purposely to confirm, explain, clarify or support survey data.

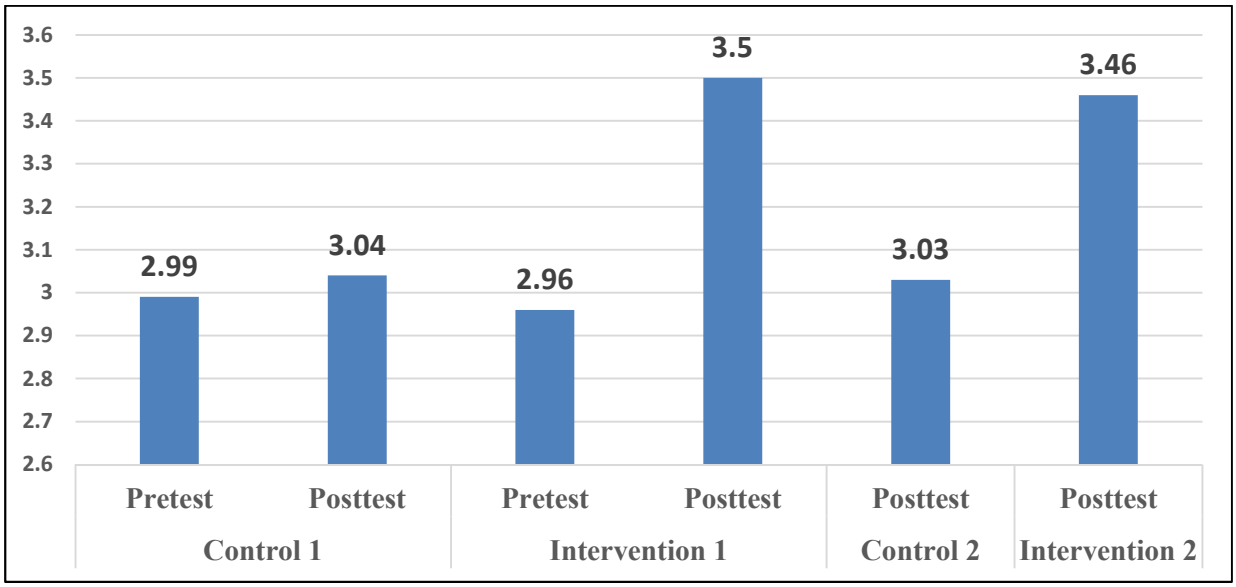

Figure 6: Students' Level of Students' Self-Efficacy

Figure 6 shows that the self-efficacy ratings among the students were evidently lower during the pretest stage and higher during the posttest stage. For example, using the scale of 1 to 5, the experimental group 1 students' self-efficacy rating improved from a composite mean of 2.96 during the pretest stage to 3.50 at the posttest stage. On the other hand, for control group 1, there was a negligible change in self-efficacy rating from a mean of 2.99 at the pretest stage to only 3.04 at posttest stage. This was also seen in control group 2 and experimental group 2 posttest results, where while the control group 2 recorded a self-efficacy mean rating of 3.03 at the posttest stage, the experimental group 2 recorded a composite mean of 3.46. These findings indicate that students who were taken through scaffolding learning technique had higher posttest self-efficacy rating scores than their counterparts who were only taken through normal teaching/learning techniques, clearly suggesting that scaffolding learning technique had more positive influence on learners' self-efficacy than the normal teaching techniques. The responses were converted into continuous scale data by computing the mean response in each item. The results of the posttest were obtained and compared with the results of the pretest and presented in table 21. Sequentially, interviews were carried out among the participants in the experimental groups and the data compared and collaborated.

Table 21: Comparison of Pre-test and Posttest Self-efficacy mean scores

Indicators	Control 1		Intervention 1		Control 2	Intervention 2
	Pretest	Posttest	Pretest	Posttest	Posttest	Posttest
I am competent in learning on my own	3.3	3.5	3.2	3.80	3.4	3.70
I feel that I have the ability to keep things unforgotten	2.9	3.2	3.0	3.40	3.2	3.40
I can arrange for the help of my teachers whenever I need it	3	2.8	2.9	3.50	3.1	3.6
I can set higher goals I my study	3.3	3.4	3.4	4.04	3.4	4.10
I find it easy to read and understand textbooks in English	2.9	3.1	2.9	3.80	3.1	3.8
I can complete my home works myself without any help from guidebooks, previous notes, etc	2.8	2.8	2.7	3.45	2.8	3.40
I can deal efficiently with unexpected problems in my study	2.6	2.7	2.6	3.00	2.7	3.20
If I miss some classes for some reasons, I can compensate the loss fairly well	3.1	3	2.9	3.60	2.9	3.50
When I learn a new concept, I can recall the related knowledge from the earlier classes	3.0	3.1	3.0	3.50	3.1	3.50
I can answer the essay type questions very well.	2.7	2.8	2.9	3.40	2.8	3.40
I can score well in short answer type questions	2.9	2.9	2.9	3.50	2.9	3.40
I can manage to solve difficult problems if I try hard enough	3.2	2.9	3.0	3.30	3.1	3.30
When I am confronted with a problem, I can usually find several solutions	2.9	3.2	3.1	3.70	2.9	3.50
When I am to accomplish something difficult, I focus on my progress instead of feeling discouraged	3.3	3.1	3.0	3.50	3.1	3.40
I am confident that I will achieve the goals that I set for myself	2.7	2.9	2.9	3.40	2.8	3.30
Composite mean rating	**2.99**	**3.04**	**2.96**	**3.50**	**3.03**	**3.46**

Table 21 shows that the learners' belief in their capacity to handle challenges ahead of them and complete a task successfully significantly improved among experimental group 1 and experimental group2 learners while control group 1 and control group 2 learners improved negligibly in terms of self-efficacy rating.

To begin with, the ability of the participants to competently learn on their own, the study participants who received the intervention improved greatly where experimental group 1 who had received a pretest improved from a mean of 3.2 to a posttest mean of 3.8 and while experimental group 2 which received the intervention only attained a posttest mean of 3.7. Likewise, the ability of the learners to arrange for the help of their teachers whenever they needed it improved from a mean of 2.90 to 3.50 for experiment group 1 while experimental group 2 got a mean of 3.6. However, the control groups did not improve, in fact there was a drop for control group 1 from a mean rate of 3.0 to 2.8 while control group 2 got a posttest mean of 3.1. Considering the results, the study found out that scaffolding teaching improved the ability of the learners to seek for the help of their teachers when they needed. The findings are similar to the findings of a study in Colombia by Vallencia-Vallejo, Lopez-Varga and Sanabria-Rodriguez (2019) which reported that scaffolding method made learners more independent in studying. Interviews were carried out on the learners' self-efficacy in learning on their own and the following extracts were obtained from the participants' responses:

> *Since we adopted the new technique, in fact there is a difference in the way our students are doing their personal studies. In the past we would do guided learning where if you give them a section to read on their own, you had to monitor strictly to make sure they are doing the right thing. Nowadays we see the students very busy studying on their own which I think has made them to seek clarification here and there. They are coming to me just to ask a few questions unlike in the past when I was the one to ask them the questions, I can say that as the learners are studying on their own, they are more active in coming for further clarification and guidance. At least they seem to have sense of direction on their own. (ToE1)*

The assertion was supported as follows:

> *My learners are quite different as compared to the past. When I adopted your new method I am seeing a difference in them because they are mostly busy doing their studies without being pushed. They may come to me to ask a few questions, but at least they are more comfortable learning on their own than in the past when I could follow them up and down and doing a lot of monitoring. If they need my assistance, they freely send one of them or they come to me at individual level and I assist them. (ToE3)*

Similar remarks were given as follows:

There is a way our teacher has been guiding us in having our personal studies and I have discovered that I can do my studies on my own. After studying a topic for instance and try to do a question and take it for marking, I have realized that I am scoring even better. I have done functional writing items and extract questions and my score has improved even without much help from the teacher. So I think it is possible for me to learn on my own, though I still need a teacher to assist me in some areas. (LoE1)

From the extracts, the study confirmed an improvement in the self-efficacy in the competence of learners to learn on their own. Learners can successfully have their studies with minimal help from the teachers. The learners, competence has been tested by the fact that they score better in tests after having studied on their own, as much as the learners admit that they cannot do totally without a teacher. Moreover, the learners freely seek the assistance of their teachers in terms of clarification of issues or confirmation of new information or answers, the more the learners are doing their own studies independently, the more they seek the teachers' help which increases their competence in learning. This implies that scaffolding method improved the learners' competence to learn on their own.

Additionally, the study required participants to indicate their ability to read and understand test books in English where experimental group 1 improved their mean rating from 2.9 to 3,80 as experimental group 2 scored 3.81. Control group 1 improved negligibly from 2.9 to 3.1 while control group 2 which had not been pretested got a mean of 3.1. When asked about ability to keep things unforgotten, the posttest results showed an improvement in mean rating from the pretest results of 3.0 to 3.4 both control group 1 and 2. The results suggest that scaffolding learning had a positive effect. The results are in agreement with the results of a study in the US by Latson (2022) which revealed that scaffolding improved students' learning ability. Interviews were also carried out and the following extracts obtained:

Since we started our group work, I am able to read and understand because when I do not understand, I discuss with my peers who are better than me in English and literature. Also, when I have got guidance from my teacher on how to break a text and the procedure of analysis I find it easy to understand. If I have read and understood them I am able to answer tests well, because I remember what I have learned. This is unlike in the past when we could l read many topics or even a whole text without analysis, then understanding was difficult. Even doing a test I would not remember a lot of information and I could fail. (LoE1)

The next respondent asserted that:

There is a way our teacher guides us to do what we know and we do the rest with her. So when I read I make sure that I understand the notes

> *before doing an exercise. I start with the simple exercises. So I think I can understand when reading English grammar, writing and literature. The one I do not understand, I ask my group members or the teacher. So I can understand most things. When we did a test, I scored more marks because I remembered most things. (LoE3)*

And another one said:

> *My students seem to have improved when it comes to reading and understanding English because they are performing better in tests. They are doing a lot of group work and you know when they learn as a group they assist each other. So in this case they are utilizing the new method well. (ToE3)*

The extracts confirm that after the application of scaffolding teaching, learners have improved in their ability to read and understand English as a subject was well as to keep things unforgotten. The learners are learning within their Zone of Proximal Development. I addition, the learners admit to breaking the material into smaller chunks as well as collaborating with their peers. These techniques are making the learners understand what they read. Next, from the excerpts, it is evident that the learners are keeping whatever they read unforgotten since they are performing better in the tests that follow. This shows that scaffolding learning as improved the self-efficacy of learners I reading and understanding English as a subject.

The pretest and posttest ability of the learners to set higher goals in their studies was also compared with the posttest. Experimental group 1 improved from a mean rating of 3.40 to 4.04 while experimental group 2 recorded a mean of 4.10. On this the control groups did not record any significant difference as control group 1 had a pretest mean of 3.3. A posttest mean of 3.4 similar to that of control group 2. On the same note, the respondents' belief that when they are to accomplish something difficult, they focus on their progress instead of feeling discouraged; this feeling improved from a mean of 3.0 to 3.5 after exposure to scaffolding learning technique whereas the mean of the control group dropped from 3.3 to 3.1 both for control group 1 and 2. In addition, their level of confidence that they would achieve the goals that they set for themselves rose from a mean of 2.9 to 3.4. Thus, scaffolding method made learners more able to set their study goals. Similarly, a study in Sweden by Grotherus, Jeppsson and Samuelsson (2018) reported that that after scaffolding learning, students developed their belief in achieving their expectations.

The study went ahead to interview respondents on the learners' self-efficacy in setting, focusing on and achieving their goals and the following information was obtained.

> *I set goals which are the targets that I want to achieve every term. We set marks and grades. Initially our teacher used to tell us to set higher targets but in most cases I could not achieve them however much I tried. But now I have decided to set targets that I can achieve. I am working had to achieve my set target because it is not very high. (LoE1)*

Another respondent added some remarks:

> *We always encourage learners to set achievable targets, they are I think the study goals. Initially they have rarely achieved the targets, but if we continue with the new method, I am hopeful that they will achieve. Actually even their performance in tests is improving meaning they can easily achieve their set targets. (ToE1)*

The extracts from LoE1 and ToE1 express that the learners are setting achievable goals, meaning that the learners are working within their Zone of Proximal Development, unlike when they could set very high targets beyond their level. Moreover, the learners are achieving their targets or goals since they are working towards them and are performing better. This is a clear indication that the learners who went through scaffolding learning have got the belief in their ability to set and achieve set goals, hence quantitative findings are confirmed.

Equally, after receiving scaffolding intervention it emerged that the learners improved in their belief of being able to complete their homework without any help from guidebooks or previous notes from a mean of 2.70 to 3.45 for experimental group 1 and 3.40 for experimental group 2. Control groups attained a pretest mean and posttest mean rating of 2.8 across all tests. The findings concur with the findings of a study in the U.K by Angelica (2018) that learners who underwent scaffolding teaching technique improved their self-efficacy in doing home works. Interviews were carried out on the learners' ability to complete home works and the following data recorded:

> *In the past, I was not able to complete the homework unless I referred to my notes. Sometimes we could go to the next lesson and my home works could pile and this was due to lack of enough time to read my notes. Also some home works could be so difficult for me that I would decide to skip them. But nowadays we are given enough time by our teacher to do our own studies hence I complete my home works easily. Again, when a question proves difficult we can do it together in our group and I learn from my peers. I do not have to rely on my notes so much. In our group, there are fast learners who explain some topics to us. So when we do home*

works together we finish quickly without referring to the dictionary or the notes. These are the two reasons I finish my home works in time. (LoE1)

Another respondent gave a similar assertion:

My students are finishing their home works early enough. Unlike earlier when we could push them to finish their homework, now they are completing in time, until I have a feeling I am not giving them enough work. I think this is because I have given them freedom to work on their own, hence they want to be responsible. Another reason is that they are doing a lot of group work, so I think they are assisting each other, because, I am realizing that these students are learning better from their peers than from us (teachers). I think this new method is motivating them so much that they want to utilize it well. It seems, when we are all present I class our learners relax a lot so that we do more of the teaching than they do learning. (ToE3)

The extracts by LoE1 and ToE3 explain the quantitative findings. Evidently, the learners' self-efficacy in finishing their home works without the help of reference materials has improved because the learners have enough time to do their work in addition to having group work. During group work the learners are able to get support from superior others who are their peers, deemed better in English as a subject. This clearly shows that scaffolding method has improved the learners' ability to clear their home works in time.

In addition, the English language learners' ability to compensate for the lost classes for some reasons improved significantly; this was shown by the fact that before the exposure to the treatment, learners' ability to compensate loss of a class was rated at 2.90 but after exposure to the scaffolding technique the rating improved to a mean of 3.60 and 3.50 for experimental group 2. On the contrary, the control groups dropped from a pretest mean of 3.1 to 3.0 and 2.9 for control group 1 and 2 respectively. the findings agree with the findings of a study in Bangladesh by Mojumder (2022) which reported that shifting to student centered methods and infusing them into lesson planning activates students I constructing knowledge and contribute to better learning. Further, interview respondents were probed on the learners' belief in ability to compensate lost lessons and recorded the following data:

When I missed a lesson, because I was sick, I found out from my group members what they learned and I tried to learn on my own. I applied that method of doing what I am able to do on my own. What I didn't understand, my group members taught me and later I went to see the teacher who marked for me the assignment she had marked for the others. In the past I could just ignore because I did not know the approach to use. I could do the little I could but and ignore the rest of the topics. (LoE2)

According to the respondent, if a lesson is missed, the superior peers would help compensate the lesson. The learner could first learn from known to unknown, then the unknown could be clarified by the superior others, for this reason the learner has found it easier to compensate a missed lesson, hence higher self-efficacy.

Moreover, the learners' belief in their ability to deal with unexpected problems improved from 2.6 to 3.00 and 3.20 for experimental groups and 2.6 to 2.7 for both control group 1 and control group 2. The difference though small among the experimental groups, it was higher than that of the control groups. Similarly, the learners' belief in their ability to solve difficult problems if they tried hard enough increased from a mean of 3.0 to 3.30 for both experimental group 1 and 2. However, for the control groups, the mean rating dropped from 3.2 to 2.9 for both control groups 1 and 2 while their belief in the ability to find several solutions increased from 3.1 to 3.7 for experimental group 1 and 3.5 for experimental group 2. However for the control groups there was a small increase from 2.9 to 3.2 for control group 1 while control group 2 maintained a mean of 2.9. Thus, scaffolding had a positive effect. A similar study in Thailand by Piamsai (2020) established that scaffolding led to a significant improvement in the way learners solved their problems including task completion, organization, lexical variety, structural variety and accuracy. The study interviewed some respondents who had this to say:

> *A problem that I did not expect can be difficult to solve but I can try my best. Such problems can be in form of a difficult question. When I get a difficult question, we try to solve it in groups and if we don't manage we go to our teacher to assist us. I remember we were recently given a very difficult grammar test. We had too divide ourselves into groups and finally we came up with answers. It would have been difficult for me as an individual to solve such. (LoE1)*

Similar remarks were given by another respondent:

> *Most of my learners are not very good in dealing with unexpected or difficult problems. It is for this reason that we put them into groups. In fact I do give my learners solutions to most problems such as a handling a difficult exam. This is the area where the new method is more applicable. They are better though, compared to when we use the other teaching methods. (ToE3)*

From the excepts from LoE1 and ToE3 the learners are trying their best to deal with unexpected and difficult problems and evidently, the learners have not managed to do it at individual level but rely on their groups. However, for finding several solution the learners

are performing better since each member of the group comes up with a different solution and at the end they achieve a variety. Learners thus apply cooperative learning, one of the scaffolding learning techniques. Clearly, the learners have scored better meaning that their self-efficacy has improved compared to when conventional methods were being used.

