PSYCHOLOGICAL EFFECTS OF SCAFFOLDING AS AN INSTRUCTIONAL APPROACH TO TEACHING ENGLISH IN SECONDARY SCHOOLS IN KENYA

EUNICE KERUBO AYIERA

A THESIS SUBMITTED IN FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN EDUCATIONAL PSYCHOLOGY OF JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

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

Signature ..... Date 3rd October, 2024

Eunice Kerubo Ayiera

Reg. No. E362/4057/2020

APPROVAL BY SUPERVISORS:

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

Signature ..... Date 3:10:2024

Dr. Judith Owaa

Department of Psychology and Educational Foundations

School of Education, Humanities and Social Sciences

Jaramogi Oginga Odinga University of Science and Technology

Signature ..... Date 03-10-24

Dr. Benard Mwebi

Department of Curriculum and Educational Management

School of Education, Humanities and Social Sciences

Jaramogi Oginga Odinga University of Science and Technology

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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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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 teacher centered 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 achievement in English among secondary school students. The study was informed by social cultural theory supported by cognitive load theory as built 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 involving a target population was 78 teachers of English and 2,678 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 purposive technique as interview informants. 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 using 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 split half and Cronbach's Alpha techniques. Quantitative data analysis was done using descriptive and inferential statistics of frequency percentages, mean standard deviation and t-test analysis using the SPSS package version 26.0 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 achievement in English. 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 an appropriate language learning technique as it was very effective in boosting the studied learner aspects. The Ministry of Education should retrain teachers on and adopt scaffolding strategy in language learning as well as 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 out on the relationship between scaffolding and academic achievement.

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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
MOEST:	Ministry of Education, Science and Technology
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 homework, 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. Additionally, 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, according to 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.

In addition, 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 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).

In another study, 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)

A similar study 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.

In South Africa, a study by Mutekwe (2018) reported 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). 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).

Additionally, a comparative study by Lugendo and Smith (2015) between Kenya, Canada, Australia and the USA suggested that language learning is a process situated in the Social Cultural Development theory (Vygotsky, 1978), 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 (Lugendo and Smith, 2015)

In Kenya, the Ministry of Education, Science and Technology (MOEST) 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, listening, speaking, reading, writing skills and critical analysis of literary texts are intertwined and taught as a unit (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 therefore calls for scaffolding according to KICD (2017). Consequently, Kenyan scholars from various disciplines have carried out studies that support scaffolding teaching and learning, despite establishing minimal adoption of scaffolding in teaching English.

For instance, 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 a 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.

According to Muriithi (2021), teaching strategies play a major role in in influencing learners' performance. The study, in Naivasha sub-county, 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.

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 to allow students use the skills in an integrated manner, according to Mutsotso and Nabukonde (2019).

On a similar note, 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 group work, guided learning role play and dramatization which are elements of scaffolding made learners develop interest to discover and learn new concepts on their own (Atandi, Gisore & Ntabo 2019).

Another study by Omuna and Kurgatt (2023) revealed that teacher centered techniques were more utilized in teaching English as opposed to learner centered pedagogy. Group work was not frequently used in English lessons, though the National Institute of Child Health

Development recommends pair work and group work for teaching because the two methods enable learners to learn from one another (Omuna and Kurgatt, 2023). On the contrary, individual work was more frequently used, according to Omuna and Kurgatt (2023). The study suggests that scaffolding method is mostly absent in English lessons.

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 three sub-counties and their effects on language learning.

Table 1: Preferred teaching and their effects

Sub-county	Teaching method	Percentage of teachers who prefer method	Percentage of teachers applying method	Effects of methods to learners
Kenyenya	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
Langata	Learner centered	51.7	48.2	• Learning independence • Discovery of new knowledge and concepts
	Teacher centered	48.2	51.7	• Lack of learning independence
Naivasha	Learner centered	50	25	• Active participation • Ability to recall • Good performance
	Teacher centered	25	50	• Poor performance

(Source: Maiko, 2018; Atandi, Gisore and Ntabo, 2019; Muriithi, 2021)

Table 1 shows the preferred teaching methods, the methods that are adopted in English lessons and their effects on learners. From the data it is clear that as much as teachers would prefer to employ learner centered methods which would benefit the learner more teachers are not employing them in class, but they adopt teacher centered methods which not only make learners inactive in class but also deny them independence, they lose interest in learning and at the end they perform poorly in examinations. Table 1 further shows that comparatively, a greater percentage of teachers in Kenyenya Sub-county utilize teacher centered methods to teach English.

Additionally, KCSE result analyses across the sub-counties in Kisii County have shown that Kenyenya Sub-County has a comparatively lower overall mean score. The performance could be associated with the application of teacher centered methods to teach English as a subject. Table 2 summarizes the KCSE performance of English in the sub counties in Kisii county since 2019 to 2022.

Table 2: 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
Gucha South	3.503	3.621	3.688	3.452	3.566
Sameta	3.554	4.122	3.890	4.021	3.896
Kitutu Central	5.223	4.893	4.911	5.013	5.010
Marani	3.492	3.512	3.468	3.492	3.491
Masaba South	4.511	4.122	3.812	3.900	4.086

Table 2 reveals that Kenyenya Sub-County is comparatively lower in performance across all the years, the highest mean score being 3.642 in 2020. The aggregate mean score of Kenyenya sub-county is 3.486 and it is the lowest in the region. Hence the current study sought to find out whether teaching methods could be the problem hence seeks to investigate scaffolding as a better alternative to the conventional methods of teaching English as a subject.

Moreover, studies globally 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 (Atandi, Gisore and Ntabo, 2019; Omuna & Syomwene (2020); Muriithi, 2021; Omuna and Kurgat (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, therefore, 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 learner centered as it is more beneficial to the student than to the teacher. However, in Kenya, studies have shown that English is not acquired but taught, since teachers employ teacher centered techniques to teach English. For instance, a study in Kenyenya Sub-County has established that English is actually 'taught and not learnt', in that teacher centered 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, yet these techniques make English lessons fully teacher centered. In the process, 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 teacher centered methods to teach English, performance of English in examinations is very poor. Moreover, scaffolding learning is minimally utilized in teaching English, hence, its psychological effects on learners of English are not known, which makes it difficult to adopt scaffolding learning process in English learning. It is for this reason that the present study sought to investigate the effects of scaffolding on subject interest, self-efficacy, academic buoyancy and achievement in English 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 investigate the effects of scaffolding on interest to learn English among learners in Kenyenya Sub-County
ii. To find out the effects of scaffolding on English self-efficacy among learners in Kenyenya, Sub-County
iii. To examine the effects of scaffolding on academic buoyancy in English among learners in Kenyenya Sub-County
iv. To establish the effects of scaffolding on achievement in English among 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. That scaffolding had effects on interest to learn English.
ii. That scaffolding had effects on English self-efficacy among learners.
iii. That scaffolding had effects on academic buoyancy among learners.
iv. That scaffolding had effects on learners' achievement in English.
v. That 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 and was informed by Social cultural and Memory load theories. 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 eight 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 with a student ratio of 1:50 leading to 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 findings of this study would be significant in the following respects: 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 language competencies. Thus, new knowledge would be unfolded about a new learning technique and its effects on the learner which would be a reference point for researchers.