In fact, the learners' ability to answer questions improved after going through scaffolding technique. This was shown by the fact that during pretest their ability answer the essay type questions and to score well in short answer type questions received a mean rating of 2.90 each but at posttest the mean improved to 3.40 and 3.50, respectively. However, the control group improved negligibly from 2.7 to 2.9 for both control group I and 2. Similarly, the learners' belief in their ability to answer short answer questions improved from a mean of 2.9 to 3.5 for experimental group 1 and 3.4 for experimental group 2. On the contrary, the control groups maintained a mean of 2.9 throughout. The findings are similar to those of a study in Sweden by Broman, Bernholt and Parchmman(2018) which reported a positive effect of scaffolding on learners ability to solve study problems where most students achieved higher levels of ability by the use of scaffolds.

During interview, the following data was obtained:

> *Compared to last time, I am able to write a better assay. This is because we have enough time to read the set books and do research on themes. Most of our essays are based on themes, so we discuss with my group members and we come up with several themes. The few areas that we don't know, which include the structure of an essay, our teacher has shown us and we are doing a lot of practice. After I have written an essay, I am allowing one of my group members to read it and correct some errors for me. In fact, when it comes to essay writing therefore, I am scoring better. Even in the short answer question we are doing the same. Grammar and close test questions are difficult for me but I have learned to start with the easy ones, then the difficult ones we do as a group. I belief if I continue like that, my performance is going to improve.*

Similar sentiments were given thus:

> *My students are utilizing this method well and I am seeing some improvement, though small. At least, most of them are moving from below average to average in the last test. I think, I can associate their improvement to group work. The better students are assisting the weak ones on the tips of answering the various types of questions. They are doing a lot of analysis of th set books and I am also giving them guidelines to read as well as the tips to answer the questions. Generally, there is some improvement. (ToE1)*

From the extracts, it is clearly evident that the learners improved in their belief that they could answer both essay type and short-answer questions. The respondents went ahead to explain that the belief had been supported by scaffolding method of group work, working within the ZPD as well as getting support from the superior others who included the more knowledgeable peers and the teachers. The more knowledgeable peers read and criticize the work of the less capable one, in addition to supporting each other during research and reading while the teachers give question answering technique as well as the guidelines towards analysis of set books. From this the study established that scaffolding method increased the learners' efficacy in answering essay and short answer questions. The findings are in agreement with the social cultural theory and the Zone of Proximal Development by Vygotsky (1978) and Scaffolding metaphor by Wood, Bruner and Ross (1976) that learning is mediated by scaffolding by more knowledgeable others to enable learners learn within their ZPD in order to achieve their learning goals.

4.3.3: Experimental Findings on the Effect of Scaffolding on Self-Efficacy

The null hypothesis that was tested was:

$H_0$2: There is no statistically significant effect of scaffolding self-efficacy among English learners.

The study carried out an experiment using Solomon-four pretest post-test quasi experimental design whereby the sampled students were randomly assigned to four groups; two experimental groups and two control groups. Experimental group 1 and experimental group2 received the intervention of scaffolding learning for eight weeks while control group 1 and control group 2 were taught using the conventional methods. Pre-test questionnaires were administered to experimental group 1 and control group 1 participants to evaluate the learners' level of self-efficacy ratings before scaffolding learning. Later, post-test questionnaires were administered to all the four groups in order to determine whether students' exposure to scaffolding learning process had an effect on their self-efficacy. In other words, whereas experimental group 1 and control group 1 received a pre-test and posttest, experimental group 2 and control group 2 received a posttest only.

To find out whether the sampled participants were similar in terms of self-efficacy before scaffolding treatment, paired samples t-test was carried out among experimental group 1 and control group 1 pretests and control group1 and 2 post-tests. The results were as shown on Table 22.

Table 22: Self-Efficacy Similarity Test

		Paired Differences			T	Df	Sig.
		Mean	**SD**	**SEM**			
Pair 1	Exp. grp 1-Pretest Self-Efficacy contol.grp1-pre-test Self-Efficacy	.37	8.17	.92	.40	77	.640
Pair 2	Exp.grp 1-Pretest Self-Efficacy Control Group 2- Posttest Self-Efficacy	.28	10.4	.87	.42	55	.816
Pair 3	Control Group 1-Pretest Self-Efficacy control Group 2- Posttest Self-Efficacy	.36	8.4	.78	.93	55	.689

Table 22 shows no statistically significant mean scores between each of the pairs. In pair 1, experimental group 1 and control group 1 pretests, t(77) = .40, p= .640; pair 2 constituting experimental group 1 pretest and control group 2 posttest t(55) =.42, p= .816 and pair 3, control group 1 pretest and control group 2 posttest t(55) =.93, p .689. Since there was no statistically significant difference in self-efficacy mean scores among the three pairs, the study established that randomization was successful during sampling stage, hence the participants were similar in terms of self-efficacy at the beginning of the experiment.

Hence, paired samples t-tests were performed to determine the difference in English language self-efficacy between the experimental and control groups. The self-efficacy composite mean ratings for all the four groups were calculated and tabulated as in Table 23.

Table 23: Level of Self-Efficacy Ratings for the Four Groups Used in the Study

	Groups	N	Mean	Std. Error	SD
Pretest Scores	Exp.grp 1-Pretest Self-Efficacy	103	37.6311	.59633	6.05205
	Controlgrp1-Pretest Self-Efficacy	78	37.4744	.61956	5.47183
	Exp.grp 2-Pretest Self-Efficacy				
	Controlgrp2-Pretest Self-Efficacy				
Posttest Scores	Exp.grp1-Posttest Self-Efficacy	103	52.5534	.74502	7.56116
	Controlgrp1- Posttest Self-Efficacy	78	37.4615	.61982	5.47412
	Exp.grp2- Posttest Self-Efficacy	101	50.5248	.70957	7.13105
	Controlgrp2- Posttest Self-Efficacy	51	36.7451	.61666	4.40383

Source: ***Learners' Self-Efficacy Rating (2022)***

From Table 23, the pretest composite mean scores of self-efficacy ratings for experimental Group-1 participants was 37.63 (SD 6.0) while the posttest obtained the highest mean score of 52.6 (SD=7.6). Experimental group 1 participants had received a pretest followed by scaffolding learning treatment and finally a post test. The aggregate self-efficacy mean scores for experimental group 2 followed closely at 50.5 (SD=7.1) in the post-test. The participants had been subjected to scaffolding learning intervention followed by a posttest. Control group 1 participants students, who had not been exposed to scaffolding learning process in English language, recorded pretest self-efficacy of 37.47 (SD=5.5) and a posttest composite mean score of 37.46 (SD 5.4). At the same time, control group 2 recorded an aggregate mean score of 36.74 (SD 4.4). Self-efficacy mean scores for control groups, both pretest and posttest were not substantially lower than pretest score of experimental group 1 which was at 37.6 (SD=6.1). The findings clearly show that scaffolding learning technique had a positive effect on learners' self-efficacy since learners who were taught using scaffolding attained higher post-test mean scores than those who were taught using the normal teaching strategies. Also, post-test mean scores of experimental group I and 2 were statistically significantly higher than pretest mean score of experimental group 1. Therefore, scaffolding was effective in improving the self-efficacy of learners of English. The findings

are comparable to those Guo, Wang and Martin (2023) that teacher support and blended based scaffolding techniques increased learners self-efficacy significantly where experimental group outperformed the control group.

Figure 7 further shows graphically presentation of the relative difference in mean rating of learners' self-efficacy for the four groups of students.

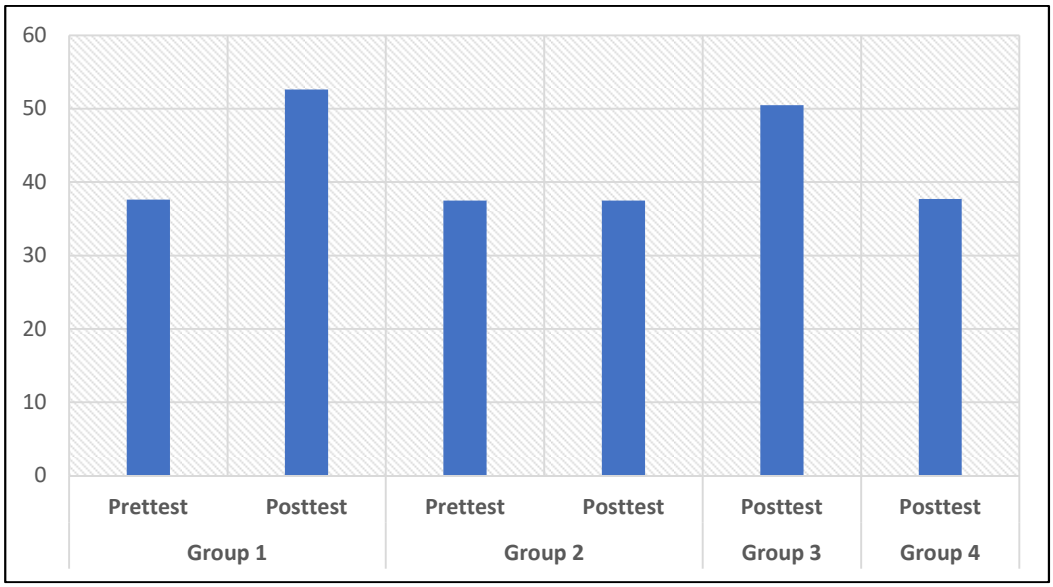

Figure 7: Mean Rating in Learners' Self-Efficacy

Source: Study data (2023)

Figure 7 shows that groups which had received scaffolding treatment had comparatively higher posttest self-efficacy mean scores than their counterparts who did not receive the treatment. This was reflected by the ratings of experimental group 1 and experimental group 2 posttest scores. However, it is evident that there was no significant difference between pretest and posttest mean scores in learners' self-efficacy among the control groups 1 and 2.

Further, to investigate whether there was any statistically significant difference in learners' self-efficacy ratings between experimental and non-experimental groups, three different steps involving use of t-test analysis were applied and findings were compared. Table 24 shows a comparison between the post-test ratings in learners' self-efficacy man score ratings attained by experimental group 2 and control group 2 learners.

Table 24: A Solution with the Post-test Only Design with Non-Equivalent Control Groups, Self-Efficacy

	Paired Differences					T	df	Sig. (2-tailed)
	Mean	SD	SEM	95% Confidence Interval of the Difference				
				Lower	Upper			
Exp. Group 2-Posttest Self-Efficacy Control Group -Posttest Self-Efficacy	13.02	7.6	1.08	10.83	15.20	11.97	50	.000

Table 24 shows paired samples t-test investigating solution with the Posttest Only Design with Non-Equivalent Control Groups. From the results, it can be established that there is a statistically significant difference between experimental group 2 and Control Group 2 posttest mean scores, $t(50) = 11.97$; $p<.001$. Given that the difference is statistically significant at 0.05 significance level, the study found out that scaffolding learning strategy is effective in improving self-efficacy level among secondary school students of English. The findings are supported by the findings of a study in the USA by Hoermann-Elliot and Williams (2023) that scaffolding improved self-efficacy in academic writing and editing.

However, it is not known whether the existing difference in self-efficacy ratings is exclusively due to use of scaffolding learning strategies or due to other variables which are not included in the study. In this regard, the study further explored solution with the Two Control Group Design, as refinement over the finding, as shown in Table 25.

Table 25: Solution with the Two Group Control Group Design-Learners' Self-Efficacy

		Paired Differences			T	Df	Sig.
		Mean	SD	SEM			
Pair 1	Exp. grp 1-Pretest Self-Efficacy Exp.grp1-Posttest Self-Efficacy	-14.92	8.74	.86	-17.34	102	.000
Pair 2	Control grp 1-Pretest Self-Efficacy Control Group 1- Posttest Self-Efficacy	.01	1.51	.17	.08	77	.940
Pair 3	Exp. Group 1-Pretest Self-Efficacy control Group 1- Posttest Self-Efficacy	.37	8.17	.92	.40	77	.689
Pair 4	Exp. Group 1-Pretest Self-Efficacy control Group 1- Pre-test Self-Efficacy	.36	8.21	.93	.386	77	700
Pair 5	Exp. Group 1-Posttest Self-Efficacy – control Group 2- Posttest Self-Efficacy	15.19	9.84	1.38	11.03	50	.000

*Significant at 5% level ** significant at 1% level

From Table 25, the results of the paired sample t-test on Pair 2; Control Group1 Pretest and Control Group1 Post-test suggests that there was no difference in learners' self-efficacy ratings established between before and after values in the Control groups [t (77) = .08, p =.940 (ns)]. However, the results for a test on Pair 1 (experimental group 1 pretest and posttest) reveals that there was significant difference [t (102) = -17.34, p <.001] between pretest and post-test score of intervention group. This suggests a statistically significant effect of scaffolding teaching strategy on learners' self-efficacy. Pair 3 which compares posttests of experimental group-1 pretest and control group-1 posttest reveals no statistically significant difference in learners' self-efficacy rating between the two groups [t(77)=.40,p=.689]. Similarly, Pair 5 further shows that there is a statistically significant difference at 1% significant level between experimental group 1 Post-test and Control Group 2 Post-test, t (50) = 11.03, p<.001. From the results of the paired sample t-test analyses on table 4.11, the study established that scaffolding learning method had appositive effect on the English learners'

self-efficacy. Likewise, a study by Zarei and Rezadoust (2020) observed that scaffolding increased speaking self-efficacy.

To ascertain that the randomization process was successfully applied to sample the experimental and control groups participants, Pair 4 was used whereby there was no significant difference [t (77) = 386, p =.700 (ns)] established between experimental group 1 Pretest mean scores and Control Group 1 Pretest self-efficacy mean scores. Hence, assuming that pretesting had no effect on post test results, the study determined that the use of scaffolding strategy is effective in improving self-efficacy among secondary school learners.

The study, however, envisaged a possibility of some effect of pre-testing on post-test scores because the mean difference increased from 8.74 to 9.84 from pair 1 to 5. This was addressed by the use of solution with the Four Control Group Design, whose results is shown in Table 26.

Table 26: Paired Samples Test- Solution with the Four Control Group Design: self-efficacy

	Group	Paired Differences			T	Df	Sig.
		Mean	SD	SEM			
Pair 1	Exp. Group 1-Pretest Self-Efficacy Exp. Group 1-Posttest Self-Efficacy	-14.92	8.74	.86	-17.34	102	.000
Pair 2	Control Group -Pretest Self-Efficacy Control Group 1-Posttest Self-Efficacy	.01	1.51	.17	.08	77	.940
Pair 3	Exp. Group 1-Pretest Self-Efficacy Control Group 1-Pretest Self-Efficacy	.36	8.21	.93	.39	77	.700
Pair 4	Exp. Group 1-Pretest Self-Efficacy Control Group 1-Posttest Self-Efficacy	.37	8.17	.92	.40	77	.689
Pair 5	Exp. Group 2- Posttest Self-Efficacy Control Group 2-Posttest Self-Efficacy	13.01	7.77	1.08	11.97	50	.000
Pair 6	Control group 1-pretestSelf Efficacy Exp.group2-posttest Self Efficacy	14.05	8.77	1.03	16.34	50	.000
Pair 7	Exp. Group 1-Posttest Self-Efficacy – Exp. Group 2- Posttest Self-Efficacy	2.17	10.18	1.01	2.14	100	.035
Pair 8	Control .Group 1-Posttest Self-Efficacy Control Group 2-Posttest Self-Efficacy	.87	6.86	.95	.89	50	.373

From Table 26, a paired sample test for Pair 2 suggests that there was no statistically significant difference in learner's self-efficacy ratings between pretest and posttest values in Control Group1 Pretest and Control Group1 Post-test, t (77) = -.075, p=.940 (ns). On the other hand, test results for Pair 1 confirm that there is statistically significant difference

between pretest and post-test scores of the Experiment group 1, t (102) = -17.3, p<.001 at 0.01 significance level. The results clearly indicate that there is a statistically significant effect of scaffolding strategies on the learners' self-efficacy. The findings concur with the findings of a study in Indonesia by Wiwik (2020) which established that the group of participants who were assisted by scaffolding was better in self-efficacy, hence better problem solving outcomes than the group the group that learnt without scaffolding.

Additionally, from the test in Pair 3 it was concluded that the randomization process was effective during sampling of the experiment and control groups because there is no statistically significant difference between experimental Group1 Pretest and control Group1 Pretest [t(77)=.39,P=.700].

However, test in Pair 4 confirms that there is no statistically significant difference between Experimental Group-1 pretest and Control Group-2 post-test, [t(77)=.40, P=.689]. On the other hand, test on pair 5 proves that there is a statistically significant difference between Experimental Group-2 post-test and Control Group2 post-test (without pretest) at 1% level [t (50)=.11.97, P<.001]. The results in pair 5 are attributed to the effect of the scaffolding method on the learners in experimental group 2. Comparing t-test in pair 4 and pair 5, the study found out that there is significant effect of scaffolding method in reinforcing learners' self-efficacy. Further, the self-efficacy mean differences in pair 3 (0.36, SD 8.21) and pair 4 (0.37, SD 8.17). The difference is small, implying that, although pretest could have increased the learner's sensitivity or responsiveness to learners' self-efficacy questionnaire items, the influence was negligible. On the other hand, the result of the test in Pair 6; t (100)=2.14, P=0.35 and pair 7; t(50)=.89, P=.373, suggest that external factors had not been included in the study.

Considering the t-test analyses, it is evident that scaffolding learning method had a statistically significant effect on the English Learners' self-efficacy. Therefore, the null hypothesis which states that: "There is no statistically significant effect of scaffolding on English learners' self-efficacy" was rejected. The findings of the study are comparable to the findings of a study in Kenya by Julius, Twoli and Maundu (2018) which reported that students who were taught using scaffolding method produced higher self-efficacy scores than those taught normally.

4.4: Effects of Scaffolding on Academic Buoyancy among English Learners

The study objective was: to investigate the effects of scaffolding on academic buoyancy among the form three secondary school students of English in Kenyenya Sub-County. This objective was explored using both descriptive statistics to investigate the level of academic buoyancy before and after the treatment and inferential statistics to investigate the effect of scaffolding on academic buoyancy among learners of English as a subject. The study operationalized academic buoyancy as respondents' ability to successfully deal with academic setbacks and challenges such as poor grades and meet deadlines, among others. Thus, the study envisaged that a student with high academic buoyancy is able to effectively handle academic impediments and encounters that are typical of the school life, including poor grades, difficult home works, assignment deadlines and exam pressure.

4.4.1: Students' Level of Academic Buoyancy before Scaffolding Learning

First, learners were sampled and randomly assigned into four groups: experimental group 1, control group1, experimental group 2 and control group 2. Next, as pre-intervention, the student respondents in experimental group 1 and control group 1 were given five itemed statements whose constructs showed the level of academic buoyancy. The study participants were expected to respond on the statements using 5-point rating scale; never (1), rarely (2), sometimes (3), often (4) and always (5). Their views of experimental group 1 participants were summarized in frequency percentages, mean and standard deviation, as tabulated in Table 27 the findings were followed by an interview among control group participants to enable not only compare the findings with quantitative data but also explain, clarify, support and confirm quantitative findings. Both data were then collaborated.

Table 27: Students Rating on Academic Buoyancy (n=103)

Item	1	2	3	4	5	M	SD
I am good at dealing with setbacks at school (eg negative feed-back on my work, poor results)	15 (14.6%)	18 (17.5%)	45 (43.7%)	15 (14.6%)	10 (9.7%)	2.9	1.1
I don't let study stress get on top of me	13 (12.6%)	17 (16.5%)	44 (42.7%)	18 (17.5%)	11 (10.7%)	3.0	1.1
I think I am good at dealing with school work pressures	18 (17.5%)	16 (15.5%)	48 (46.6%)	17 (16.5%)	4 (3.9%)	2.7	1.0
I don't let a bad mark affect my confidence	12 (11.7%)	18 (17.5%)	41 (39.8%)	18 (17.5%)	14 (13.6%)	3.0	1.2
Overall mean rating on students' academic buoyancy						2.9	0.8

Key: 1-never; 2-rarely; 3-sometimes, 4-often and 5-always; M-Mean; SD-Standard deviation.

Source: Survey Data (2023)

The results of the survey on Table 27 reveal that the students' level of academic buoyancy was generally moderate, as reflected by an overall mean rating of 2.9 (SD=0.8) in the scale of 1 to 5. This finding suggests that although students varied in their level of academic buoyancy, most of them exhibited average ability to successfully deal with academic setbacks and challenges of school life such as poor grades, competing deadlines, exam pressure and difficult schoolwork, among others. On average, their ability to manage academic challenges and other challenges of schooling is moderate and not their best.

For instance, when the study sought to investigate how good the students were in handling setbacks in school, the results indicated that while only 15 (14.6%) were often and 10 (9.7%) were always good at dealing with setbacks at school. On the same note, close to a third 33 (32.1%) of the student respondents accepted that they were not good in handling setbacks such as negative feed-back on their work and poor results at school. However, a sizeable proportion 45 (43.7%) of the respondents remained noncommittal on this matter. In general, the item attracted a mean response rate of 2.9 (SD=1.1), which was equal to the composite mean of the scale, implying that the students' ability to handle setbacks in school is generally average. The mean score suggests that many of the students do not have adequate capacity to effectively cope with the daily misfortunes encountered in their school life. The findings of

the study are in agreement with the findings of Shafi, Hatley, Middleton, Millican and Templeton (2018) in England which reported low ability of students to deal with academic setbacks before going through scaffolding learning. The findings were followed by interviews and the following were some of the responses.

> *When I make judgment of myself, I can say that I am not that good at dealing with such challenges. If I gel low marks for instance after revising very hard for the exam I really get discouraged because that is like a waste of my efforts. Another thing is during the exams. I have always found myself in a situation where I do good preparation by reading, consulting my teacher, doing rehearsals, but when I am given exams, I find that cannot handle them. For instance there are some essay questions that I cannot interpret yet I have all the literature content. Such an exam really discourages me and once I am in such a situation I feel like I am wasting my efforts. Honestly, I am not good in handling such challenges because I get very emotional. I feel that there is unfairness somewhere*. (LoE3)

Another respondent commented that:

> *I have many cases of learners who once they drop in their performance, it becomes very difficult for them to improve. I think the drop kills their morale to work harder. About beating deadlines, the learners have no option since failure to do so may attract punishment. In fact very few of our learners can withstand the daily academic challenges. (ToE3)*

The responses by LoE3 and ToE3 are a clear confirmation of the fact that before the application of scaffolding technique, many survey participants could not deal with academic setbacks, especially, negative feedback and a bad mark. When the learners faced the challenges, instead of addressing them, they got discouraged, meaning their performance would worsen. Thus, before the application of scaffolding, academic buoyance was low among the learners.

Likewise, when the student respondents were asked how they handle study stress, emanating from heavy work load, assignments, balancing between leisure and school activities, the results of the survey revealed a mixed response, as reflected by a mean response rate of 3.0 (SD=1.1). For example, while 44 (42.7%) of the respondents remained undecided on whether they let academic stress be on top of them or not, some 29 (28.2%) of them insisted that they don't let study stress get on top of them. However, 30 (29.1%) of the respondents accepted that study stress sometimes gets on top of them and they finding it hard to handle. This finding indicates that whereas some of the students of English could effectively handle study stress, many do not have such threshold, implying that they have low academic buoyancy,

given that evidence from existing literature submit that academic buoyancy significantly correlates with students' perseverance to deal with stress. Similarly, a study in Indonesia by Kusmaryano, Gufron and Gusdiontoro (202) which reported a very high level of anxiety among learners who did not learn through scaffolding method. Moreover, some respondents were probed on whether the learners were able to manage academic stress and this is what they had to say:

> *When I look at myself, sometimes I may agree that academic stress may overcome me, though I do try my best to overcome it. In fact academic stress is not constant. It worsens when the term is coming to an end and the academic activities become too many. But at the beginning of the term when the activities are few, I am able to manage it. When the stress is too much I do time management well so that I can revise for exams, do assignments as well as consultations. Those academic activities I cannot manage I just leave them for another day and sometimes I prepare myself for repercussions such as punishment. (LoE3)*

The sentiments by LoE3 were echoed as follows:

> *Managing academic stress can be an uphill task to me but I try my best. It is mostly due to too much work and limited time, until we are forced to do our homework late at night at 11;00pm. the stress that I have is that I do not have enough sleep. Our school routine is too tight. We wake up very early and sleep very late. To me I am not that able to manage this stress. I just want to finish school next year and go and rest (LoE3)*

The response was followed by another on, thus:

> *At times our learners are able to manage academic related stress. When we realize that the stress is overboard, in our school we give then relaxation activities. I do give them very few question to discuss, in the process they get time to have a conversation amongst themselves. I English we try to help them cope by varying the learning activities. I do ask them to role play, and those wiling can do it to the rest. So I as a teacher try to assist my learners manage stress. (ToE2)*

From the responses by LoE1, LoE3 and ToE2, it is evident that the learners an moderately manage their academic stress just like their mean scores indicate. The learners have adopted time management skills, though some admit that they work overnight. Also the teachers are coming in to assist the learners by giving them stress free learning activities. The study thus established that stress management among the learners was moderate.

Similarly, on the school work pressure (due to the demands of time and energy to achieve academic goals) the results of the survey demonstrate mixed abilities in academic buoyancy. This was evinced by a response rate of 2.7 (SD=1.0) with only 4 (3.9%) of the respondents

agreeing that they are always able to deal with school pressures and 17 (16.5%) of them agreeing that they are often good at dealing with school work pressures. On the other hand, about a third 34 (33.0%) of the respondents accepted that they are not good at dealing with school work pressures, but a respectable proportion 48 (46.6%) of the surveyed students indicated that they are sometimes able to deal with school work pressures. This suggests that many of the students lack adequate academic buoyancy to handle school work. A similar study in Mexico by Acosta-Gonzaga and Ramirez-Arellano (2022) that students who did not receive scaffolding learning could not manage pressures in class. On this, the interview that followed produced the following data:

> *From my assessment, I think I am not very good at dealing with the pressures. I just try the best I can but I am not perfect. The pressure of time in relation to the things we are supposed to do in a day do not agree. Not only time, we are made to set targets and our teacher wants us to achieve them. This is another pressure that I fail to manage. Our teacher does not want us to set a small target. So I just try but honestly some pressures I go through as a student overcome me. Like now we are supposed to cover a set book in two weeks before we start doing the analysis with the teacher, I am finding it impossible given the very tight school routine.(LoE3)*

Similar remarks were given as follows:

> *My students are not very good at dealing with the pressures we give them. This is seen in the shoddy work they are doing. And pressurizing the students is reasonable because my students cannot work without it. We give them time frames within which to do their studies and assignments. Also they have set targets which they must achieve. But in most cases they do not achieve them. So the ability of my learners, from my assessment is below average. (ToE3)*

Evidently, the remarks by Loe3 and ToE3 support the survey findings. The learners are below average in their ability to deal with schoolwork pressures. This pressure arises from inadequacy of time; the time available is not commensurate to the workload. Additionally, learners are made to set very high targets which they cannot achieve meaning they face the pressure of learning beyond their Zone of Proximal development. Hence, before scaffolding method was applied, the participants were unable to manage school work pressures, a sign of low academic buoyancy.

On the effect of a bad mark on the confidence of the students, the findings of the survey indicated that the respondents were sharply divided on this matter. While 30(29.2) of the sampled students indicated that a bad mark would affect their confidence. On the other hand, 32 (31.1%) of them insisted that they don't let a bad mark in exams affect their confidence.

However, 41 (39.8%) of the respondents did not divulge the effect of bad mark in English exam impact on them. This item attracted response rate of 3.0 (SD=1.2) suggesting that although a fair proportion of the sampled students could cope with bad mark others found it hard to cope. The findings therefore show that many students lack ability to cope with fluctuations of performance, to continue with their endeavors and conquer failures on the road to quality achievement in the subject. This is an indication that many students are not academically buoyant. Similarly, a study China by Wang, Chen, and Yen (2021) revealed that before learners were subjected to scaffolding, they lacked confidence especially in solving more complex tasks. The findings were followed by interviews where the following information was obtained:

> *After we have done an exam and I score poorly, I find it difficult even to go to the teacher for consultation. You know it is very shameful to score a very low mark. Our teacher knows what we scored in KCPE, so when you score low marks, he is always reminding us that we are performing below expectation. Even some of my classmates like laughing or mocking those who score low marks. In fact a low mark makes me very much ashamed and I can't show my results to anybody. (T0E3)*

The remarks were supported by another participant:

> *There are some of learners who get troubled by a low mark such that they want to know where exactly they made a mistake so that they rectify. However a greater majority do not care. That is when they will go underground. If we do not follow them up and try to encourage them they will get lost altogether. (ToE1)*

The responses support the findings that the students have moderate ability to withstand a bad mark. Clearly, a bad mark affects the confidence of many of the learners to the extent that the learners do not want to consult their teachers. Also, the students fear criticism by the teacher or fellow students. Although it is evident that there are those students whose confidence is not affected, a majority's confidence is negatively affected by a bad mark. This is an indication of low academic buoyancy among students before the use of scaffolding learning method.

4.4.2: Comparison of Students' Level of Academic Buoyancy

During the study, students in experimental group 1 and control group 1 filled I pretest questionnaires and the level of their academic buoyancy was ascertained. This was followed by an intervention of scaffolding learning technique among experimental group 1 and experimental group 2. To find out the difference in the level of academic buoyancy, the pretest and posttest mean scores among experimental group 1 participants were compared and the differences were presented on Figure 8.

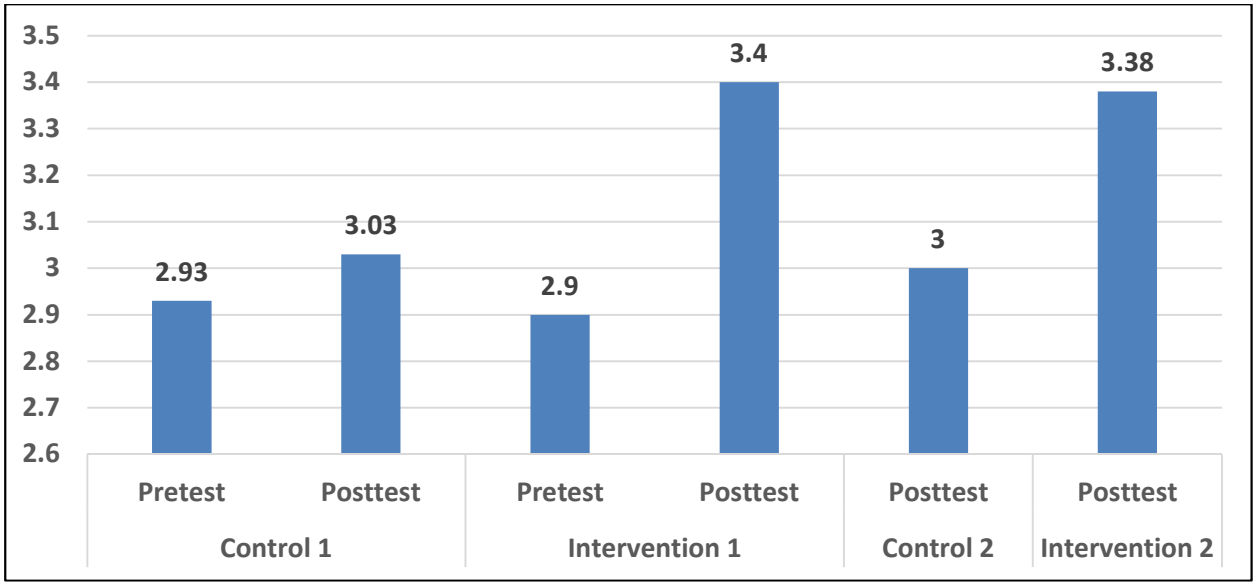

Figure 8: Students' Level of Students' Academic Buoyancy

The results on Figure 8 show that there is varied level of academic buoyancy rating among different groups of study participants at different levels of measurements. However, the academic buoyancy ratings among the students were evidently lower during the pretest stage and higher during the posttest stage. For instance, using the scale of 1 to 5, the experimental group 1 students' academic buoyancy rating improved from a composite mean of 2.90 during the pretest stage to 3.40 at the posttest stage. On the other hand, there was a negligible change in academic buoyancy rating from a mean of 2.93 at the pretest stage to only 3.03 at posttest stage among the control group 1. This was also seen in control group 2 and experimental group 2 posttest results, where while the academic buoyancy rating recorded a composite mean of 3.00 at the posttest stage among the control group 2 learners, the experimental group 2 recorded a composite mean of 3.38. These findings indicate that students who were taken through scaffolding learning technique had higher posttest self-efficacy rating scores than their counterparts who were only taken through traditional teaching/learning techniques,

implying that scaffolding learning technique has more positive influence on learners' academic buoyancy than the normal teaching techniques.

Table 28 shows the pretest and posttest mean scores for experimental and control groups

Table 28: Academic buoyancy posttest Scores.

Indicators	Control grp 1 pretest	Control 1posttest	Exp. Grp 1 Pretest	Exp. Grp 1 posttest	Control Grp 2 posttest	Exp grp. 2 posttest
I am good at dealing with setbacks at school (eg negative feedback on my work, poor results)	2.9	3.1	2.9	3.4	3.0	3.3
I don't let study stress get on top of me	2.9	3.2	3	3.5	3.1	3.4
I think I am good at dealing with school work pressures	2.8	2.7	2.7	3.3	2.88	3.3
I don't let a bad mark affect my confidence	3.1	3.1	3	3.4	3.1	3.5
	2.93	3.03	2.90	3.40	3.00	3.38

Source: Research data 2023

The results on table 28 indicate an improvement in academic buoyancy among experimental group 1 when comparing the pretest and the posttest results. Similarly, experimental group 2 students who had received scaffolding learning intervention recorded a higher posttest mean compared to control group 1 and control group 2 learners who had not received scaffolding learning treatment' the improvement is attributed to the positive effects of the treatment. In general, the learners' ability to successfully deal with academic setbacks and challenges that are typical of the ordinary school life significantly improved.

To begin with, before receiving the intervention the study participants rated their ability to deal with setbacks at school (eg negative feed-back on my work, poor results) at 2.9 during pretest and at 3.4 after receiving treatment, while experimental group 2 recorded a posttest mean of 3.3. On the contrary, the control groups reported a negligible improvement from 2.9 to 3.1 and 3.0 for control group 1 and 2 respectively. This shows that scaffolding method had a positive effect on the learners' ability to deal with academic setbacks. The findings concur with the findings of a comparative study in Singapore and Australia by Granziera et.al (2022) which reported that scaffolding by teacher support positively affected the learners' academic

buoyancy associated with effort and persistence. After the results, interviews were carried out and some interview extracts obtained:

> *Since our teacher started the new method, I have found a way of dealing with the issues. When I get negative comments by the teacher, our teacher encourages us to find out why. I have realized that the negative comment is not an insult but a wakeup call. Therefore, I compare my work with that of my classmates who have a positive comment and then I do the same as they did. Recently I started reading compositions and essays written by some of my classmates and I am sure I will improve and avoid scoring low marks. Also we stared working in groups and each group has a mixture of students so that the bright students teach us. So if we continue like this I am sure I will avoid low marks. Already I personally got some improvement in the CAT we did recently. This is possible because unlike in the past, we have enough time to learn English. We have time to discuss and compare our work. I even have time to read the work of the other students and make correction using my fellow students' work. (LoE3)*

Another respondent gave his comments as follows:

> *Your learning method has made these learners more responsible. They are more active in making consultations and even in their group work. They are helping each other more. Also, they want to know the mistake they committed in their assignments so some of them are coming to me for clarification. I am hopeful that if they continue like this, they will shine at the end. The only issue is time for syllabus coverage ToE1).*

From the comments, evidently there is an improvement in the way learners deal with the academic setbacks. According to LoE1 and ToE1, the is the utilization of cooperative learning among the learners where they tackle academic issues in groups in addition to learning from their superior other peers. The learners are actually taking criticism positively hence the learners go seeking for clarification and assistance from their teachers. This is a clear characteristic of academically buoyant students.