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 as encourages collaborative and cooperative learning, learners learn from one another, hence developing ability to deal with schoolwork 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.

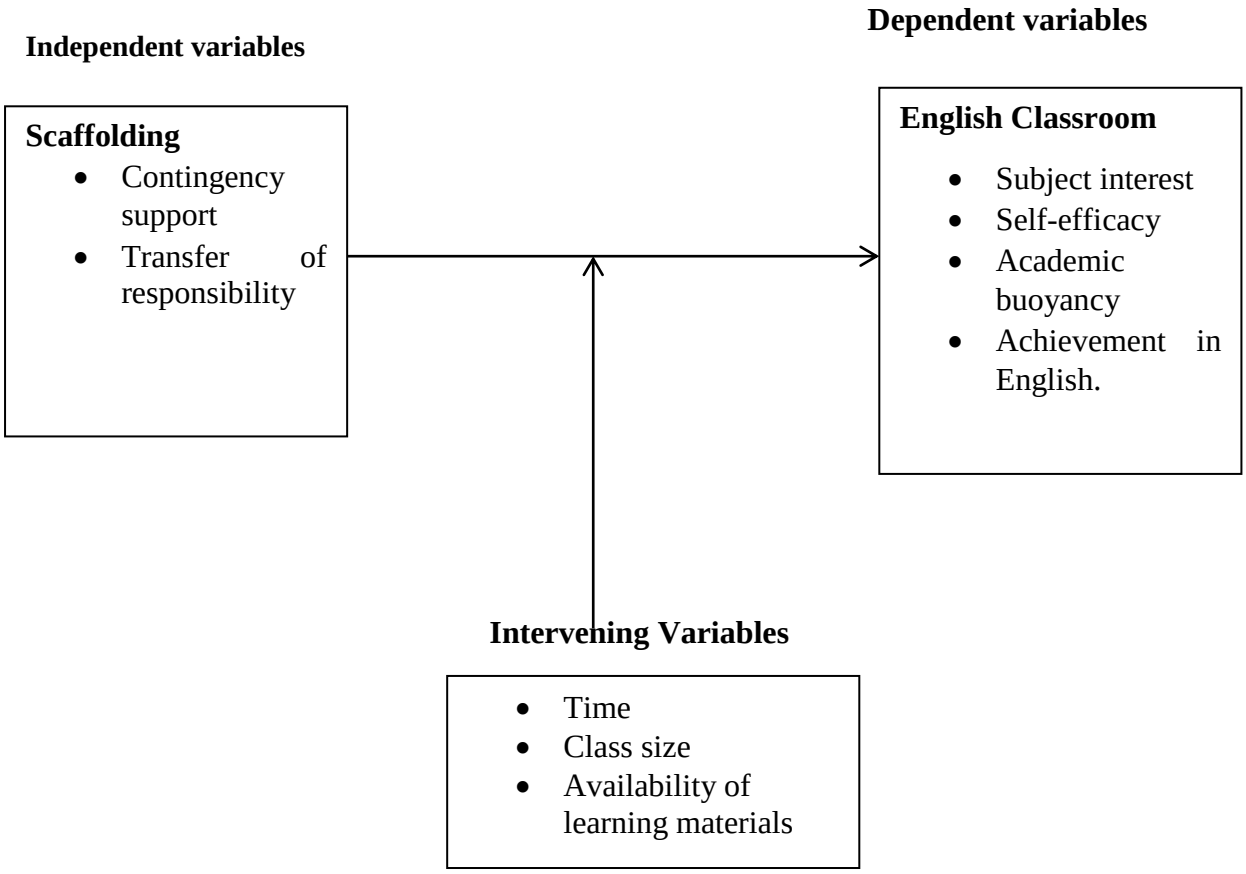

Figure 1: Conceptual framework (Source: researcher 2023)

The conceptual framework of the present study noted that the independent variable was 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. The framework shows that as learners learn through scaffolding, their interest towards English as a subject may be affected. A similar effect may

occur to self-efficacy, academic buoyancy and achievement in English since the effect on one variable may lead to a similar effect on the other variables.

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 the 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 is the ability of learners to rise above low grades, failure to beat deadlines, negative feedback, study stress, a low mark and schoolwork pressure.

Achievement: Ability to succeed in doing something. In this case achievement is measured by ability to perform well in assessments and examinations. 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 sub-section four focuses on scaffolding and achievement. The last sub-section 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 were 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 might not have been accurate or honest, since only subjective data was collected, 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 both quantitative and qualitative data which is more accurate and reliable.

Another study in Mexico investigated by Goganza and Arellano (2022) investigated the rope of teacher support in motivation, engagement and achievement. The study was based on metacognition and cognition as established in literature. A conceptual model of including cognitive, behavioral, emotional scaffolding and motivation and metacognitive learning and engagement was proposed and validated in 220 university students using structural equation modelling. Findings suggested that cognitive engagement is directly influenced by metacognitive engagement. Learning engagement is influenced by cognitive engagement and all of them are triggered by motivation. Moreover, scaffolding enhances emotional engagement. Teacher support fosters student emotions of being enthusiastic, interested in class, joyful in learning activities and proud of the learning achievements. While the reviewed study was based on literature thus producing secondary data, the current study carried out an empirical study to produce primary and more valid data.

In addition, 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 utilized observation method to collect data, thus the participants were not given the opportunity to express their opinions, feelings or believes, which might have interfered with credibility of data. On the contrary, the current study collected qualitative data using interview techniques where respondents expressed their feelings as the researcher probed them, hence more credible and comprehensive data was obtained.

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 focused on one language skill, hence, cannot be replicated in teaching the other skills.

A similar study was carried out in India by Sahaya and Raja (2024) to determine how scaffolding impacted students' enjoyment in mathematics. The study adopted experimental technique whereby experimental group was taught using scaffolding method while the control group was taught with the conventional method. Data collection instruments were pre-post interview and pre-post observations. Data was analyzed independent t-tests, matched pair tests and one-way ANCOVA. Results revealed a statistically significant difference concerning enjoyment ($F=34.373$, $p<.05$) and engagement ($F=6.489$, $p<.05$) at 0.01. The enjoyment and engagement level among experimental group was higher that that of the control group. The reviewed study centered around enjoyment and engagement as the elements of subject interest, leaving out other essential elements. However, the present study paid attention to additional elements such as peer teaching, participation in group discussions and clearing assignments to widen the scope.