Likewise, the ability of the learners not to let study stress get on top of them improved from a mean of 3.0 to 3.50 for experimental group 1 while experimental group2 attained a posttest mean of 3.4. However, the control groups did not improve much as control group 1 had a pretest mean 2.9 and a posttest mean of 3.2 while control group 2 got a posttest mean of 3.1 in the ability to deal with academic stress. The findings are in agreement with those of a study in Indonesia by Kusmaryono, Gufron and Rusdiantoro (2020) which recorded a decrease in academic anxiety among learners who had undergone scaffolding learning technique.

> *The stress I have been going through was because of lack of enough time and failure to understand some topics. Nowadays we are given enough time to do our personal studies at our own pace. When we learn all of us at the same speed there are areas I do not understand, like writing skills and grammar. I want to be taken slowly so that I can understand. This is now possible. We learn from our group members. We also ask them to teach us. So I don't have much stress. (LoE3)*

Another interviewee gave similar remarks:

> *Stress in English has reduced nowadays because, we are doing our studies together. So we are friends and nobody is despising another. Even if I do not speak well, nobody mocks me. We now understand one another and we help each other where we have a problem. Another thing the teacher told us to begin with the easy topics or questions and the difficult ones, she helps us to do them. Even the time is enough for assignments (LoE1)*

From the responses, the respondents put it clear that many of the learners have found various ways of dealing with study stress, and the solution is in scaffolding learning. They are involved in cooperative learning which they refer to as group work. In addition the learners are learning within their ZPD, hence they do not have to load their memory with things beyond them. They are further getting support from the more knowledgeable others. These are the factors that explain the increase in mean scores in terms of the leaners' ability to deal with study stress among the experimental groups. Thus scaffolding significantly helps learners be able to manage study stress.

Moreover, the ability of learners to deal with school work pressures improved from 2.7 to 3.3 and 3.3 among experimental group 1 and 2 students respectively. This was contrary to the control groups which actually dropped from a mean of 2.8 to 2.7 for both control group 1 and control group 2. The increase in mean scores among the experimental groups clearly shows that scaffolding method positively affected the learners' ability to deal with school work pressures. Similarly, a study in Iran by Kordloo and Behrangi (2020) that scaffolding had a positive effect on educational management among students. Interview participants were asked how good the learners were in dealing with academic pressures at the end of scaffolding treatment and they gave the following sentiments:

> *Earlier we were being told to set high target and we were forced to make sure we achieved them. Personally I never achieved my targets though we were under pressure to achieve. There was also pressure to hand in assignments in time, yet the assignments would be too many. You are given*

> *three essays to write and hand in the following day. the pressure used to be too much for me and in most cases I gave up .but of recent, I am able to manage my time and my work because the pressure has reduced. I think our teacher has started to understand what we can do and what we cannot do even when forced to. I think if I am given time to study at my pace, I can perform better. (LoE3)*

Similar remarks were given by another respondent:

> *The new method seems favourable on the side of the learner since it allows them to learn without a lot of pressure. They cover very little in a duration when we would have covered a lot of content. They are now more relaxed and I think they are enjoying their studies. (ToE1)*

The remarks by LoE3 and ToE1 support as well as explain the survey finding that the students are more able to manage academic pressures. According to the requirements of scaffolding, a learner is supposed to learn within their ZPD, and evidently this is in practice as the learners admit that they learn at their sped. Also the learners mention that they do the areas that they can handle before going for more clarification from the teacher. At the same time the learners are setting achievable targets. Thus, it is evident that scaffolding is positively affecting the learners' ability to deal with schoolwork pressures and this is an indication of academic buoyancy.

Finally, participants were asked to indicate whether they would let a bad mark affect their confidence and the pretest mean score among experimental group 1 was 3.0 while the posttest mean was 3.4. Similarly experimental group 2 who had received the treatment recorded a posttest mean of 3.5 on not letting a bad mark affect their confidence. On the other hand, the control groups maintained a mean of 3.1 throughout both groups and all tests. This shows that students who learned using scaffolding methods were positively affected by scaffolding in their ability to remain confident in spite of a bad mark. The findings concur with those of a study in Taiwan and South Africa by Wang, Chen and Chen (2021) which reported that after scaffolding learning the students' judgment on their confidence improved. The study went ahead to do interviews where the following extracts were obtained.

> *In the past, a bad mark really discouraged me and I got ashamed. But since I started learning together with my friends, I have realized that a low mark means I have not learned properly, so I need to do a lot of consultation. So when I scored lowly in the least CAT, I went to the teacher and he showed me the mistake I had committed. It was a very minor mistake in writing and*

I hope to improve next time. I do not fear the teacher or my classmates at all. (LoE3)

The remarks were supported by another respondent as follows:

Some of my students are quite encouraged to come for clarification when they fail in a test. Some are not yet confident but a good number are. Though I do tell them to consult or try to answer a question in class or in their groups before they come to me. But still I am helping those who come to me directly. I can say that my students are more confident since they come to me without fear of criticism. (ToE3)

From the responses, the study established that a low mark made learners even more confident. This is because the learners apart from having confidence to seek for support from the more knowledgeable peers, they got it from their teachers. The learners did not fear criticism at all. They looked for ways of recovering from a bad mark. Thus the findings support the increase of the mean in terms of ability of learners to regain confidence after a bad mark.

4.4.3: Experimental Findings on the Effect of Scaffolding on Academic Buoyancy

The study objective was: to investigate the effects of scaffolding on academic buoyancy among the learners of English in Kenyenya Sub-County. Therefore the null hypothesis that was tested was:

$H_0$3: there is no statistically significant effect of scaffolding on academic buoyancy among secondary school learners of English as a subject

The study objective was addressed using Solomon-four quasi experimental design where the sampled participants were assigned to four groups namely: experimental group 1, control group 1, experimental group 2 and control group 2. The first two groups were pretested and post tested while the latter two were only post tested. Also, the experimental groups 1 and 2 were subjected to the intervention; scaffolding learning technique while the control groups were taught using the traditional methods. Pre-test questionnaires were administered to evaluate the learners' academic buoyancy before scaffolding learning. After the treatment on the experimental groups, post-test questionnaires were administered to all the four groups in order to determine whether students' exposure to scaffolding learning process had an effect on academic buoyancy.

Before analyzing the data that was obtained, the study sought to find out whether randomization was effective during sampling by comparing three pairs of groups. the groups had filled in questionnaires before being pretested of going through scaffolding learning. The results of paired samples t-tests were as shown on Table 29.

Table 29: Test of Similarity in Academic Buoyancy

		Paired Differences			T	Df	Sig. (2 tailed)
		Mean	Std. Deviation	Std. Error Mean			
Pair 1	Exp. Group 1-Prettest Buoyancy – Control Group 1-pretest Buoyancy	.285	2.720	.308	.916	77	.363
Pair 2	Exp.Group1 -Pretest Buoyancy – control Group 2 - Posttest Buoyancy	-.10	4.64	.450	-.672	55	.497
Pair 3	control Group 1-Pretest Buoyancy – Control Group 2-Posttest Buoyancy	6.08	2.45	.450	.816	100	.508

Table 29 shows that the paired samples t-tests between groups that had filled in academic buoyancy questionnaires before being pretested or subjected to scaffolding learning. Pair 1 reveals that t(77)=.918, p=.363, hence no statistically significant difference in mean scores between experimental group 1 pretest and control group 1 pretest. Also in pair 2 t(55) =-.672, p=.499, meaning no statistically significant difference in mean scores between experimental group 1 pretest and control group 2 posttest. Similarly, pair 3 shows that t(100) =-.816, p=508, thus, no statistically significant mean score difference between control group 1 pretest and control group 2 post-test. Therefore, the results on table 27 reveal that randomization was effective at the sampling stage, meaning that the sampled participants were similar in terms of academic buoyancy at the beginning of the experiment. The study then proceeded to data analysis.

A paired sample t-test was used to determine the difference in academic buoyancy between the experimental and control groups. The different combinations of pretested and un-pretested groups with treatment and no treatment groups allowed the researcher to ensure that confounding variables and extraneous factors did not influence the results. The mean ratings

of the learners' academic buoyancy for all the four groups were calculated and Table 30 shows the summarized results.

Table 30: Levels of Learners Academic Buoyancy

Scores	Group	N	Mean	St. Error	Std. Deviation
Pretest Scores	Experimental group 1-Prettest Buoyancy	103	9.8641	.17346	1.76040
	Control Group -Prettest Buoyancy	78	9.6538	.24197	2.13704
	Experimental Group 2-Pretest Buoyancy	0			
	Control group Group 2-Pretest Buoyancy	0			
Posttest Scores	Experimental Group 1-Posttest Buoyancy	103	16.2178	.39291	3.94868
	Control Group 1-Posttest Buoyancy	78	9.7308	.24528	2.16629
	Experimental Group 2-Posttest Buoyancy	101	15.9320	.20243	2.05446
	Control Group 2-Posttest Buoyancy	51	9.1373	.31934	2.28052

Source: *English language subject-interest rating (2023)*

Table 30, reveals that experimental group 1 learners recorded a high composite posttest mean score of 16.2 (SD=3.9) on academic buoyancy rating while its pretest mean score was 9.9 (SD=1.8). Experimental group 1 participants had received the treatment of scaffolding learning. Following closely was the posttest mean rating of experimental group 2 learners at 15.9 (SD=2.1) of learners' academic buoyancy. Control group 1 students, who were not exposed to scaffolding learning process in English as subject recorded pretest mean score of 9.7 (SD=2.1) and a similar posttest mean on academic buoyancy mean rating. It is notable that the pretest and posttest mean score of control group 1 was not significantly different from pretest mean score for experimental Group-1, which was at 9.9 (SD=1.8). A similar study in Saudi Arabia by Souzandehfar and Abdel-Al-Ibrahim (2023) reported that scaffolding positively influenced academic buoyancy, fostering resiliency and adaptive coping strategies among learners. Figure 9 further shows the graphical presentation of the relative difference in the mean scores of the learners' academic buoyancy among the various groups.

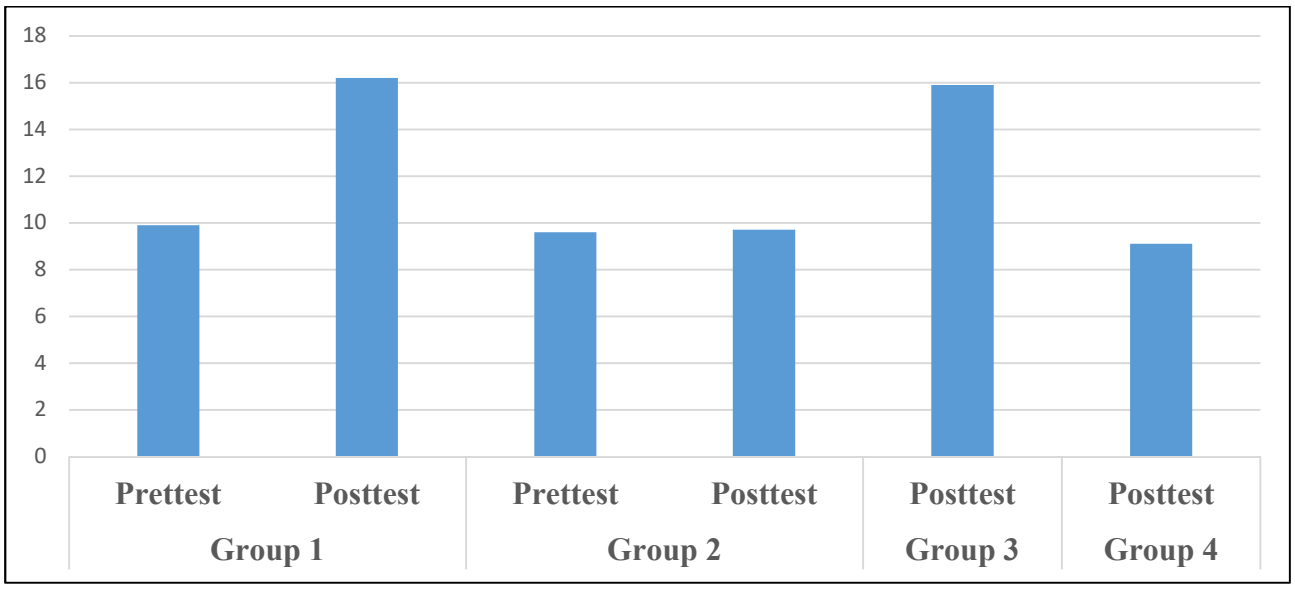

Figure 9: Graphical Presentation of the Pretest and Posttest Mean Scores on Academic Buoyancy

Key: Group1-experimental group 1; Group 2-control group1; Group 3-experimental group 2; Group 4-control group 2
Source: Study data (2023)

From figure 9 the study established that the groups that received scaffolding learning treatment (experimental Group 1 and experimental Group 2) reported relatively higher learners' academic buoyancy in posttest rating than their counterparts who did not receive the scaffolding learning treatment. It is also evident that there is no substantial difference between pretest and posttest mean ratings in academic buoyancy among the control groups (control Group 1 and control Group 2). However, to investigate whether there was any statistically significant difference in academic buoyancy ratings between experimental and non-experimental groups, t-test analysis was done and the findings compared. Table 31 shows a comparison between the post-test ratings in learners' academic buoyancy attained by experimental group 2 and control group 2 learners.

***Table 31**: A Solution with the Post-test Only Design with Non-Equivalent Control Groups - Learners' Academic Buoyancy*

	Paired Differences			T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
Experimental Group 2-Post-test Buoyancy Control Group 2-Posttest Buoyancy	8.21	5.32	.74	11.03	50	.000

Table 31 shows paired sample t-test investigating solution with the Posttest Only Design with Non-Equivalent Control Groups. From the results, it is clear that there is a significant difference between Experimental Group 2 and Control Group 2, t (50) = 11.03; $p < .001$. Given that the difference is statistically significant at .005 level, the study established that scaffolding teaching/learning is effective in improving academic buoyancy among the secondary school learners since learners who learnt using scaffolding strategies and materials attained higher academic buoyancy mean scores that those who were taught in the normal way. The findings are supported by a study in Iran by Abdel-Al-Ibrahim, Carbajal, Zuta and Bayat (2023) that scaffolding reduced reading anxiety since the experimental group outdid the control group in reading motivation and reading comprehension after scaffolding learning.

However, it is unclear whether the existing difference in learners' academic buoyancy is exclusively due to use of scaffolding strategies or any other superseding variable which is not included in the study. Therefore, the study further explored solution with the Two Control Group Design, as refinement over the finding, as shown in Table 32.

Table 32: Solution with the Two Group Control Group Design-Learners' Academic Buoyancy

		Paired Differences			t	Df	Sig. (2 tailed)
		Mean	Std. Deviation	Std. Error Mean			
Pair 1	Exp. Group 1-Prettest Buoyancy – Exp. Group 1-Posttest Buoyancy	-6.06796	2.38567	.23507	-25.81	102	.000
Pair 2	Control Group1 - Pretest Buoyancy – control Group 1 - Posttest Buoyancy	-.077	.818	..082	-.830	77	.409
Pair 3	Exp. Group 1-Pretest Buoyancy – Control Group 1- Posttest Buoyancy	6.051	2.710	.3069	19.72	77	.000
Pair 4	Exp. group 1-Prettest Buoyancy – Control Group 1- Prettest Buoyancy	.28205	2.72028	.30801	.916	77	.363
Pair 5	Exp. Group 1-Posttest Buoyancy – Control Group 2- Posttest Buoyancy	6.64706	3.24853	.45489	14.61	50	.000

*Significant at 5% level ** significant at 1% level

From Table 32, the paired sample t-test on Pair 2 (Control Group 1 Pretest and Control Group1 Post-test) suggests that there was no statistically significant difference in learners' academic buoyancy mean scores [t (77) = -.83, p =.409 (ns)]. Thus, the traditional teaching/learning method has no significant effect on learners' academic buoyancy mean ratings. However, the t-test results on Pair 1 reveals that there was a statistically significant difference [t (102) = -25.814, p <.001] between experimental group 1 pretest and post-test mean scores, suggesting a statistically significant effect of scaffolding strategy on learners' academic buoyancy ratings. Pair 3 which compares posttests of experimental Group-1 and control Group1 reveals a statistically significant difference in learners' academic buoyancy ratings between the two groups, t(77)=.3069,P<.001. Pair 5 further shows that there is difference at 0.001 significant level between experimental Group Post-test1 and Control Group2 Post-test, t (50) = 14.613, p<.001, hence a statistically significant difference in mean scores, meaning that there was a statistically significant effect of scaffolding method on

learner' academic buoyancy. Therefore from the results, the study established that the increase in academic buoyancy in English among students was only as a result of scaffolding learning. The confounding and extraneous variables such as pre-test sensitization were well controlled by using two experimental and to control groups. The findings are comparable with those of studies in Australia and Singapore by Granziera, Liem, Chong, Martin, Collie, Bishop and Tynan (2022) where only support was positively associated with increased academic buoyancy, which led to gains in students' academic skills and engagement, class participation and future aspirations.

In addition, results of Pair 4 (experimental group 1 and control group 1 pretest) indicate that the randomization process was successfully applied to sample the experimental and control groups' participants. This was implied by the fact that there was no statistically significant difference [t (77) = .916, p =.363 (ns)] established between Experimental Group 1 Pretest and Control Group1 Pretest. Hence, assuming that pretesting has no effect on post test results, the study found out that the use of scaffolding learning method is effective in improving academic buoyancy among secondary school learners.

However, it was envisioned that there may be some effect of pre-testing on post-test scores because the mean difference increased from 6.06 to 6.64 from pair 1 to 5, respectively. To ascertain the pretest did not have an effect on the posttest result, solution with the Four Control Group Design was performed and the results on Table 33 obtained.