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.

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 was correlational as it unfolded a relationship between learning strategies and interest, the present study carried out an empirical experiment and unearthed the effects of scaffolding on learners' interest to learn.

A study by Chizoba, Muhammad and Haruna (2023) assessed scaffolding learning strategy on learners' interest in geometry in senior secondary school students in Zaria metropolis, Kaduna state, Nigeria. A pre-post quasi experimental design was adopted whose participants were two co-educational schools selected using simple random method. The sample consisted 122 students (60 male and 62 female) from 2 different schools. Data collection instrument was Students' Geometry Interest Inventory whose Cronbach's alpha reliability coefficient was 0.88. the research questions were answered using mean and standard deviation while the null hypothesis was tested using t-test statistic at 0.05 significance level. Results showed that students who were taught using scaffolding method showed greater interest in learning geometry than those taught using lecture method. The reviewed study collected data using one experimental and one control group, hence it is not known whether it is scaffolding or pre-test sensitization that brought about the results. On the other hand, the current study used 2 experimental and 2 control groups, and the extra two groups acted as bench marking points to ensure the pre-test did not influence the results.

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 such as pre-test sensitization. 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.

In another study, Okechukwu (2020) 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. The present study collected quantitative data only, thus lacking in participants feelings while the current study collected both quantitative and qualitative data which corroborated each other, to produce more accurate data.

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 secondary school.

Another study was carried out in Kenya by Song and Glazewski (2023) to explore the effects of scaffolding on reading comprehension in a self-regulated learning framework. The study adopted mixed methods design involving experimentation, observation and interviews. Participants were 74 grade 7 students who were assigned into 3 groups: self-generated questioning with scaffolding, self-generated questioning without scaffolding and direct instruction with teacher questioning. Data were collected from quizzes and pots-test of reading comprehension, student surveys, selected teacher/student interviews and class observation. Results showed that self-generated questioning with scaffolding had a positive effect on learning out comes and the quality of student generated questions. Additionally.\, student generated questioning improves reading comprehension levels through engaged reading with support of metacognitive guidance. Whereas the reviewed study focused on reading comprehension only thus producing data that could not be generalized to the other language skills, the present study investigated all language skills to ease generalization of the findings.

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 1,260 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 only thus producing numerical data and lacking in participants' views. 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:

A study in China by 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. Additionally, the 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 ensures that the pre-test does not influence the results, eventually valid data is obtained.

Another study in Canada by Falardeau, Guay, Dubois and Pellitier (2024) determined the effect of scaffolding on writing self-regulation. The study was quasi experimental which involved teacher support in writing activities by learners. Participants were 483 grade 5 students. The two experimental conditions were compared. Results from the repeated measure analyses showed that with or without peer feedback, the intervention group produced better feedback and higher self-efficacy compared to control group. While the reviewed study employed quantitative techniques only thus obtaining numerical data, the current study collected both qualitative and quantitative data whereby responses from interview respondents explained the numerical findings.

Moreover, Aikens and Kulack (2023) carried out a study in the USA to determine the experiences during scaffolding, specifically collaborative learning, that build self-efficacy. Participants were 311 students, and five group work experiences including: accomplishing the problem, getting help from peers, confirming answers, teaching others and consulting with a teacher. Survey technique was used to collect data from quantitative biology students about the experiences they had during collaborative group work. The study further examined how the initial self-efficacy related to the experiences they reported. Inductive coding was used to analyze 478 responses from the 311 participants. Results revealed that higher initial self-efficacy significantly increased the odds (ratio 1.5) of reporting that accomplishing the problems benefitted self-efficacy whereas lower initial self-efficacy significantly increased the odds (odds ratio 1.6) of reporting peer help benefitted self-efficacy. Results suggested that group work should be structured to facilitate collaborative discussions and help-seeking behaviours may be beneficial for building self-efficacy in low self-efficacy students. The dependent variables of the reviewed study included peer teaching, and consultations, to widen the scope, the present study focused on contingency support and transfer of responsibility.

Additionally, in the USA, Erdil (2019) examined the effect of scaffolding on learners' ability to clear various types of assignments. The assignments included homework and class assignments. Scaffolding strategy employed enabled students to build on prior knowledge and experiences as they were mastering higher level skills. The findings supported the hypothesis that scaffolding is effective in motivating and engaging students in learning.

While the reviewed study used observation method to collect data, the current study collected both qualitative and quantitative data which enabled comparison of both sets of data.

Moreover, Latson (2022) investigated how English language arts teachers support ninth grade students' reading comprehension and retention through instructor led scaffolding in High schools in the USA. The study was qualitative and used Scaffolding theory in the social constructivist approach by Vygotsky. Data was analyzed using open coding and categorization to identify patterns and themes. Results revealed that ninth grade teachers employed scaffolding techniques in their classrooms to improve students' learning, reading comprehension and retention. The reviewed study collected only qualitative data, thus in did not have numerical data to compare with the participants' views. However, the present study collected both quantitative and qualitative data and both sets were compared to produce more accurate data.

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.

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.

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.

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.

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.

Another study in Saudia Arabia by Hasan and Arab (2023) determined the efficacy of scaffolding in teaching and improving comprehension skills among English as Second Language learners. Both qualitative and quantitative data was collected from 10 participants who had been purposively sampled. The method of data collection was literature review from various literature articles and publications. Questionnaires were also used to collect data from various educators and management members in the field of practices. Data was analyzed using thematic analysis, whereby the themes had been formed to collate the facts and figures related to the research. Quantitative data was also analyzed with respect to the statistical analyses of the responses collected by the survey questionnaire. Findings showed that scaffolding had a varying effect on ESL learner' improvement for both lower and higher

ability participants where lower ability students in the scaffolding group gained more in terms of reading comprehension and growth. The reviewed study collected data from literature reviews, meaning the data was secondary. On the other hand, the present study carried out an empirical experiment and performed interviews to collect primary data which is more valid.

Additionally, in Saudia Arabia, Hassan and Karim (2019) carried out a study to examine the effects of scaffolding on academic writing among university students through experimental technique. Participants were 20 students: 10 for experimental and 10 for control groups. 4 teachers were also sampled 2 for experimental and 2 for control. The study focused on motivational scaffolding and its effect on writing skills in English as foreign language learners. The study also examined learners' zone of proximal development to determine whether learners in the process of writing are following teachers' implicit instruction and that teachers are dealing appropriately with deployment of scaffolding technique. The experimental group was taught using scaffolding while the control group was taught using traditional methods. Results revealed that the experimental group performed better than the control group in writing. While the reviewed study focused on writing only, making it difficult for generalization of results to other language skills, the present study focused on all the language skills including analysis of literature books.

Similarly, 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.

Another study in Philippines by Dorigo (2023) determined the effects of scaffolding strategies on reding strategies oh Grade 7 students in a National High School, adopting quasi experimental action research. Forty-four students participated in the study and their ability to read comprehension was measured through a pre-post. Results revealed that after the application of scaffolding, learners' ability to read comprehension improved significantly. Whereas the reviewed study focused only on reading comprehension as the independent variable, meaning the findings could not be generalized to the other language skills, the present study focused an all the language skills to make the findings generalizable.

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.

Another study by Mardiah, Sya'roin and Junaidi (2023) determined whether scaffolding strategy had an effect on improving the writing skills of students in India. The study adopted experimental design with a sample of 33 students, 17 in experimental and 16 in the control group. Students in experimental group were taught using scaffolding while those in control were taught normally for 4 weeks. The mean pre-test of experimental group was 48.94 and 50.75 for the control group. Using t-test analysis, the mean post-test of experimental class showed a significant improvement, 14 points above the control class. Hence scaffolding has an effect of improving students writing skills. The reviewed study focused on writing, hence

producing data that could not be generalized to the other language skills. To widen the scope, the present study focused on all the language skills.

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 economics. Study participants were 275 senior secondary school students in Abuja, Nigeria, 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-week 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 attained 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.

Another study was carried out in Germany by Weibenfels, Hoffmann, Ulrich and Perels (2022) to find out the relationship between academic buoyancy and achievement, with an indirect effect of self-efficacy. The study collected data using a survey through questionnaires. The sample constituted 974 students from 11 secondary schools in Southwest Germany. Data was analyzed using a latent variable approach. Results showed that academic buoyancy was a significant predictor of achievement, and the relationship was explained through self-efficacy. The reviewed study was correlational hence it only revealed the relationship among the three variables. However, the present study was majorly experimental where a cause effect relationship was unearthed, hence producing more valid data.

Moreover, in Iran, Souzandehfar and Ibrahim (2023) carried out a study to investigate the effects of task-supported Language instruction on academic buoyancy. The study adopted mixed methods design with 20 participants. Data was collected using semi structured interviews and pre-post experiment. Results indicated that task-supported language instruction positively influenced academic buoyancy, resilience and adaptive coping strategies. The reviewed study investigated the effect of task supported instruction whose findings can not be generalized to the other scaffolding techniques. However, the present study investigated the effect of contingency support and transfer of responsibility, hence the scope was widened.

Moreover, Ibrahim, Carbajal, Zuta and Bayat (2023) examined the impact of collaborative learning, scaffolding instruction, assessment of reading anxiety and reading motivation on Iranian EFL learners. The sample constituted 58 learners based on results from preliminary English test, to represent the sample subject of 78 students. Convenience sampling method was used to sample participants, out of whom two groups were randomly sampled and assigned to experimental and control groups. This was followed by the 2 groups completing pretests to gauge their reading motivation, test anxiety and comprehension. Next the two groups were subjected to a variety of treatments. Learner in experimental group got scaffolding learning while those in the control received typical instructor-based teaching and

assessment. Later the two groups took a pre-post for reading anxiety, reading comprehension and reading motivation. Data was analyzed using one-way ANOVA. Results indicated that the experimental group out-did the control group in reading anxiety, reading motivation and reading comprehension. Therefore, experimental group had lea reading anxiety compared to control group, thus scaffolding was effective in reducing anxiety. While the reviewed study was carried out on reding skills, the present study covered all the four language skills in addition to analysis of literature texts, thus more data was obtained.

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.

Another study in Indonesia by 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.

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.

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.

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 to only reveal how the variables relate, the present carried out an empirical experiment which unearthed the effect of scaffolding on students' academic buoyancy.

2.5. Scaffolding and Achievement

The American Psychological Association (APA) describes academic achievement is 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:

In Philippines, 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.

In a similar study, 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 only qualitative 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.

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 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

In another study, 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 was 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 to widen the scope on the effects of scaffolding.

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 8^{th} 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 was carried out in Indonesia but there is scanty literature on such a study in Kenyan schools. Therefore the current study was carried out in Kenya to increase the scope.

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 similar note, Ona (2022) investigated the effects of scaffolding 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. Multistage 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.

Similarly, 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.

Additionally, 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 examine 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.

Some 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 controlled 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. Moreover, 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 ethical considerations.

3.2 Research Design

The present study adopted 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. Additionally, 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 both teachers and students were involved in data collection, however, teachers neither filled in the pre-post questionnaires nor sat for EAT. Therefore, teacher participants were given an opportunity to express their views through interviews at the end of the experiment. At the same time, learners participated in the experiment for 8 weeks, and at the end had to be allowed to explain the difference in pretest and post-test results. Therefore, sequential explanatory design 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, while learners were given an opportunity to give their views on scaffolding and its effects on the studied psychological aspects, teachers gave their expert comment on the effects of scaffolding that helped the researcher compare both sets of data. Thus, 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 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, 2018). 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 using conventional methods. 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 to 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.

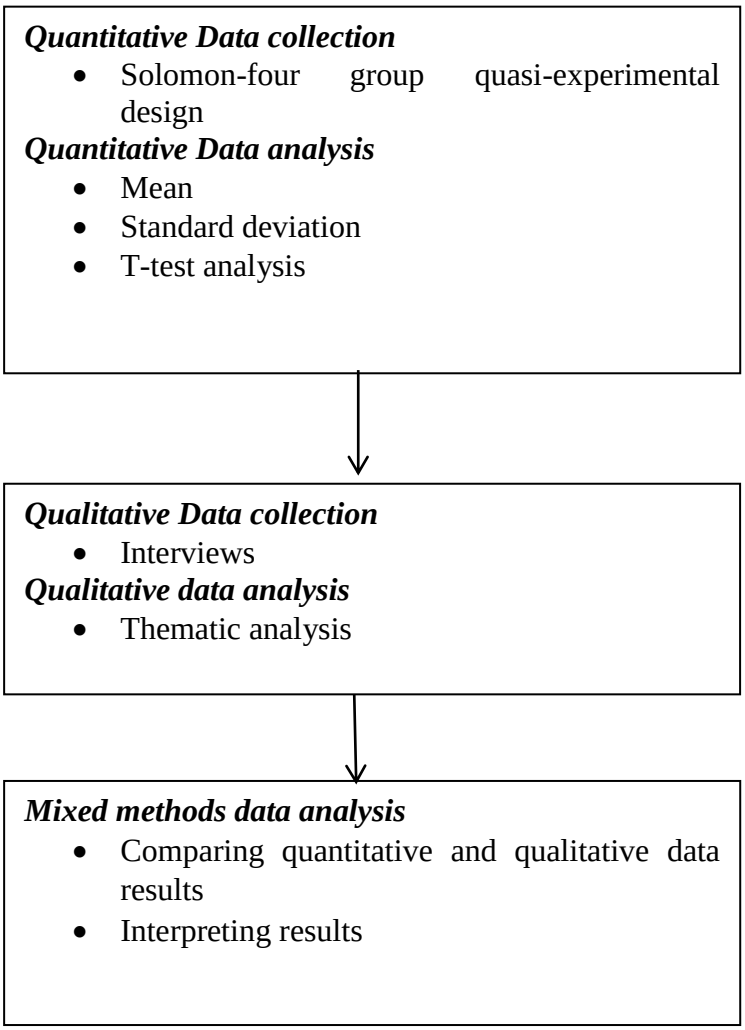

Figure 2: The Sequential Explanatory Design (Creswell 2014, p. 270)

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 teacher-centered 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-ounties (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 analysis of literature set books. Teachers were selected for the study for the purpose of implementing scaffolding learning in English as a subject, and later they gave their views on the differences between before and after scaffolding learning among the learners of English.