Table 33: Paired Samples Test- Solution with the Four Control Group Design: Academic Buoyancy

		Paired Differences			T	Df	Sig.
		Mean	SD	SEM			
Pair 1	Exp. Group 1-Prettesr Buoyancy – Exp. Group 1-Posttest Buoyancy	-6.06	2.385	.235	-25.814	102	.000
Pair 2	Control Group 1-Prettest Buoyancy – Control Group 1-Posttest Buoyancy	-.073	.818	.092	-.830	77	.409
Pair 3	Exp. Group 1-Prettesr Buoyancy – Control Group 1-Prettest Buoyancy	.285	2.720	.308	.916	77	.363
Pair 4	Exp. Group 1-Prettest Buoyancy – Control Group 1-Posttest Buoyancy	.205	2.722	.308	.665	77	.508
Pair 5	Exp. Group 2-Posttest Buoyancy – Control Group 2-Posttest Buoyancy	8.215	5.319	.744	11.030	50	.000
Pair 6	Control Group 1-Pretest Buoyancy – Exp. Group 2-Posttest Buoyancy	-7.038	4.426	.501	-14.042	77	.000
Pair 7	Exp. Group 1-Posttest Buoyancy – Exp. Group 2-Posttest Buoyancy	-.306	4.522	.450	-.682	100	.497
Pair 8	Control Group 1-Posttest Buoyancy – Control Group 2-Posttest Buoyancy	1.117	3.314	.464	2.408	50	.020

From Table 33, results of Pair 2 (control group 1 pretest and posttest) suggests that there was no statistically significant difference in learners' academic buoyancy ratings between pretest and posttest values, t (77) = -.830, p=.409 (ns). On the other hand, test results for Pair 1 confirms that there is statistically significant difference at .001 significance level between

pretest and post-test scores of experimental group 1, t (102) = -25.814, p<.001, indicating that there is a significant effect of scaffolding learning strategies on learners' academic buoyancy. The results show that learners who were taught using scaffolding strategies had a higher posttest mean score than the pretest mean score. However, for learners who were taught the normal way did not show any significant pretest-posttest difference in academic buoyancy mean scores. The improvement in academic buoyancy mean scores among the experimental group can be associated with scaffolding learning method. On the same note, in Iran, Souzandehfar and Abel-Al-Ibrahim (2023) revealed that teacher support positively influenced academic buoyancy, fostering resilience and adaptive strategies among students.

In addition, the t-test results of Pair 3 (experimental group1 pretest and control group 1 pretest) suggest that the randomization process was effective during sampling stage because no significant difference was found between the two groups, t (77)=.916, P=.363).

Moreover, t-test in Pair 4 confirms that there is no significant difference between Experimental Group-1 pretest and Control Group1 post-test, t(77)=.665, p=.508, further confirming that it is only the use of scaffolding learning strategy which had a statistically significant positive effect on learners' academic buoyancy. On the other hand, the results of pair 5 proves that there is a statistically significant difference between experimental group2 and Control Group2 post-test mean scores at .001 significance level, t(50)=11.030, p<.001. This indicates a statistically significant difference which can be attributed to the effect of scaffolding learning strategies. Therefore, from t-test results from par 4 and 5 the study found out that scaffolding had a positive effect on the learners' academic buoyancy.

Moreover, the mean difference in learners' academic buoyancy ratings for pair 3 is slightly higher than that of pair 4, suggesting that, although pretest could have increased the learner's sensitivity or responsiveness to learners' academic buoyancy questionnaire items, the influence was negligible.

On the other hand, the result of the test in Pair 6, t(77)=-14.042, p,.001, between experimental group 2 posttest and control group 1 pretest, indicate a statistically significant difference in the mean scores. On the contrary, there is no statistically significant difference in pair 7 (experimental group 1 pretest and control group 2 posttest), t(100)=-682, p=.497. similarly,

pair 8 shows no significant difference between control group 1 posttest and control group 2 posttest mean scores, t(50)= 2.408, p=0.20. hence the results between pair 6 to 8 are a clear indication that external factors had not been included in the study and improvement on learners' academic buoyancy is largely due to use of scaffolding learning technique.

Therefore, considering the results in Pair 1 supported by the findings in Pairs 2-8, there was sufficient evidence that scaffolding had a statistically significant effect on the English learners' academic buoyancy. Hence, the null hypothesis: 'there is no statistically significant effect of scaffolding on English learners' academic buoyancy' was rejected. The findings of this study can be compared to the finding of a study in England by Shafi, Hatley, Middleton, Templeton (2018) which revealed that students who had learned through scaffolding were academically buoyant compared to those who had used different methods.

4.5: Effects of Scaffolding on Achievement among English Learners

The study objective was: to find out the effects of scaffolding on achievement among English learners in Kenyenya Sub-County.

The null hypothesis that was tested was: $H_0$4: there is no statistically significant effect of scaffolding on achievement among English learners.

The hypothesis was tested using experimental data, where four groups of students were assigned randomly to two experimental and two control groups: experimental group 1: Intervention with pre-test and post-test; control group 1: Pre-test and post-test with no intervention; experimental group 2: Intervention with post-test only and control group 4: post-test only with no intervention. The intervention groups were given treatment by teaching them using scaffolding technique, while the control groups were only taught English through the normal traditional method. English Pretest exam was administered to experimental group 1 and control group 1 to determine their level of achievement before being subjected to scaffolding learning. After the pre-test, students in the intervention groups were exposed to scaffolding technique of learning English while those in the control group continued receiving their normal English lessons without any intervention. Once the intervention period expired, a post-test exam was administered to all the groups of students. Before testing the null hypothesis, the study performed a paired samples t-test analysis on 3 groups of participants who sat for the EAT without scaffolding learning and the groups included experimental group 1, control group 1 and control group 2. The t-tests were aimed at finding out the success of randomization during sampling of students. Results on Table 34 were obtained.

Table 34: Achievement Group Similarity Test

		Paired Differences			t	df	Sig.
		Mean	SD	SEM			
Pair 1	Exp. Group 1 Pretest Control. Group 1-Postest	1.282	14.064	1.592	.805	77	.423
Pair 2	Exp. Group 1 pretest Control Group 2 Posttest	-759	12.083	1.482	-.578	77	.562
Pair 3	Control. Group 1 Pretest Control Group 2 post-test	-10.56	13.073	1.632	-.483	100	.483

From Table 34, there is no statistically significant difference in EAT mean scores in pair 1; t(77)=.805, p=.423, hence experimental group 1 and control group 1 were similar in terms of achievement before the experiment began. Similarly pair 2, experimental group 1 pretest and control group 2 posttest showed that t (77)=-.578, p=.562, hence no statistically significant difference in EAT mean scores. Equally in pair 3 [t(100)=, p=.483] meaning there was no statistically significant mean scores between control group 1 pretest and control group 2 post-test. Thus, the results on Table 32 show that the three groups were similar in terms of Achievement at sampling stage. Given the similarity, the study proceeded to data analysis.

Independent and paired sample t-tests were utilized to establish the difference in English language achievement among the four groups of participants. Table 35 shows the mean scores and standard deviations in the pretest and posttest exams.

Table 35: Achievement in English for the four Groups

	Statistic	Mean		Std. Deviation
		Statistic	Std. Error	Statistic
Exp.Group 1-Pretest Achievement	103	47.611	1.007	10.227
Exp.Group 1-Posttest Achievement	103	57.631	.835	8.471
Control Group 1-Pretest Achievement	78	47.153	1.076	9.512
Control Group 1-Posttest Achievement	78	49.294	1.032	9.116
Exp. Group 2-Posttest Achievement	101	55.128	1.058	10.641
Control Group 2-Posttest Achievement	51	48.549	1.146	8.181

Source: English Test Achievement Scores (2023)

Table 35 displays the descriptive statistics of pretest and posttest scores in English tests achievement which were obtained before and after the students were exposed to scaffolding techniques for both intervention and control groups. It is evident that post-test achievement scores from intervention groups were higher than the scores of the control groups. For instance, the average score recorded for the post-test by Group-1 learners was 57.6 (*SD*=8.5) and post-test mean score of Group-3 learners was 55.1 (*SD*=10.6). The English Language Pretest Achievement score recorded from the control groups was generally low. This was

reflected by a mean score of 47.1 (SD=9.5) for Group 2 pretest achievement score. Also notable, all the learners generally recorded higher posttest scores than pretest scores. On a similar note, a study in Egypt by Abdelaziz and Al Zehmi (2020) revealed a significant improvement in achievement in the experimental group while the control group reported no significant difference. Figure 10 shows graphical presentation of achievement posttest scores for all the four groups

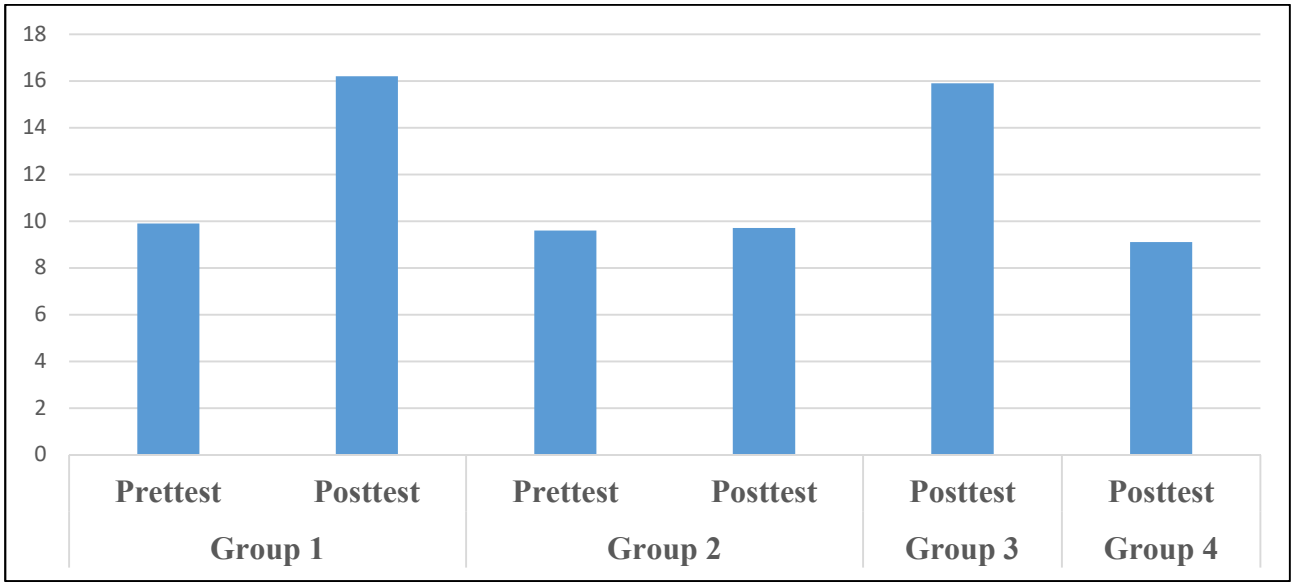

Figure 10. Graphical presentation of achievement posttest scores

Figre 10reveals that both experimental groups 1 and 2 obtained higher post test scores than control groups 1 and 2. Experimental groups had been exposed to scaffolding learning method, hence higher scores. Also, there was no significant difference in scores between pre-test and post-test scores for control groups 1 and 2 because the two groups had learnt using the normal methods.

Moreover, interview respondents were asked how the improvement came about and the following extracts collected;

> *I have enough time to study on my own and discover my weak areas. After that I go to fellow students in our group and I ask them to assist me. When we are defeated the I am happy that I am performing better in English. In fact this is because of late teacher comes in to assist us. I feel very free with our teacher because nowadays he is very friendly. Also our teacher is encouraging us to concentrate on easy sections first before we move to the difficult ones. I have learned that this method where I start from the simple topics or questions has made me discover that one topic leads to the other. Even we as students we are encouraged to learn together without discrimination. Another decision I have made is about home works. I am*

> *always finishing my home works, because that is where exams are set from. In fact many questions given by our teacher as assignments are obtained from past papers. Compared to last time, I think I like English. In the past I used to think that English is difficult but I have discovered that I was not taking time to do my studies properly. (LoE1)*

Another respondent made the following comments:

> *Sure enough many of my students performed better in this exam and I can confidently associate their good performance to the new teaching method. I think when we give then the opportunity to do things on their own, they own up the learning process. These learners are very active in group work, consultations and as I told you earlier I am making minimal follow ups for home works. They are happy and they even come for me when the lesson is due. (ToE1)*

The responses by LoE1 and ToE1 suggest that one of the reasons why there was overall improvement in the post test mean in EAT was due to the increase in subject interest among the learners. LOE1 states that learners have the ability to discover where they are weak, something a teacher using the traditional methods could not do. The learners further get support from their superior others who comprise of the more knowledgeable peers and teachers only when there is need. This is possible through cooperative learning. Moreover, the learners are studying within their ZPD and this is making studies very easy for them. But as much as the learners are enjoying learning actively on their own, teacher support is necessary as respondent ToE1 admits that support is given as well as making follow up to the few who have not owned up the process. In overall, the positive effect of scaffolding on subject interest made the learners perform better in the posttest exam compared to the pretest

However, to investigate whether there was any statistically significant difference in English language test achievement scores between learners who received intervention and those who only received the traditional teaching, four different pairs were compared using t-tests and findings were shown in Table 36.

Table 36: Pairwise Comparison of Pre-test and Post-test Scores for Control and Intervention Groups in English Achievement Test

Pair	Groups	Mean	Mean Difference	Std. Error Difference	T	Df	Sig.
Pair 1	Exp.Group-1 Pretest - Control Group1 pretest	48.43 47.15	1.282	1.592	.805	77	.423
Pair 2	Exp.Group-1 pretest - Exp. Group-1 post-test	47.61 57.63	-10.019	.549	-18.229	102	.000**
Pair 3	Control Group1 pretest - Control Group1 post-test	47.15 49.29	-2.141	1.173	-1.824	77	.072
Pair 4	Exp. group-1 post-test – Control.Group 1 post-test	57.28 49.29	7.987	1.316	6.069	77	.000**

*significant at 5% level ** significant at 1% level

From Table 36, the results of an independent t-test analysis reveal that there was no statistically significant difference in pretests achievement scores between the control group1 and experimental group1 [t (77) = .805; p =.423] as indicated in Pair 1 results. These findings suggest that the two groups did not have remarkable differences in scores before the intervention, signifying that the randomization process was effective. This proves that extraneous and confounding variables were controlled in the study, thus suggestive of adequate internal validity of the data.

Moreover, to find out whether there was statistical difference between achievement pretest and posttest scores for the learners who were treated by scaffolding technique, a paired sample t-test was used as shown in pair 2. The results revealed that there is a statically significant difference between pre-test and post-test scores for experimental group 1, t (102) = -18.229; p <.001, suggesting that scaffolding instruction had an effect on achievement in English as a subject among the secondary school students. Similarly, a study in Uganda by Ludigo, Mugimu and Mugaga (2019) reported that student centered strategies including scaffolding had a positive effect on achievement while teacher centered strategies did not.

The study went ahead to confirm whether an increase in academic buoyancy might have influenced the improvement in achievement by performing interviews and the respondents gave their views as follows:

> *Ok, another reason why I think I performed better in the test is because I started taking the teachers comments positively. When I did not perform well in the first CAT, our teacher encouraged us there is always room for improvement and the comments and the low marks should be a wakeup call for us. This is what encouraged me to put more effort in my studies. Also, when we have the stress about our studies, we are doing it in groups and what we cannot handle our teacher helps us. Our teacher simplifies some topics or questions and we find it easy to do our work within a short time. In fact, we support one another when doing our work, either personal studies or home works. This I can say for sure helped me perform better, and if we continue like this we shall perform very well in our final exams. (LoE3)*

Similar opinions were given by another respondent:

> *My students seem to be able to deal with pressures since for instance they are able to clear their work in time and they do it well. I think group work is contributing a lot since the stronger ones help the weak ones. We do give them feedback after marking their work and to my surprise, some are coming to ask how they can improve from what they got and I am giving them guidance where necessary. So, I think their low mark does not discourage them anymore, instead of getting worried, they want what they can do to achieve better. (ToE5)*

The remarks by LoE3 and ToE5 confirm the findings that the increase in academic buoyancy made the learners improve in their achievement test. The improvement in EAT performance was attributed to ability to withstand negative feedback as well as a bad mark, which the students took positively and hence they tried to improve from where they were. Additionally, the schoolwork pressures and academic stress were addressed by group work where learners could assist each other in their studies as well as assignments, coupled by support from the teachers. Teachers scaffold on the academic buoyancy of the learners contributed greatly to their achievement in the posttest EAT. The findings concur with the findings of a study in China by Li, Duan and Liu (2023) that teacher support could only indirectly affect educational outcomes via complete mediation of academic buoyancy.

The study therefore found out that scaffolding has a positive effect on subject interest, self-efficacy, academic buoyancy and achievement among learners. Therefore, one of the best teaching methods to teach language was unearthed and the technique is scaffolding. A similar study Ligan et al (2023) reported that most students who had interest in the subject performed well. On the contrary, correlational analyses confirmed that subject interest was not

significantly correlated to their performance. The findings are further explained by WeiBenfels, Hoffmann, Derrenbacher-Ulrich and Perels (2022)) that academic buoyancy was a significant predictor of achievement and the relationship could be explained through self-efficacy. This could mean that for students to perform well and achieve their learning goals there should be a combination of factors. In the current study for instance, achievement in English improved due to improvement in subject interest, self-efficacy and academic buoyancy.

Therefore, scaffolding is a very crucial learning method since it not only boosts learners' subject interest, self-efficacy and academic buoyancy but also leads to good performance in English as a subject.

Further analysis was done to find out whether the existing difference in achievement was exclusively due to the use of scaffolding instruction technique or due to the effect of any other intervening variable which was not included in the study. The paired sample t-test on pair 3 (Control Group 1 Pretest and Control Group 1 Post-test) was done and it indicated that there was no statistically significant difference, t (77) = -1.824, p =.072 (ns) between the pretest and posttest achievement mean scores for control group 1. This shows that there is no statistically significant difference between pre-test scores and post-test scores in achievement among the learners who did not receive any treatment.