3.5 Sampling Techniques and Sample Size

3.5.1 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. 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 participating 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 simple random techniques since a large population of learners had participated in the study, hence, simple random sampling method could avoid researcher bias.

3.5.2 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, 2018) 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. 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	Purposive	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 was picked out using purposive sampling respectively to participate in interviews. Learners were randomly sampled based on their similarity in the study variables at pre-test stage. 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 post-test questionnaires enabled the researcher to 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 consistency in the scoring. The 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. The schedules were piloted in the schools which had participated in quantitative data piloting whereby two teachers and three students were purposively picked out as respondents. The researcher established that the schedules were reliable

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 18 guiding questions on the interview schedule, 6 on subject interest, 5 on self-efficacy, 4 on academic buoyancy and 3 on achievement. The items varied in number since the questionnaires were developed on the basis of quantitative data findings. 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 6 items on subject interest, five items on academic buoyancy, four on self-efficacy and three items on achievement, as based on findings from Solomon-four group experiment. 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 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: two schools that did participate in the actual study were purposively 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-week 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

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 hung 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 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 consistency, implying that the instrument has an 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

Solom hon 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 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 & 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 & 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 & 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. Teachers in participating schools were also 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 examination 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 a 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 audiotaping, the researcher wrote down their responses on the schedules and in a notebook. Teachers' interviews took place in the HODs' offices and took 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 Frequency Percentages, 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 frequency percentages, 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 as well as 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. Tha analysis took the deductive approach since themes were already pre-determined as based on the research objectives. The first phase was data familiarity. Here the researcher severally listened to, transcribed and 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; for instance, a code belonging to subject interest theme was labeled INT1aT1, where INT means interest, 1a indicates that data is about the first pretest questionnaire item and T1 refers to the first teacher respondent. Codes belonging to self-efficacy were labeled for instance as SE2bL3, SE stands for self-efficacy, 2b is the second posttest item on self-efficacy and L3 is the third learner respondent. Academic buoyancy codes were named for instance AB5aL8 and achievement in English for example as ACH4bT6.

After creating the initial codes, minor themes were formed based on pretest data and they included: low interest, high interest, low efficacy, high efficacy, low buoyancy, high buoyancy, low achievement and high achievement. The variables were ‘low’ during the pretest and ‘high’ during the post-test. The next phase involved sorting and combining minor themes to form comprehensive themes from the entire set of data. However, the present study

had adopted the deductive approach, hence the themes had been pre-determined as: Subject interest, Self-efficacy, Academic buoyancy and Achievement.

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. The final phase was reporting where the extracts were analyzed, whereby conclusions were drawn. The final phase was done in combination with quantitative data. Table 10 shows examples of the excerpts, codes and themes of the study.

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

Interview extract	Code	Theme
I observed notable improvement in the manner in which assignments were cleared. Even now I do not have to follow them up. I just find the assignment books on my table. (INT4bT7)	INT4bT7	Subject interest
I could see the students very busy studying on their own, which I think made them to seek clarification here and there. (SE1bT9) … I can say that as the learners were studying on their own, they became more active in coming for further clarification and guidance. (SE3bT9)	SE1bT9 SE3bT9	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, e. (AB4bL3)	AB4bL3	Academic buoyancy
… 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, later I think they believed that they could perform well without the materials. (ACH2aT6)	ACH2aT6	Achievement

Table 10 shows the extracts obtained from the interview respondents, their codes and the themes in which they belonged. The first extract talked about subject interest and was coded INT4bT7 in Subject interest theme. It was obtained from a teacher respondent that is why it has letter T in it. The extract expressed the increase in subject interest among learners where the respondent talks about learners completing their homework in time without being coerced to do so. The second extract was labeled SE1bT9 and SE3bT9 and it talks about the improvement in self-efficacy among learners. The extract belongs to the theme referred to as self-efficacy and it suggests an improvement in self-efficacy where learners could 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 AB4bL3 was obtained from a learner respondent, that is why it has L in it and it belongs to academic buoyancy theme. The respondent talks about scaffolding having made a bad mark affect their confidence positively. The last extract labeled ACH2aT6 was obtained from the fourth objective on the effects of scaffolding on the learners' achievement. And it suggests learners' confidence to do exams. The extracts, codes and themes were arrived at after the researcher familiarized with the data followed by creation of codes. Deductive thematic analysis had been adopted by the study since the themes had been determined as per study objectives. The coded extracts were therefore assigned to their respective themes. Finally, 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:

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 agreed to take part in the study. The letter of informed consent is labeled Appendix X.

Moreover, the anonymity and confidentiality of the participants was respected. This included respect for their rights of beneficence, respect for 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. The instruments are labeled Appendix I, II and III. Confidentiality was further ensured by the researcher withholding 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, since 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 p = 0.05. The Statistical Package for Social Sciences (SPSS) version 26.0 was used to analyze the data. For the qualitative data analysis, a 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	Post-test returned instruments	Return rate (%)
Experimental Group 1	120	103	103	85.8
Control Group 1	80	78	78	97.5
Experimental Group 2	111	101	101	91.0
Control Group 2	53	51	51	96.2
Total	364	333	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 sampled 364 students but 333 participated in the study. 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, 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 performance 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	181	54
	Female	152	46
Total		**333**	**100**
Interview respondents			
Teachers	Male	6	60
	Female	4	40
Total		**10**	**100**
Students	Male	5	50
	Female	5	50
Total		**10**	**100**

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 (54%) of the participants were males compared to females (46%), thus, both genders were represented in the study implying that the results 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 was: there is no statistically significant effect of scaffolding on subject interest among English 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. Students with high subject interest develop attentiveness or curiosity when learning a concept in English as a subject. In the current study, students' interest in the subject was 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, student respondents in the experimental group were given a twelve itemed questionnaire, where they were expected to respond to the statements using 5-point likert scale. The responses were shown by the level of frequency 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 and at the end both 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 on table 13 show that subject interest of the learners of English before the application of scaffolding technique was at a mean rating of 3.1 (SD=1.0). for instance, learners were asked to indicate how often they ask questions during English lessons and a mean response of 3.1 (*SD*=1.0) was obtained. Only 26 (25.2%) of the students often and another 7 (6.8%) others always ask questions during an English lesson. 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 as a subject. The findings concur with the findings of a study in Japan by Sugino (2019) that before the application of scaffolding simulations, there was less student participation which suggested less interest in the subject. On the other hand, a study in South Korea by Lange, Gorbunova, Shmeleva and Costley (2022) used participants who already had interest to learn and found out a positive relationship between scaffolding and maintained interest among the learner participants.

Moreover, interview respondents were asked a question on the frequency with which students asked questions during English 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. … 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. (INT1aT1)*

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….(INT1aT3)*

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. (INT1aL2)*

The 3 excerpts coded INT1aT1, INT1aT3 and INT1aL2 belong to Subject Interest theme and they 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. The findings concur with the findings of a study in Japan by Sugino (2019) that

before being exposed to scaffolding simulations, learners were not active in the classroom processes. On the other hand, a study in Indonesia by Annisa and Sutapa (2019) revealed that support was necessary for learners to actively participate in classroom activities and support had to be provided through authentic connections and new exposure.

Another area of subject interest was whether the students effectively contribute to class discussions and the results 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 14(13.6%) who always and 36 (35%) of the students who often contributed to class discussions. However, 4(3.9%) never and 16(15.5%) of the students rarely contribute to class discussions while 33 (32.0%) indicated that they sometimes contribute to class discussions. The mean score for those contributing during discussions was 3.4 (SD=1.0). The results show that majority of students are not active during discussions, which suggests low interest in English as a subject. The findings of this study are similar to the findings of a study in Zambia by Banda and Musonda (2018) that fewer students participated in co-operative learning at the initial stages of the application of cooperative learning. Another study in Indonesia by Padmadewi and Artini (2018) reported low interest in writing skill before scaffolding was adopted.

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

> *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... Generally, in English the discussion groups are very dormant. (INT2aT2)*

And another one reported that:

> *We have discussion groups, but we are not very active in them…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. (INT2aL2)*

The extracts from INT2aT2 and INT2aL2 in Subject Interest theme reveal absence of discussion in English as a subject. It comes out clearly that most learners of English rarely participate in discussions unless they are forced to. Lack of contribution in class discussions is more evident in the extract coded INT2aT2 which 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 in being 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. A similar study in India by Sahaya and Raja (2024) revealed that before scaffolding learning, there was less engagement in class activities among learners.

In addition, when the study sought to establish the frequency at which learners made class presentations before scaffolding treatment, results of the study revealed a mean rating of 2.9 (SD=0.9). Only 3(2.9%) of the students always made class presentations, 17(16.5%) often and more than a half 55 (53.4%) sometimes made class presentations. But 10 (9.7%) of the participants indicated that they never and 18(17.5%) rarely made class presentations, a sign of low interest in English as a subject. The findings were supported by the findings of a study in Nigeria by Ezeudu, Nwafor, Abaene, Alabi, Chukwuka and Ikuelgobon (2019) that scaffolding increased students' interest to learn than conventional methods. This is contrary to a study in India by Bansal (2017) that reported a positive attitude among learners after scaffolding learning.

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? ... presentations come from discussions. ... there is a small number of students that are brave enough to present what they have discussed in class. (INT3aT1)*

The comments were echoed 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. …. Generally, my learners are afraid to be active in class especially presentations. (INT3aT3).*

Yet another respondent said*:*

> *I am not comfortable in making presentations because my classmates like laughing when I commit an error while speaking. Even our teacher sometimes corrects you in front of the class, so I fear making a presentation. But some classmates 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. (INT3aL2)*

The results in the excerpts labeled INT3aT1, INT3aT3 and INT3aL2 all in the theme of Subject Interest confirm the questionnaire findings that only 16.5% and 2.9% often and always make class presentations respectively. According to INT3aT1, 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. INT3aT3 suggests that there are some specific students who have the capability to make class presentations, and a great majority does not. Moreover, INT3aL2 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. Similarly, a study in India by Sahaya and Raja (2024) reported less enjoyment and engagement of learners who had not been exposed to scaffolding. Contrary to the findings, a study in South Korea by Lange, Gurbunova, Shmeleva and Costley (2022) asserted that for learners to be active, various scaffolding strategies should be combined, for instance, strategic and conceptual methods.

Moreover, participants were expected to indicate the frequency at which they clear assignments and the results show that although some of the respondents always complete their assignments in English before the next lesson, others rarely do. This was indicated by a mean rating of 3.0 (SD=1.1), with 9 (8.7%) of the students admitting that they never and 24(23.3) rarely complete their English assignments in time, while 13 (12.60%) always and 20(19.4%) often complete their assignments before the next lesson. However, 37 (35.9%) of learners indicated that they only sometimes complete their assignments before the next lesson. The findings are comparable to the findings of a study in Indonesia by Annisa and Sutapa (2019) that before exposure to scaffolding methods, learners were not motivated to be responsible to learn but only took up the responsibility after scaffolding. However, a study in

Kenya by Song and Glazewski (2023) revealed that direct teacher instruction did not improve learners' comprehension skills.

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

> *…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. (INT4aT1).*

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. (INT4aT4)*

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. (INT4aT2)*

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." (*INT4a*L1)*

From the extracts coded INT4aT1, INT4aT4, INT4aT2, and INT4aL1 in Subject interest theme, 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 completed the assignments, there was an element of punishment that motivated them to finish their assignments, as suggested by the respondents. Moreover, the study established that some students could go to the extent of copying answers from the few responsible students

who did the work. Clearly, the results explain why a good number of students would complete their assignments in time where 35.9 sometimes clear their homework, while 19.4 often and 12.6 often and always finish their assignments respectively. They completed the assignments simply to avoid punishment and not because they have interest in the subject. The findings agree 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.

Moreover, on whether the respondents teach other students, the study established that less than a half 45 (43.7%) of learners indicated that they sometimes teach other students, and 22(21.4%) others confirmed that they rarely while 14(13.6%) never teach other students at all. However, only 15 (14.6%) of the surveyed students indicated that they often teach other students as 7(6.8%) always teach other students. The results translated to a mean rating of 2.8 (*SD*=1.1) on the subject interest scale of 1 to 5, suggesting that peer teaching in English, as a subject, was low among students before the application of scaffolding technique. The findings are comparable to those of a study in Finland by Ursin, Jarvinen and Pihlaja (2020) that before scaffolding, there was little student engagement in learning. However, a study in Zambia by Banda and Musonda (2019) reported that co-operative learning was effective in enhancing subject interest of learners.