Additionally, a paired sample t-test was done on pair 4 to establish whether there was any significant difference between posttest scores of the experimental group1 and control group 1 learners and a statistically significant difference was obtained, t (*77*) = 6.069, p <.001. From these findings, the study established that the mean score differences between experimental group 1 posttest and control group 1 posttest was solely attributed to the treatment factor of scaffolding method.

The mean scores in posttest exams for the intervention group (*Mean*=57.28) was significantly higher than the mean score in posttest for the control group (*Mean*=49.29). However, it was envisioned that there may be some effect of pre-testing on post-test achievement scores. To ascertain that pretest sensitization did not influence the post test results, the use of solution with the Four Control Group Design was performed and the results tabulated on Table 37.

Table 37: Solution with the Four Control Group Design: Learner Achievement

		Paired Differences			T	df	Sig.
		Mean	SD	SEM			
Pair 1	Exp. Group 1 Pretest Exp. Group 1- Postest	-10.019	5.578	.549	-18.229	102	.000
Pair 2	Control Group 1 Posttest Control Group 1 Posttest	-2.141	10.364	1.173	-1.824	77	.072
Pair 3	Exp. Group 1 Pretest Control Group 1 Pre-test	1.282	14.064	1.592	.805	77	.423
Pair 4	Exp. Group 1 Pretest Control Group 1 Posttest	-.859	13.083	1.481	-.580	77	.564
Pair 5	Exp. Group 2 Posttest Control Group 2 Posttest	8.882	12.175	1.705	5.210	50	.000
Pair 6	Control Group 1 Posttest Exp. Group 2 Posttest	-6.038	14.698	1.664	-3.628	77	.001
Pair 7	Exp. Group 1- Postest Exp. Group 2 Posttest	2.544	14.552	1.448	1.757	100	.082
Pair 8	Control Group 1 Posttest Control Group 2 Posttest	-.961	12.515	1.753	-.548	50	.586

From Table 37, a paired sample test for Pair 2 suggests that there was no statistically significant difference in learner's achievement mean scores between pretest and posttest values in Control Group 1 Pretest and Control Group 1 Post-test, t (77) = -1.824, p=.072 (ns). On the other hand, test results for Pair 1 confirms that there is statistically significant difference at .001 significance level between pretest and post-test scores of the Experiment group 1, t (102) = -18.23, p <.001, indicating that there is a statistically significant effect of scaffolding learning strategies on learner achievement in English as a subject. The findings are supported by the findings of a study in Nigeria by Obofemi, Saadu, Yahaya, Obofemi and

Yakubu (2022) that scaffolding treatment had a significant effect on the academic achievement of learners.

Furthermore, from the test in Pair 3 it was concluded that the randomization process was effective during sampling of the experiment and control groups because no significant difference was found between Control Group1 Pretest and Experimental Group1 Pretest t(77)= .805, p=.423).

Also, t-test on Pair 4 confirms that there was no statistically significant difference between Experimental Group-1 pretest and Control Group 1 post-test, t(77)=.580, p=.564, further confirming that use of scaffolding method had a statistically significant positive effect on learners' achievement in English as a subject. On the other hand, t-test on pair 5 proves that there is significant difference between Experimental Group2 post-test and Control Group2 post-test (without pretest) at 1% level, suggesting that the statistically significant difference in learner achievement in English language noted was mainly attributed to use of scaffolding teaching strategy. Moreover, the difference in learner achievement in pair 3 (1.282) is higher than that of pair 4 (-.889) implying that, although pretest could have increased the learner's sensitivity to the pretest exam, the influence was negligible. This means that the improvement in achievement was mostly attributed to the effects of scaffolding learning techniques. The findings of this study concur with the findings of a study in Uganda by Namubiru (2019) whose findings suggested a statistically significant relationship between the scaffolding technique and academic achievement.

Contrary to this, the result of the t-test in Pair 6 showed a statistically significant difference, t(77)=-3.628,p=.001, between control group 1 posttest and experimental group 2 posttest scores. But pair 7, experimental group 1 posttest and experimental group 2 posttest, showed no statistically significant difference [t (100) =1.757, p=.082]. Both groups in pair 7 had undergone scaffolding learning method. Finally there was no statistically significant difference in mean scores in pair 8, control group 1 posttest and control group 2 posttest scores.[t((50)=.548,p=.586] the groups in pair 8 were not subjected to scaffolding learning. Generally, the results in pair 6-8 suggest that external factors had not been included in the study, meaning, the improvement in achievement was only associated with scaffolding method.

Consequently, using the results in Pair 1 supported by findings in Pairs 2-8, there was sufficient evidence to reject the null hypothesis that "there is no statistically significant effect of scaffolding on achievement among secondary school English learners". This is because the study established that there was statistically significant effect of scaffolding learning method on learners' achievement. Hence, it was concluded that the use of scaffolding teaching/learning strategy is effective in improving leaners' achievement. The findings of the current study are supported by a study in Kenya by Isoe, Mugambi and Wawire (2022) which revealed a moderate, positive and statistically significant correlation between scaffolding and achievement.

The study went on to probe the learners on whether the improvement in self-efficacy might have led to the overall improvement in achievement and the following were their remarks.

> *I think I can learn on my own. This is because I do the topics that I can handle and our teacher comes in to help on more difficult topics or questions. I think the reason why I improved is that we were encouraged to set achievable targets unlike in the past when the teacher forced us to set very high targets. In fact, I am almost achieving my target because it was low enough for me. When I achieve it next time then I will set a higher one. We no longer refer to our notes when doing homework. We discuss the questions and it has made me learn to remember what we learned. I applied the same formula of remembering during last exam and my happiness is I improved. I am able to learn without much assistance and I am happy about it because if I can learn on my own, then even exams I am sure I will perform wonderfully. (LoE3)*

Another respondent said:

> *My learners do not only believe in their abilities but they are surely putting that belief in practice. I am saying this because this is the time I am seeing students who are very focused, though the duration has been short. It is the time I do minimum supervision in class. Even during the CAT, let me say that I did not invigilate that much. Earlier the learners could go to the exam room with written materials, now I think they believe that they can perform well without the materials. And surely they have proved that. At the beginning, I asked them to freely set their targets, I did not interfere. Though they set very low targets, many of them achieved, and those who did not achieve are striving to achieve them. So I think my students believe that they can do better. That could be the reason why their performance is better. (ToE2)*

From the responses by LoE 3 and ToE 2, the students achieved better results due to the increase in self-efficacy. This is confirmed by the fact that the learners started to believe that they can not only learn on their own but also do revision on their own successfully. Moreover

the learners started setting achievable targets which they believed they could achieve, and ToE confirms that many of the learners achieved the set targets. The belief in their abilities was extended to the examination room. ToE states that minimum invigilation was done during exams but still there was better achievement among the learners. Therefore, learners who underwent scaffolding learning performed better because their self-efficacy had improved.

The most important finding of the current study was on the effect of scaffolding on achievement where the effect was greatest (t= 18.22) whereas on self-efficacy, t=11.97; academic buoyancy, t= 11.30 and on subject interest, t=9.11. This means that scaffolding is a very crucial learning method since it not only boosts learners' subject interest, self-efficacy and academic buoyancy but also leads to good performance in English as a subject. Therefore, for learners to achieve their academic goals and perform well in English as a subject, scaffolding learning process is indispensable.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter gives the summary of how the study was conducted. It summarizes the key findings and gives the conclusion of the study as per objective and finally gives the recommendations of the study. The study finally suggests areas that need further research considering the findings.

5.2 Summary of the findings

5.2.1 Effects of Scaffolding on Subject Interest among English Learners

The present study investigated the effects of scaffolding on subject interest among English learners using experimental and interview techniques.

From the survey data, the study found out that the intervention groups which had been subjected to scaffolding learning technique recorded higher posttest mean scores compared to the control groups which recorded lower posttest mean scores. Further, considering the pretested groups, experimental group 1 (comprising of participants who went through scaffolding learning) recorded a higher pretest- posttest mean score difference while control group 1 who did not learn through scaffolding attained a small pretest-posttest mean score difference. Thus, the intervention groups improved significantly in the level of subject interest unlike the control groups whose increase was dismal.

From the t-test analyses, randomization was successful during the sampling process since there was no statistically significant difference between experimental group 1 pretest and control group 1 pretest and control group 2 post-test. Further, the paired sample t-test between experimental group 2 post-test and control group 2 post-test showed a statistically significant difference in mean scores. Hence scaffolding treatment had a statistically significant effect on the learners; subject interest. Moreover, extraneous and confounding variables were well controlled in the study since a statistically significant difference was recorded between control group 1 pretest and experimental group 2 post-test, while no statistically significant differences were obtained between experimental group 1 posttest and experimental group 2 post-test and control group 1 posttest and control group 2 posttest. Thus, there was no pretest sensitization among the groups and if ever it was there it did not

reflect in the study results. Therefore, the study thus found out that there was a statistically significant effect of scaffolding on subject interest among English language learners.

From qualitative data analysis the study established that before the application of scaffolding learning technique the subject interest among learners was generally low. On the other hand, after scaffolding learning was employed in the English lessons, the learners' interest in the subject improved. The respondents attributed their improved interest to cooperative learning where they learned from the more knowledgeable peers. Also, the learners were able to learn within their Zone of Proximal development because they had been given support and guidance by their teachers. After contingency support, there was transfer of responsibility since the learners would finish their assignments in time.

5.2.2 Effects of Scaffolding on Self-Efficacy among English Learners

The study sought to determine the effects of scaffolding on the English learners' self-efficacy and this was possible through collection of both quantitative and qualitative data.

From descriptive statistics the study found out that experimental groups recorded a higher posttest mean scores than the control groups. Considering the pre tested groups, experimental group 1 improved significantly with a higher mean difference between pre-test and post-test whereas control group 1 increased dismally with an insignificant pre-post mean score difference. The difference between the intervention and control groups indicated that learners who were subjected to scaffolding method significantly improved in their self-efficacy

The results from the paired sample t-tests showed that scaffolding had a statistically significant effect on learners' self-efficacy: the paired sample t-test between experimental group 2 posttest and control group 2 post-test showed a statistically significant mean score difference, suggesting that scaffolding positively affected the self-efficacy of experimental group 1 participants. Moreover, the pretest did not affect the results as confirmed by the use of two experimental and two control groups. However, there is a statistically significant difference between control group 1 pretest and experimental group 2 posttest, hence from the results, extraneous and confounding variables were not included in the study. Therefore, scaffolding had a statistically significant effect on the learners' self-efficacy.

Qualitative data results indicate that before the application of scaffolding learning method, learners; self-efficacy was low. However, after going through scaffolding technique, the

respondents agreed that the learners had improved significantly on self-efficacy beliefs. Thus, scaffolding boosted the learners' self-efficacy to learn English as a subject.

5.2.3 Effects of scaffolding on Academic Buoyancy among English Learners

The study investigated the effects of scaffolding on academic buoyancy among secondary school English learners using the mixed method design with Solomon four group design followed by interview technique..

From the survey findings, learners who went through scaffolding learning technique attained a higher posttest mean while students who were taught normally recorded a lower mean score. Also, the posttest only design shows that there was a statistically significant difference between experimental group 1 posttest and control group 1 posttest. Moreover, the pre-post mean difference of experimental group 1 is big while the pre-post mean difference for control group 1 was small, meaning scaffolding had a positive effect on the learners' academic buoyancy.

From the paired sample t-test analysis, randomization was effective during the sampling process. The study further revealed a statistically significant mean score differences between experimental groups control groups. Additionally, there was a statistically significant mean score between experimental group I posttest and experimental group 1 pretest. However, there was no statistically significant difference between the pre-post mean score of control group 1. Hence from the t-test, the study established a statistically significant positive effect of scaffolding on English learners' academic buoyancy.

From qualitative data analysis respondents admitted that before interacting with scaffolding, academic buoyancy among learners was low. This was evinced by inability of the learners to deal with academic setbacks, as well as negative feedback. Also, school work pressures would overwhelm the learners and they could not manage work stress. On a positive note, the learners who went through scaffolding technique had a different story to tell. The learners took the setbacks, pressures and a bad mark positively. The learners also discovered how to manage school work stress through cooperative learning and other scaffolding techniques. Therefore, the study found out that scaffolding played a positive role in boosting academic buoyancy among learners.

5.2.4 Effects of Scaffolding on English Learners' Achievement.

The study investigated the effects of scaffolding English learners' achievement. From the pairwise comparison of mean and standard deviation, there was a statistically significant difference between pre-post mean scores of experimental group 1, but, there was no statistically significant difference between the pre-post mean scores of control group 1, Moreover, there was a statistically significant difference between experimental group 1 posttest and control group 1 posttest. Thus scaffolding had a positive significant effect on the English learners' achievement.

Further, randomization was effectively applied during sampling of participants as there was no significant difference between experimental groups and control groups in terms of achievement before application of scaffolding. On the same note, extraneous and confounding variables were controlled during the study. Therefore, the positive effect on achievement was only attributed to scaffolding and not any other variable. Therefore, the null hypothesis which stated that "there is no statistically significant effect of scaffolding on English Learners' achievement' was rejected.

Moreover, correlation between subject interest, self-efficacy and academic buoyancy and achievement showed a statistically significant positive relationship. Thus, the improvement in the EAT would be explained by the increase in subject interest, self-efficacy and academic buoyancy.

From qualitative data, the study established that the effects of scaffolding on subject interest, self-efficacy and academic buoyancy translated to high performance in the posttest examination. According to the respondents, their increase in subject interest made them to study more, learn from the other students, ask questions and even teach other students which led to retention of what they learned. Additionally, self-efficacy made the learners believe that they could learn on their own successfully. The learners were able to do their studies and revision with minimum assistance from the teacher. Finally, scaffolding made learners develop academic buoyancy. The learners were able to quickly recover from academic drawbacks and they moved on with their academics quickly compared to those who were taught normally. According to the respondents, the recovery came as a result of co-operative learning as well as getting support from the more knowledgeable others. The study therefore

established that the improvement in achievement was due to the combination of improvement in all the other variables.

5.3 Conclusion of the study

The first objective was to investigate the effects of scaffolding on Subject Interest among English learners. With respect to the findings, the study concluded that scaffolding had a positive effect on the learners; subject interest. Learners who learned using scaffolding method scored highly in the posttest subject interest survey compared to those who learnt normally, hence the study concluded that the high scores arose from the application of scaffolding method. From the experimental data, the study concluded that there was a statistically significant effect of scaffolding on subject interest. Further the study concluded that since all the extraneous and confounding variables such as pretest sensitization were not included in the study, only scaffolding had the positive effect on subject interest among learners of English. Additionally from qualitative data, the study concluded that learners who learnt using scaffolding method improved in terms of active participation in classroom activities. Learners could ask as well as answer questions, participate in group discussions, teach other students, clear assignments in time and also anxiously wait for the next lesson. Based on the findings, the study concluded that scaffolding was highly effective in improving the interest of learners towards English as a subject.

The second objective of the study was to find out the effects of scaffolding on self-efficacy among English language learners. From the survey findings, the study concluded that scaffolding method made learners in the experimental groups to obtain higher scores in the posttest than in the pretest, since the learners who were not taught using scaffolding almost maintained similar scores both in the pretest and the posttest. Considering the findings from the experiment, the study concluded that there was a statistically significant effect of scaffolding on the learners' self-efficacy. This is because the extraneous variables were well controlled, hence only scaffolding had an effect on the self-efficacy of learners. Additionally, from qualitative data the study came to a conclusion that the increase in the learners' ability to learn on their own was attributed to scaffolding. This is because the learners who were taken through scaffolding technique could learn on their own successfully though with support from their teachers and superior peers while their counterparts who were taught using

the conventional methods could not learn on their own. The study therefore concluded that scaffolding can effectively be used to enhance self-efficacy of learners of English.

The third objective was to determine the effects of scaffolding on academic buoyancy among learners of English as a subject. Based on the findings, the study arrived at a conclusion that scaffolding positively affected academic buoyancy. This is because, considering the pretest and posttest survey scores, learners who learner using scaffolding method scored more highly that the learners who were taught normally. Also, with respect to experimental data the study concluded that the statistically significant effect of scaffolding on self-efficacy was attributed to scaffolding only and not to any other variable. This is because the comparison of the results from the posttest only control groups showed that pretest did not influence the results in any way. Moreover, from qualitative data the study concluded that because of scaffolding method, learners were able to overcome the daily academic setbacks such as low marks, negative feedbacks as well as academic stress. This could be because learners got the support they needed not only from their more knowledgeable peers but also from their teachers. Thus, the study concluded that to boost academic buoyancy among learners, scaffolding would be a better option.

The fourth objective of the study was to establish the effect of scaffolding on achievement among English learners. Based to the findings, the study concluded that scaffolding had a positive effect on achievement. This is because learners who were taught scaffolding displayed a better posttest performance in the given exam that learners who were taught using conventional methods. Also, from experimental dat, the study concluded that the better performance in the posttest exam was due to scaffolding only since extraneous variables were not included in the study. The study further concluded that the increase in subject interest, self-efficacy and academic buoyancy led to increased achievement because of the positive correlation between achievement and the former three variables. From qualitative data the study concluded that indeed improvement in subject interest, self-efficacy and academic buoyancy contributed greatly to the better achievement by learners in the posttest exam.

Thus, with respect to the overall findings, the study concluded that scaffolding and the Zone of Proximal Development by Lev Vygotsky were very effective in boosting all the learner aspects. Learners were able to learn within their ZPD. At the same time as the learners did their studies, they got contingency support from the superior others through cooperative learning such as group discussions, peer teaching and seeking for clarification. There was

transfer of responsibility from the teacher to the students which made learners to do their studies on their own with minimum support from the teacher. Therefore, for learners to effectively learn English language as a subject, Scaffolding is the most appropriate learning method.