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 stricter 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… (INT5aT1)*

Similar sentiments were given as follows:

> *Here we have peer teaching lessons in English. 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 (INT5aT3)*

The extracts labeled INT5aT1 and INT5aT3, are in Subject interest theme and reveal that peer teaching was initiated by teachers and not through the initiative of the learners. The study found out that teachers would 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 INT5aT3, the study found out that there are very few learners volunteer to would 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. Similarly, a study in Indonesia by Annisa and Sutapa (2019) revealed that students only showed interest in learning science after close supervision. However, Abune (2019) revealed that for peer teaching to be effective, it should be two way where both parties teach one another.

Similarly, regarding whether students of English always consulted teachers, the results indicate that this was sometimes done. This was reflected by a mean rating of 2.7 (SE=0.9). A good number of students indicated that they never and rarely consulted 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 sometimes consult the teachers while 17(16.5%) and 2(1.9%) often and always consult their teachers respectively. The rate at which students consulted their teachers was very low suggesting low subject interest. 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. However, a study by Chun and Cennamo (2022) reported that peer teaching through a specific model is a better scaffolding strategy for learners than teacher scaffolding.

An interview question was created as based on the finding and 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. ... However some few students come for consultation during break rime or lunch break but this is very rare. (INT6aT1)*

Similar remarks were given as follows:

> *Students do come for consultations but very rarely… 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. (INT6aT2)*

A learner respondent gave similar sentiments:

> *Occasionally 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. (INT6aL4)*

The extracts coded INT6aT1, INT6aT2 and INT6aL4 (in Subject Interest theme) support the questionnaire findings that a small percentage of students consulted their teachers when doing assignments. It is clear that the students who consulted their teachers did not do it out of interest but because they were forced by circumstances, such as when doing group work or when exams were approaching, and they must pass the exams. Lack of consultation is a clear indication of low interest in English as a subject. Similarly, a study in Nigeria by Chizoba, Mohammad and Haruna (2023) reported low subject interest among learners who were taught using lecture method. However, a study in the USA by Mahan (2020) for learners to develop interest, teachers have more specific learning activities to provide their students with more support.

Participants were moreover asked to indicate how their mood changed when they learned English. The study established that slightly more than a half of the participants would be in a good mood when learning English, as reflected by a mean response rate of 3.4 (SD=1.1). Whereas some 6 (5.8%) and 14 (13.6%) of the respondents agreed that they hardly or never at all, 49 (47.6%) of them agreed that learning English sometimes puts them in a good mood. Additionally, 24(23.3%) and 20(19.4%) agreed that learning English often and always puts them in a good mood, respectively. The findings are comparable to those of a study in Mexico by Gonzaga and Arellano (2022) that without scaffolding, learners may be less enthusiastic and interested. However, in Kenya, Kibos, Wachanga and Chjangeiywo (2015) reported that even after scaffolding the attitude of learners still remained negative.

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. (INT7aT1)*

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 very 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. (INT7aL4)*

The extracts named INT7aT1 and INT7aL4 belonging to Subject Interest theme clarify the survey findings that many students were always in a good mood during the English lessons and that a good number remained focused on the English lessons. According to INT7aT1, 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 improve their mood compared to the topics that are teacher centered. Thus, subject interest increases with increased learner participation. The findings agree with the findings of a study in India by Bansal (2017) which reported a negative attitude among students hence low subject interest before the application of scaffolding learning.

Additionally, students were expected to indicate whether they look forward to English lessons and the findings showed above average rating (mean=3.2; SD=1.0) with 8 (7.8%) and 30(29.1%) of the respondents agreeing that they always and often look forward to English lessons because they enjoy them a lot. On the other hand, 7(6.8%) never and 17 (16.5%) rarely, respectively, 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 did not anticipate for lessons of English probably because they did not enjoy them, a sign of low subject interest. The findings were supported by a study in Kenya by Kibos, Wachanga and Changeiywo (2015) that before scaffolding, the attitude of learners was negative hence, the learners were inactive in class activities. However, a study in Finland by Ursin, Jarvinen and Pihlaja (2020) revealed that if academic stress was not managed, learners would not enjoy their lessons.

Interview respondents were probed on the students' anticipation of 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. (INT9aT1)*

The remarks were echoed as:

> *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. (INT9aL3)*

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. (INT9aT2)*

The extracts coded INT9aT1, INT9aL3 and INT9aT2, in Subject Interest theme, 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. Contrary to this, in Japan, Sugino (2019) reported that scaffolding simulations transformed students, and they became more motivated to learn.

Additionally, when asked how keen participants would be during English lessons, the study revealed that majority of students were never very keen. This was reflected by a mean rating of 3.1 (SD=1.1). While only 30 (29.1%) and 10(9.7%) of the respondents indicated that they often and always 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. However, 10(9.7%) never and 17 (16.5%) rarely listen attentively to their teacher of English. Failure by a majority of learners to be attentive during English lessons is a sign of low interest in the subject. Similarly, a study in India by Bansal (2017) reported that students who were taught using other methods had a negative attitude towards learning. However, in

Nigeria, Okechukwu (2020) revealed that learners would develop interest if they were taken through questioning and cuing.

After the finding, interview respondents were probed on learners keenness during English lessons and the excerpt shows their response.

> *Students' attention is not automatic but it is stimulated by a teacher…Again, it depends on the topic… 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 (INT10aT2*)

The extract named INT10T2 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. The excerpt explains that learners' attention or keenness must 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. However, according to Okechukwu (2020) there was higher attentiveness among learners during cooperative learning, meaning even before the treatment ended, learners' interest was already high.

The study also sought to find out how often learners participated in discussion groups and the pretest results produced a mean response rating of 3.2 (SD=1.2) with only 15(14.6%) and 24(23.3%) of the respondents indicating that they often or always, respectively, actively participate in the discussion, answering exercises and clarifying things they did not understand. On the other hand, 11 (10.7%) said they never, 13 (12.6%) said they rarely while some 40 (38.8%) of them indicated that they sometimes actively participate in the discussion, answering exercises and clarifying things they do not understand during English lessons. Failure of students to actively participate in classroom activities clearly suggest that before scaffolding learning, interest to learn English was low. Similarly, a study in Finland by Ursin, Jarvinen and Pihlaja (2020) reported lack of student engagement in learning activities before the application of scaffolding. Contrary to this, a study in Japan by Sugino (2019) reported that scaffolding simulations had the power to transform less motivated students into active learning.