5.4 Recommendations of the Study

In view of the findings, the study came up with the following recommendations:

1. The Ministry of Education should retrain teachers scaffolding teaching to empower and refresh teachers' knowledge. This is because scaffolding learning is very effective in enhancing learners' subject interest, self-efficacy, academic buoyancy and achievement in English.
2. School counselors should provide scaffolding training to learners to enable them embrace peer teaching. This is because collaborative and cooperative learning is very effective in learning.
3. The Ministry of Education should do amendments to the curriculum such that there is more time allocated for syllabus coverage. This is because inadequacy of time was reported to be a hindrance to effective application of scaffolding learning.
4. The school principals should employ permanent counselors in schools to keep watch and guide learners towards attaining high levels of subject interest, self-efficacy and academic buoyancy. This is because the study found out a positive relationship between the three variables and achievement.
5. Schools should empower peer teachers in all classes. This is because the study established that more knowledgeable peers are more influential in scaffolding the other learners than teachers.

5.5.Suggested Areas for Further Research.

1. Relationship between academic buoyancy and self-efficacy.
2. Relationship between scaffolding and academic achievement.

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APPENDICES

APPENDIX I: PRE-POST QUESTIONNAIRES

Read the statements in the table below and indicate using a tick or an x in the boxes provided appropriately. This is not a test, so there is no right or wrong answer. By responding to the statements truthfully, you can help yourself and your teacher understand your progress in learning English and Literature

Section A: Demographical Information

1. Indicate your gender Male ☐

Female ☐

2. What is the type of your school? Girls' school ☐ Boys' school ☐

Mixed school ☐

For **s**ections B-D, Please indicate your opinion after each statement. The following is what the letters in the boxes stand for:

SA- strongly agree A- agree N- neutral D- disagree SD- strongly disagree

SECTION B:

SN	STATEMENT	SA	A	N	D	SD
1	I often ask questions in an English class					
2	I often contribute to class discussions					
3	I often make class presentations					
4	I ensure that I complete my assignments before the next lesson					
5	I do teach other students					
6	I do consult the teachers when doing assignments					
7	Learning English puts me in a good mood					
8	When studying English, I get fully focused and forget everything around me					
9	I always look forward to English lessons because					

	I enjoy them a lot					
10	I listen attentively to my teacher of English					
11	I actively participate in the discussion , answering exercises and clarifying things I did not understand					
12	I get frustrated when the lesson is interrupted or the teacher is absent					

SECTION C:

SN	STATEMEMT	SA	A	N	D	SD
1	I am competent in learning on my own					
2	I feel that I have the ability to keep things unforgotten					
3	I can arrange for the help of my teachers whenever I need it					
4	I can set higher goals I my study					
5	I find it easy to read and understand textbooks in English					
6	I can complete my home works myself without any help from guidebooks, previous notes, etc					
7	I can deal efficiently with unexpected problems in my study					
8	If I miss some classes for some reasons, I can compensate the loss fairly well					
9	When I learn a new concept, I can recall the related knowledge from the earlier classes					
10	I can answer the essay type questions very well.					
11	I can score well in short answer type questions					
12	I can manage to solve difficult problems if I try hard enough					
13	When I am confronted with a problem, I can usually find several solutions					
14	When I am to accomplish something difficult, I focus on my progress instead of feeling discouraged					
15	I am confident that I will achieve the goals that I set for myself					

Section D

SN	Statement	SA	A	N	D	SD
1	I am good at dealing with setbacks at school (eg negative feed-back on my work, poor results)					
2	I don't let study stress get on top of me					
3	I think I am good at dealing with school work pressures					
4	I don't let a bad mark affect my confidence					

This is the end of the questionnaire. Thank you for your co-operation

APPENDIX II: INTERVIEW SCHEDULE FOR TEACHERS

Section A:

1. How often do your students ask questions during an English lesson?
2. How often do your students contribute or make presentations in class as well as teach each other?
3. How fast do your learners complete their home works?
4. How enthusiastic are your learners towards the English lesson?
5. How focused are your learners when learning English?
6. How do your learners react when you are absent or their lesson is interrupted?

Section B:

1. How competent are your learners to learn on their own?
2. How often do your learners arrange for a missed lesson?
3. How do your learners recall related content to the topic?
4. How do your learners solve difficult problems?
5. How do your learners set and achieve their goals?

Section C

1. How do your learners deal with setbacks in school?
2. How do your learners manage study stress?
3. How do you deal with school work pressures?
4. How do you regain your confidence after a bad mark?

Section D

1. How did the increase in interest affect your learners' performance?
2. How did the improvement in self-efficacy affect achievement?
3. How did academic buoyancy boost achievement?

APPENDIX III: INTERVIEW SCHEDULE FOR LEARNERS

Section A:

1. How often do you ask questions during an English lesson?
2. How often do your students contribute or make presentations in class as well as teach each other?
3. How fast do you complete their home works?
4. How enthusiastic are you towards the English lesson?
5. How focused are you when learning English?
6. How do you react when you are absent or their lesson is interrupted?

Section B:

1. How competent are you to learn on their own?
2. How often do you arrange for a missed lesson?
3. How do you recall related content to the topic?
4. How do you solve difficult problems?
5. How do you set and achieve their goals?

Section C

1. How do you deal with setbacks in school?
2. How do you manage study stress?
3. How do you deal with school work pressures?
4. How do you regain your confidence after a bad mark?

Section D

1. How did the increase in interest affect your performance?
2. How did the improvement in self-efficacy affect achievement?
3. How did academic buoyancy boost achievement?

APPENDIX IV: ENGLISH ACHIEVEMENT TEST (EAT)

School.....

Gender.....

Answer all questions in the spaces provided:

Use the following words to construct two sentences. In the first sentence use the word as a verb and as a noun in the second sentence

1. Convict
   .....
   .....
   .....
2. Perfect.....
   .....
   .....

Fill in the blank spaces in the sentences below with the correct form of the words in brackets

3. All the .....were awarded for their good work (retire)
4. The unruly students were punished for their .....(stubborn)

Replace the repeated word in the following sentences with one word to remove the unnecessary repetition

5. This exercise is easier that that exercise.....
6. If you want more tea, I will add you more tea.....

Use arrows to indicate the intonation with which you would speak the following sentences

7. Who switched off the lights this morning?
8. Can I take you home?
9. Shut the door gently and sit down.

Rewrite the following sentences, replacing the underlined words with gender sensitive ones

10. My sister is an <u>air hostess</u>
11. The <u>fireman</u> arrived at the scene of arson in time

Fill in the blank spaces in the paragraph below appropriately

There are many causes of accidents. In many cases drivers are at fault. Some drive at recklessly high speeds. 12....., others drive under the influence of alcohol. 13.....driver factors involves incompetence and 14.....lack of courtesy on the road

Fill the blank spaces in the sentences below with the correct pronouns sentences

15. My son is taller than ..... (me/I)

16. It's .....(she/her) that shouted at the teachers

Read the poem below and answer the questions that follow:

Here in a quiet and dusty room they lie,
Faded as scrumbled stone or shifting sand,
Forlon as ashes shriveted scentless dry.
Meadows and gardens running through my hand.
In this brown husk a dale of hawthorn dreams
A ceder in this narrow cell is thrust
The will drink deeply of a country's streams,
These lilies shall make summer in my dust.
Here in their safe and simple house of death
Sealed in their shells, a million roses leap;
Here I can blow a garden with my breath
And in my hand a forest lies asleep

17. Identify the persona
18. What is the message in this poem?
19. Identify instances of alliteration in the poem
20. Identify instances of assonance in the poem
21. What are the functions of alliteration and assonance in the poem?
22. Imagine that you are the secretary of the debating club in your school. You are planning to go to Tahidi high school for a debating session. Write a reminder to the members to prepare for the trip and remind them the items to carry (20 mks)

23. Imagine that the debate was so fascinating. Write a journal (10mks)

APPENDIX V: Scaffolding Teaching-Learning Module

Week 1:

Lesson 1: Speaking

Stress

Objectives:

By the end of the lesson, learners should be able to:

1. Stress the appropriate syllables in words
2. Appreciate the fact that stress contributes to meaning

Teaching/learning activities:

Activity i: Introduction:

- The teacher takes students through the information on what stress is
- Teacher uses pronounces words placing stress correctly
- Teacher uses pronunciation tape to demonstrate stress in words

Activity ii: Speaking; stress in adjectives and nouns compared to stress in verbs (p2)

- Teacher demonstrates how the syllable in bold is stressed
- Students work in pairs, one partner reads words in column A (adjectives and Nouns) and the other partner reads words in column B (Verbs).
- Students change roles after the first reading
- The pairs read column A and B simultaneously

Activity iii: Speaking; Reading dialogue (p2)

- Students read allot roles and read dialogue between Lulu and Mutiso
- Students change roles and read the dialogue
- Students appreciate difference in pronunciation and meaning of words as brought about by stress

Lesson 2 and 3: Reading: Study Skills

1. **Study Reading:**

Objectives:

By the end of the lesson, the learner should be able to:

- Choose the right place and time to study
- Develop techniques of concentration
- Identify the main points as well as supporting materials

Teaching/learning Activities

Activity i: Introduction

- Teacher demonstrates correct sitting posture

Activity ii:

- Teacher asks students

a) When they normally study
b) Which place the students do their study
c) Whether they study while sitting upright or lying down

- Teacher takes learners through the points made about study reading
- Teacher asks students to practice the correct sitting posture (pp2)
- Teacher gives a passage and demonstrates how to identify main and supporting points

Activity iii: Study Reading

- Students pair up
- Students select topics for study
- Students study as per guidelines (p3)
- Students compare their summaries of main points
- Students ask each other questions to test their comprehension**.**

Lesson 4: Comprehension (The Miracle of Adolescents)

Objectives:

By the end of the lesson, learners should be able to:

1) Show awareness of the changes that take place during adolescence
2) Figure out how to cope with the developmental changes
3) Answer questions from the comprehension passage correctly

Teaching/learning activities

1) Teacher asks students to share their thoughts on adolescence with their classmates
2) Students share their thoughts on physical, emotional and social changes
3) Teacher asks students to read the passage and answer the questions that follow
4) Students read passage silently and answer the questions
5) Students watch out the bad reading habits that still persist and point them out. They should include sub-vocalization. Lip-reading, pointing, moving the head and regression

Lesson 5 and 6: Grammar

Common Ways of Forming Nouns

Objectives:

By the end of the section, learners should be able to:

1) Form nouns using common noun-forming suffixes
2) Use nouns bearing the relevant suffixes in a sentences

Lesson activities:

Activity 1:

1) Teacher asks students what the words have in common on pages 5-8 have common
2) Teacher draws attention to the common endings of nouns and meaning of the resultant nouns
3) Teacher calls students' attention to the spellings of the derived nouns

Activity 2:

1) Students give ten nouns of the same type
2) Teacher guides students on ways in which nouns are formed
3) Students form various nouns
4) Students sit in groups and do exercise 2

Lesson 7: Writing

Substitution in Writing

Objectives:

By the end of the lesson, learners should be able to:

1) Write neatly and legibly
2) Use a variety of sentence structures and vocabulary
3) Substitute words for others in order to avoid clumsiness and repetition

Teaching/ learning activity:

1) Teacher defines substitution
2) Teacher gives examples of sentences with substitution
3) Students say how the sentences differ; one sentence is clumsy while the other one is concise and elegant.
4) Students do the exercise provided

Lesson 8: Literature

Blossoms of the Savannah: Reading and analysis

Objectives:

By the end of the session, learners should be able to:

1) Read and understand the novel
2) Do a critical analysis of the novel

Activities:

1) Students read silently
2) Teacher assists learners understand the plot of the novel
3) Teacher demonstrates how to perform an analysis of a literary text
4) Students do the analysis as teacher guides them.

WEEK 2

Lesson 1: Listening and Speaking

Intonation

Objectives:

By the end of the lesson, learners should be able to:

1) Use the rising intonation correctly
2) Use the falling intonation correctly

Reference: KLB students' book 3 p 9-11

Teaching/leaning activities:

1) Teacher guides students to read a given sentence as a statement and as a question
2) Teacher explains what intonation entails and the functions it performs
3) Teacher models the right intonation of the utterances given
4) Students repeat utterances after the teacher
5) Students pair up and read words aloud as they listen to each other for the correct intonation (activity 2 p10)
6) Outstanding pairs of students read the words as the rest listen

Lesson 2 and 3: Study Skills

Techniques of pre-reading

Objectives:

By the end of the section, learners should be able to:

1) **Survey reading materials**
2) **Formulate pre-reading questions**

References: students' book pp 11-12

Teaching/learning activities:

1) Teacher explains steps involved in pre-reading (p11)
2) Students read the passage, 'the Bitter Forbidden Fruit' silently

3) Students formulate questions whose answers they expect to find when they read the passage in groups
4) Students read out the questions

Lesson 2 and 3: Reading Comprehension

The Bitter Forbidden Fruit

Objectives:

By the end of the lesson, learners should be able to:

1) Appreciate the need to abstain from pre-marital sex
2) Answer the questions from the comprehension passage correctly

Teaching/ learning activities:

1) Teacher asks students to read the passage 'The Bitter Forbidden Fruit' and answer the questions that follow
2) Students read the passage and answer the questions
3) Teacher marks exercise and gives feedback

Lesson 4 and 5: Grammar

Gender Sensitive Language

Objectives:

By the end of the section learners should be able to:

1) Recognize gender biased language
2) Use gender sensitive language

Learning aids: extracts in which gender sensitive language has been used

Teaching/learning activities:

1) Teacher explains to students how gender biased language occurs and how it can be avoided
2) Students mention other gender biases in language and how they can be avoided
3) Students do exercises

Lesson 6 and 7: literature

Blossoms of the Savannah

Objectives

By the end of the session learners should be able to:

1 Read and understand the novel
2 Do a critical analysis of the novel

Activities:

1) Students read silently
2) Teacher assists learners understand the plot of the novel
3) Teacher demonstrates how to perform an analysis of a literary text
4) Students do the analysis as teacher guides them.

Lesson 8: writing

Transitional words that add information

Objectives:

By the end of the session learners should be able to:

1) Recognize transitional words that add information
2) Use transitional words that add information
3) Write clearly and legibly

References: students' book p16-17

Teaching/ learning activities:

1) Teacher takes students through the various transitional words given
2) Students read the transitional words
3) Students give more examples of transitional words
4) Students construct sentences using transitional words
5) Students write paragraphs using transitional words

WEEK 3

Lesson 1: Listening and Speaking

Rhythm

Objectives:

By the end of the lesson, learners should be able to:

1) Identify features of rhythm in a poem
2) Appreciate the importance of rhythm in a poem
3) Read a poem and bring out its rhythm

Teaching/learning activities:

Activity 1:

a) Teacher demonstrated how to read a poem, 'The Freedom Song' and 'A Poison Tree'
b) Students read in groups; each individual in each group reads the poem aloud to the rest of the members
c) Very good student readers read the poem aloud to the class

Activity 2:

a) Teacher highlights the features that make a poem rhythmical
b) Students read the features
c) Students read the poems considering the features

Lesson 2 and 3: reading

Study skills: Concentration Techniques in Reading

Objectives:

By the end of the lesson learners should be able to:

1) Survey through learning material
2) Write pr-reading questions
3) Read the material
4) Record answers to the pre-reading questions

5) Review the material just read

Teaching/learning activities

1) Teacher takes students through the information given on concentration techniques
2) Teacher uses real examples to illustrate the points given
3) Teacher guides students to survey through the passage on 'Kinetic Theory and Gas Laws'
4) Teacher guides students to make questions
5) Students read through the text more closely and thoroughly and answer the questions they had formed

Lesson 4 and 5: Grammar

Case in pronouns

Objectives:

By the end of the lesson, learners should be able to:

1) Identify pronouns in their various forms
2) Use pronouns correctly in their various case forms

References: students' book pp24-27

Teaching/ learning activities

1) Students pair up and ask each other questions as they give answers using the first, second and third person pronouns
2) Teacher guides students on subjective and objective case
3) Students do exercises
4) Teacher marks exercises and gives feedback

Lesson 6: writing

Transitional words expressing contrast

Objectives:

By the end of the lesson, learners should be able to:

1) Identify transitional words that show contras
2) Correctly use transitional words that show contrast

Teaching/learning activities:

1) Teacher gives examples of transitional words and demonstrates how they are used in sentences
2) Students give more examples and use them in sentences
3) Students write a composition using transitional words of addition and contrast.

Lesson 7 and 8: literature

Blossoms of the Savannah

Objectives:

By the end of the session learners should be able to:

1) Read and understand the novel
2) Do a critical analysis of the novel

Activities:

1) Students read silently
2) Teacher assists learners understand the plot of the novel
3) Teacher demonstrates how to perform an analysis of a literary text
4) Students do the analysis as teacher guides them

WEEK 4:

Lesson 1: Listening and Speaking

Alliteration and Assonance

Objectives:

By the end of this lesson, learners should be able to:

1) identify alliteration in poetry

2) identify assonance in poetry
3) explain the use of alliteration in poetry
4) explain the use of assonance in poetry

Teaching/learning activities:

Activity 1:

a) Teacher explains what alliteration is and illustrates using the examples on p29
b) Students give more examples of alliteration
c) Teacher helps students discover that same initial letters pronounced differently may not alliterate, such as knife and key, church, character and chick

Activity 2:

a) Students read given sentences individually and identify sounds which alliterate

Activity 3:

a) Students write many sentences with alliteration
b) Teacher helps students know the uses of alliteration in poetry

Activity 4:

a) Students read sentences with assonance
b) Teacher helps students discover that repletion of vowel sounds is assonance
c) Students do exercises

Lesson 2 and 3: Study skills

Note-making

Objectives:

By the end of the lesson learners should be able to:

1) Distinguish main points from explanations and illustrations
2) Organize the main points to make notes

Teaching/learning activities:

1) Teacher gives students a simple passage

2) Students read passage
3) Teacher isolates the main points and asks students to account for the rest of the details
4) Students put the supporting details into groups: illustrations and explanations
5) Students read passage and make notes

Lesson 4 and 5: Reading comprehension

Women Break from the Shackles of Tradition

Objectives:

By the end of the lesson, learners should be able to:

1) Appreciate the importance of gender equality
2) Identify the literary features in the excerpts
3) Answer the comprehension questions set on the excerpts correctly
4) Learn and use new vocabulary

Teaching/learning activities:

1) Teacher divides students into two groups
2) Students carry out a debate on a motion, 'Men and Women are Equal'
3) Teacher moderates extreme view points
4) Students answer comprehension questions

Lesson 6: Grammar

Demonstratives

Objectives:

By the end of the lesson, learners should be able to:

1) Recognize demonstrative words correctly
2) Use demonstrative words correctly
3) Mark agreement with demonstrative words correctly

Activities:

1) Teacher gives students a list of demonstrative words
2) Students discover the use of demonstrative words

3) Students generate sentences using demonstrative words
4) Teacher fills in any gaps left by students as he writes the sentences on the whiteboard
5) Students do exercise

Lesson 7: writing

Use of transitional words to show consequence, cause and effect

Objectives:

By the end of the lesson, learners should be able to:

1) Identify transitional words that show consequence, cause and effect
2) Use the transitional words correctly

Reference: students' book pp36-37

Teaching/learning activities:

1) Teacher gives students examples of transitional words of consequence, cause and effect
2) Students use the words to generate their own sentences
3) Students do exercise

Lesson 8: literature

Reading and analysis of Blossoms of the Savannah

By the end of the session learners should be able to:

1) Read and understand the novel
2) Do a critical analysis of the novel

Activities:

1) Students read silently
2) Teacher assists learners understand the plot of the novel
3) Teacher demonstrates how to perform an analysis of a literary text
4) Students do the analysis as teacher guides them

WEEK 5

Lesson 1: Listening and Speaking

Dilemma Narratives

Objectives:

By the end of the lesson, learners should be able to:

1) Explain what a dilemma narrative is
2) Listen to a dilemma narrative and correctly answer the questions based on it orally

Teaching/learning activities:

1) Teacher divides learners into groups
2) Students discuss situations that may present a dilemma
3) Students give reasons that support their argument, since dilemma narratives are meant to help them develop critical thinking
4) Teacher explains what a dilemma narrative is
5) Students discover situations that may cause a dilemma
6) Students read a dilemma narrative about Nyakio
7) Students answer the question on the dilemma narrative

Lesson 2 and 3: Reading

Study skills: Studying a poem through an analysis of Diction

Objectives:

By the end of the lesson, learners should be able to:

1) Develop an interest in reading poetry
2) Explain what diction is and discuss why poets have chosen certain words in their poems
3) Distinguish among the different kinds of vocaburary available to poets
4) Relate diction to the meaning of the poem

Teaching/learning activities:

1) Students read the poem silently

2) Teacher appoints some readers to read the poem aloud
3) Students use the appropriate tone, correct pronunciation and stress
4) Students read Countee Cullen's poem individually and interpretively paying attention to individual words and their enunciation
5) Students do exercise

Lesson 4 and 5: Grammar

Transitive and intransitive use of verbs

Objectives:

By the end of the lesson, learners should be able to:

1) Distinguish between transitive and intransitive use of verbs
2) Construct sentences using verbs transitively and intransitively

Learning activities:

1) Teacher divides class into groups of 5
2) Students compete to construct sentences using verbs transitively and intransitively
3) Students do exercises

Lesson 6: Writing

Using the colon and the semi-colon and writing reminders

Objectives:

By the end of the lesson, learners should be able to:

1) Demonstrate mastery in the use of the colon and the semi-colon
2) Write reminders

Learning activities:

The colon and the semi colon

1) Teacher helps learners go through the write ups and examples on p48
2) Students use colon and semi-colon in thei own writing.

Reminders:

1) Teacher helps students realize that reminders aid their memory
2) Students write their own reminders

Lesson 7 and 8: Literature

Reading and analysis of Blossoms of the Savannah

Objectives:

By the end of the session learners should be able to:

1) Read and understand the novel
2) Do a critical analysis of the novel

Activities:

1) Students read silently
2) Teacher assists learners understand the plot of the novel
3) Teacher demonstrates how to perform an analysis of a literary text
4) Students do the analysis as teacher guides them

WEEK 6

Lesson1: Listening and Speaking

Features of Dilemma Narratives

Objectives:

By the end of the lesson, learners should be able to:

1) Discuss the features of a dilemma stody
2) Retell the dilemma story

Activities:

1) Students form groups and talk about the dilemma stories that they know
2) Teacher guides learners through the features of dilemma stories

3) Students discover the features in the dilemma story ‘The wise King’

Lesson 2 and 3: Reading

Study skills

Appreciating a poem

Objectives:

By the end of the lesson, learners should be able to:

1) Identify the features of a poem
2) Systematically analyze a poem
3) Appreciate a poem as a creative composition

Learning activities:

1) Students read the poem ‘I Want to Die while you Love me’ silently then loudly
2) Teacher helps students develop the right attitude to poetry
3) Teacher guides students identify the persona, the message and the significance of the title
4) Students do exercise on poetry

Lesson 4 and 5: grammar

Infinitives

Objectives:

By the end of the lesson, learners should be able to:

1) Recognize the infinitive use of verbs
2) Construct sentences using the to-infinitive and the –ing infinitive

Activities:

1) Students read information on p56
2) Students generate sentences where they use infinitives
3) Students do exercise

Lesson 6: Writing

The use of the dash and parenthesis and writing personal journal

Objectives:

By the end of the lesson, learners should be able to:

1) Use the dash and parenthesis correctly
2) Write personal journal

Learning activities:

Activity 1: The dash and Parenthesis

a) Teacher demonstrates how to use the dash and the parenthesis to punctuate sentences
b) Students punctuate given sentences using the dash and the parenthesis

Activity 2: Personal journals

a) Students write down significant happenings for the last one week which are the materials for personal journals
b) Teacher gives examples of journals
c) Students study various journals
d) Students write their own journals

Lesson 7 and 8: Literature

Reading and analysis of Blossoms of the Savannah

Objectives:

By the end of the session learners should be able to:

1) Read and understand the novel
2) Do a critical analysis of the novel

Activities:

1) Students read silently
2) Teacher assists learners understand the plot of the novel
3) Teacher demonstrates how to perform an analysis of a literary text
4) Students do the analysis as teacher guides them

WEEK 7

Lesson 1: Listening and Speaking

Intonation

Objectives:

By the end of the lesson, learners should be able to:

3) Use the rising intonation correctly
4) Use the falling intonation correctly

Reference: KLB students' book 3 p 9-11

Teaching/leaning activities:

7) Teacher guides students to read a given sentence as a statement and as a question
8) Teacher explains what intonation entails and the functions it performs
9) Teacher models the right intonation of the utterances given
10) Students repeat utterances after the teacher
11) Students pair up and read words aloud as they listen to each other for the correct intonation (activity 2 p10)
12) Outstanding pairs of students read the words as the rest listen

Lesson 2 and 3: Study Skills

Techniques of pre-reading

Objectives:

By the end of the section, learners should be able to:

3) Survey reading materials
4) Formulate pre-reading questions

References: students' book pp 11-12

Teaching/learning activities:

5) Teacher explains steps involved in pre-reading (p11)
6) Students read the passage, 'the Bitter Forbidden Fruit' silently

7) Students formulate questions whose answers they expect to find when they read the passage in groups
8) Students read out the questions

Lesson 2 and 3: Reading Comprehension

The Bitter Forbidden Fruit

Objectives:

By the end of the lesson, learners should be able to:

3) Appreciate the need to abstain from pre-marital sex
4) Answer the questions from the comprehension passage correctly

Teaching/ learning activities:

4) Teacher asks students to read the passage 'The Bitter Forbidden Fruit' and answer the questions that follow
5) Students read the passage and answer the questions
6) Teacher marks exercise and gives feedback

Lesson 4 and 5: Grammar

Gender Sensitive Language

Objectives:

By the end of the section learners should be able to:

3) Recognize gender biased language
4) Use gender sensitive language

Learning aids: extracts in which gender sensitive language has been used

Teaching/learning activities:

4) Teacher explains to students how gender biased language occurs and how it can be avoided
5) Students mention other gender biases in language and how they can be avoided
6) Students do exercises

Lesson 6 and 7: literature

Blossoms of the Savannah

Objectives

By the end of the session learners should be able to:

3 Read and understand the novel
4 Do a critical analysis of the novel

Activities:

5) Students read silently
6) Teacher assists learners understand the plot of the novel
7) Teacher demonstrates how to perform an analysis of a literary text
8) Students do the analysis as teacher guides them.

Lesson 8: writing

Transitional words that add information

Objectives:

By the end of the session learners should be able to:

4) Recognize transitional words that add information
5) Use transitional words that add information
6) Write clearly and legibly

References: students' book p16-17

Teaching/ learning activities:

6) Teacher takes students through the various transitional words given
7) Students read the transitional words
8) Students give more examples of transitional words
9) Students construct sentences using transitional words
10) Students write paragraphs using transitional words

WEEK 8

Lesson 1: Listening and Speaking

Rhythm

Objectives:

By the end of the lesson, learners should be able to:

4) Identify features of rhythm in a poem
5) Appreciate the importance of rhythm in a poem
6) Read a poem and bring out its rhythm

Teaching/learning activities:

Activity 1:

d) Teacher demonstrated how to read a poem, 'The Freedom Song' and 'A Poison Tree'
e) Students read in groups; each individual in each group reads the poem aloud to the rest of the members
f) Very good student readers read the poem aloud to the class

Activity 2:

d) Teacher highlights the features that make a poem rhythmical
e) Students read the features
f) Students read the poems considering the features

Lesson 2 and 3: reading

Study skills: Concentration Techniques in Reading

Objectives:

By the end of the lesson learners should be able to:

6) Survey through learning material
7) Write pr-reading questions
8) Read the material
9) Record answers to the pre-reading questions

10) Review the material just read

Teaching/learning activities

6) Teacher takes students through the information given on concentration techniques
7) Teacher uses real examples to illustrate the points given
8) Teacher guides students to survey through the passage on 'Kinetic Theory and Gas Laws'
9) Teacher guides students to make questions
10) Students read through the text more closely and thoroughly and answer the questions they had formed

Lesson 4 and 5: Grammar

Case in pronouns

Objectives:

By the end of the lesson, learners should be able to:

3) Identify pronouns in their various forms
4) Use pronouns correctly in their various case forms

References: students' book pp24-27

Teaching/ learning activities

5) Students pair up and ask each other questions as they give answers using the first, second and third person pronouns
6) Teacher guides students on subjective and objective case
7) Students do exercises
8) Teacher marks exercises and gives feedback

Lesson 6: writing

Transitional words expressing contrast

Objectives:

By the end of the lesson, learners should be able to:

3) Identify transitional words that show contras
4) Correctly use transitional words that show contrast

Teaching/learning activities:

4) Teacher gives examples of transitional words and demonstrates how they are used in sentences
5) Students give more examples and use them in sentences
6) Students write a composition using transitional words of addition and contrast.

Lesson 7 and 8: literature

Blossoms of the Savannah

Objectives:

By the end of the session learners should be able to:

3) Read and understand the novel
4) Do a critical analysis of the novel

Activities:

5) Students read silently
6) Teacher assists learners understand the plot of the novel
7) Teacher demonstrates how to perform an analysis of a literary text
8) Students do the analysis as teacher guides them

APPENDIX VI: Letter of Introduction from Jaramogi Oginga Odinga University of Science and Technology

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

BOARD OF POSTGRADUATE STUDIES
Office of the Director

Tel. 057-2501804
Email: bps@joust.ac.ke

P.O. BOX 210 - 40601
BONDO

Our Ref: E362/4057/2020

Date: 13th July 2022

TO WHOM IT MAY CONCERN

RE: EUNICE KERUBO AYIERA – E362/4057/2020

The above person is a bonafide postgraduate student of Jaramogi Oginga Odinga University of Science and Technology in the School of Education, Humanities and Social Sciences pursuing a PhD in Educational Psychology. She has been authorized by the University to undertake research on the topic: "***Effects of Scaffolding on English Learners' Subject Interest, Self – Efficacy, Academic Buoyancy and Achievement: A Study in Kenyanya Sub – County, Kenya***".

Any assistance accorded her shall be appreciated.

Thank you.

Prof. Dennis Ochuodho
DIRECTOR, BOARD OF POSTGRADUATE STUDIES

APPENDIX VII: NACOSTI Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **592199**

Date of Issue: **13/December/2022**

RESEARCH LICENSE

This is to Certify that Ms.. EUNICE KERUBO AYIERA of Jaramogi Oginga Odinga University of Science and Technology, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kisii on the topic: Effects of Scaffolding on English Learners' Subject Interest, Self - Efficacy, Academic Buoyancy and Achievement: A study in Kenyenya Sub-County, Kenya. for the period ending : 13/December/2023.

License No: **NACOSTI/P/22/22550**

592199

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

APPENDIX VIII: Letter of Authorization from Kisii County Director of Education

REPUBLIC OF KENYA
MINISTRY OF EDUCATION
State Department of Early Learning and Basic Education

Telegram: "EDUCATION"
Telephone: 058-30695
Email address: cdekisii@gmail.com
When replying please quote

COUNTY DIRECTOR OF EDUCATION
KISII COUNTY
P.O. BOX 4499 - 40200
KISII.

REF: CDE/KSI/RESEARCH/V/8/141

Date: 9th January, 2023

EUNICE KERUBO AYIERA
JARAMOGI OGINGA ODINGA UNIVERSITY
P.O.BOX 210-40601
BONDO.

RE: RESEARCH AUTHORIZATION.

Following your research Authorization vide your letter **Ref.NACOSTI/P/22/22550** to carry out research in Kisii County, this letter refers.

I am pleased to inform you that you can carry out your research in the County on **"Effects of Scaffolding on English Learners' Subject Interest,Self-Efficacy,Academic Buoyancy and Achievement in Kenyenya Sub County in Kisii County, Kenya for** a period ending **13th December, 2023**.

Wish you a successful research.

COUNTY DIRECTOR OF EDUCATION
KISII COUNTY
P.O. Box 4499 - 40200, KISII.

Pius Ng'ang'a
County Director of Education
Kisii.

SGS

APPENDIX IX: Letter of Introduction

JOOUST

P.O BOX 201-40602

BONDO

13th MARCH, 2021

THE PRINCIPAL

.....

SECONDARY SCHOOL

Dear Sir

RE: REQUEST TO COLLECT DATA

I am a student pursuing a Doctor of Philosophy degree in Educational Psychology at Jaramogi Oginga Odinga University of Science and Technology. I am carrying out research on the effects of scaffolding in an Integrated English Classroom among secondary school students in Kenyenya Sub-County. I am kindly requesting that you allow me collect data from your students and teachers to enable me fulfill the purpose.

Thank you for your co-operation

Yours faithfully

Eunice Kerubo Ayiera

APPENDIX X: Letter of Introduction and Informed Consent for Students

JOOUST
P.O BOX 201-40602
BONDO

13TH MARCH, 2021

THE PRINCIPAL
.....SECONDARY SCHOOL
Dear Sir,

RE: INFORMED CONSENT TO PARTICIPATE IN A RESEARCH STUDY

I am a student of Jaramogi Oginga Odinga University of Science and Technology pursuing PhD in Educational Psychology. I am carrying out a study whose purpose is to investigate the effects of scaffolding in an Integrated English Classroom. During the study, a section of form three students may be required to participate in an experiment where a new teaching technique may be employed. Though the study may be disruptive to the normal teaching programs, I would like to assure you that the teaching method is more innovative and hence more beneficial to the learner.

However, I want to stress that accepting to participate in the study is voluntary. In addition, I want to assure you that anonymity, privacy and confidentiality of the school and the learners will be promoted in the following ways: first, the information gathered during this study will remain confidential and will be kept securely; only the researcher will have access to the data. Secondly, he names of students and their school will not be required on the questionnaires and the tests, but serial numbers will be used instead. The results of this study will be published in a professional journal or presented before a professional panel. The knowledge obtained will be of great value to language students, language teachers and language curriculum developers in improving language teaching and learning

Your participation will be highly appreciated

Yours faithfully

Eunice Kerubo Ayiera

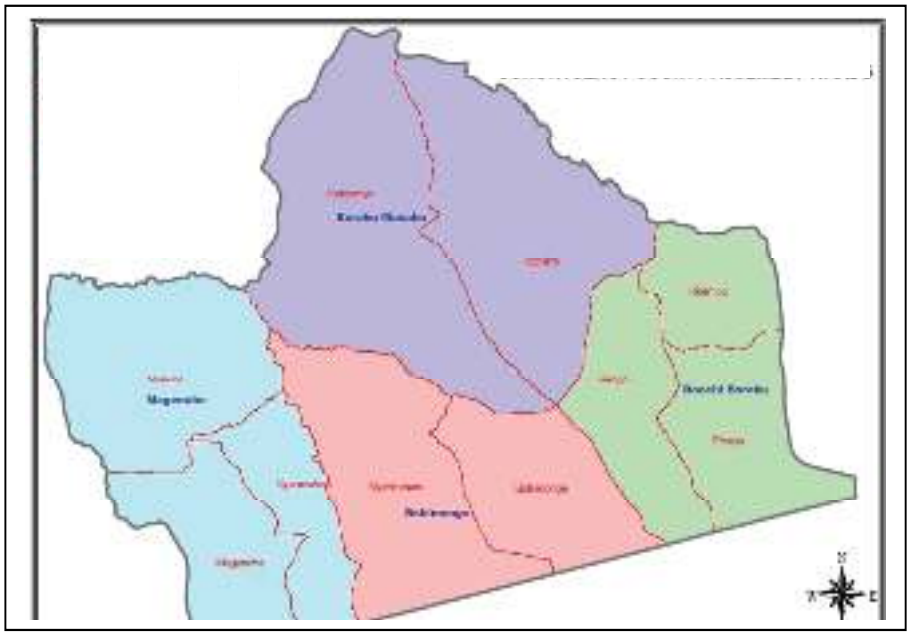
PARTICIPANT'S CONSENT

Having read and understood the information in the letter, I agree that students in my school will participate in the study

Signature of participant.....
Date.....

Signature of Researcher.....
Date.....

APPENDIX XI: Kenyenya Sub-County Map



Source: IEBC