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. .. However in reading and writing they have to be active… 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. (INT11aT2)*

The remarks were echoed 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 (INT11aL3)*

The excerpts coded INT11aT2 and INT11aL3 in Subject Interest theme 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. The findings concur with those of a study in Uganda by Banda Musonda (2018) that reported minimal cooperative learning at the beginning of scaffolding. However, as the study proceeded, cooperative learning increased learners' interest to learn

Additionally, participants were asked whether they get frustrated when the lesson gets interrupted or not, results reflected a mean rating of 2.8 (SD=1.1). The study established that emerged that 9(8.7%) and 16(15.5%) of the students always and often feel frustrated when English lessons are interrupted. 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. From the findings, fewer learners got frustrated when an English lesson got interrupted, or the teacher would be absent. Most of the learners did not. Lack of frustration suggests that learners did not have interest to learn English. However, study in India by Sahaya and Raja (2014) revealed that when learning is game based learners would enjoy it a lot, hence lack of enjoyment would imply monotony in lessons.

An interview followed where respondents were asked how students reacted 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. (INT12aT3)*

The excerpt coded INT12aT3 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. Similarly, a study by in Kenya by Kibos, Wachnga and Changeiywo (2015) note a negative attitude among learners before the application of scaffolding techniques.

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, seldom sought for clarification or even participated in class discussions as well as peer teaching. 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. However, Sagaya and Raja (2024) stated that affective factors such as emotions greatly influence enjoyment and engagement of learners in the learning process, and that engaged learners are motivated, inspired and eager to learn.

4.2.2: Comparison of Students' Pre-test and Post-test Subject-Interest Levels

All the students in the four groups, two intervention and two control groups, filled in pos-test 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 8 weeks while those in the two control groups (control group 1 and control group 2) had been taught in the normal way. 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 mean responses 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.

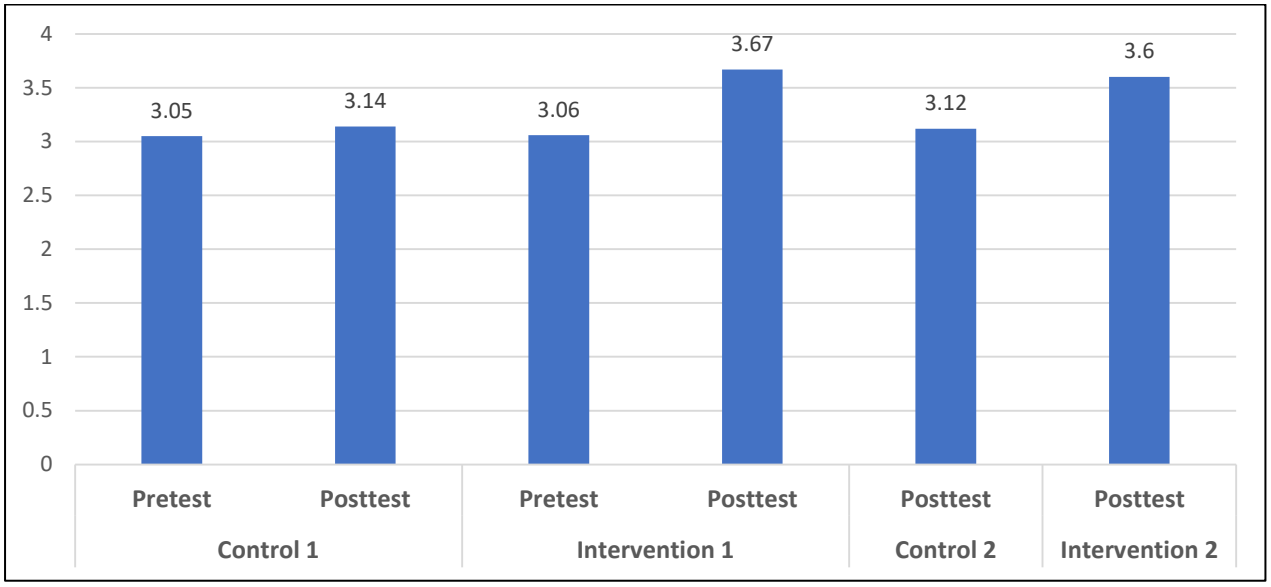

Figure 3: Subject-interest rating before and after intervention

Figure 4 shows the pretest and posttest composite mean ratings of the four study groups. Experimental group 1 got a pretest mean rating of 3.06 and posttest mean score of 3.67, similar to 3.6 for experimental group 2 posttest. Control group 1 attained a pretest mean score of 3.03 which improved negligibly to 3.14 at posttest, comparable to control 2 post tests of 3.12. 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 had been taught using other methods attained a lower subject interest post-test mean of 3.14 and 3.12 by control group 1 and control group 2 respectively. Similarly, a study in Nigeria by Ezeudu, Nwafor, Abaene, Alabi, Chukwuka and Ikuelgbon (2019) revealed that scaffolding increased students' subject interest more than conventional methods.

Table 14 shows the pre-post subject interest scores across all the four groups.

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**

Table 14 summarizes learners' responses to subject interest items. When asked how often they asked questions during an English lesson, experimental group 1 got a pretest mean rate 3.1 and at 3.7 during posttest, comparable to that of experimental group 2 of posttest mean

rating of 3.6. However, the control groups which were not exposed to scaffolding learning exhibited lower 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 had been taught using scaffolding technique improved significantly in the rate at which they asked questions during the English lesson, which clearly indicated that scaffolding method had a positive effect. The findings agree with the findings of a study in Japan by Sugino (2019) that scaffolding encouraged students' participation by transforming less motivated students to active students. Contrary findings were revealed by a study in Nigeria by Okechukwu (2020) that students' interest only improved when they were exposed to modeling and cuing.

Interview respondents also gave their thoughts on the improvement on the rate at which students asked questions:

> *For the time I employed the new method, the students were asking a number of questions. Those students who had been dull and shy started emulating their active counterparts. Some even asked questions outside the classroom. (INT1bT6)*

Another respondent had this to say:

> *My students became more active in asking questions since I started scaffolding them. I think they were asking questions so that they do the right thing. I think most of the questions they asked were for the purpose of guidance towards the right direction. At the same time, I think they wanted to compare my answer with theirs in order to confirm whether they are doing the right thing. (INT1bT8)*

And another one said:

> *I do ask questions in class so that I understand properly what the teacher is teaching us. Our teacher encouraged 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 (INT1bL6)*

According to the responses in the extracts labeled INT1bT6, INT1bT8 and INT1bL6 (in Subject Interest theme) scaffolding technique had a positive effect on the frequency with which the students asked questions in class. INT1bT8 explains why they think the students became more active in asking questions. According to the response, scaffolding technique made students discover new information on their own, and its on the new information that they based the questions they asked. At the same time, the conventional methods would not

give students the opportunity to ask questions because the students believed the teacher was the one to give them all the content they needed. INT1bT6 also explains the improvement in the rate of asking questions. The students were enjoying scaffolding technique and for the fear of reversing to the old methods, they wanted to ask questions in order to do the right thing. Purposely, the students did not want to mess up the new good method. Secondly, the students asked questions for the purpose of guidance towards perfection. Lastly, the students asked questions in order to use the teacher' response with the information they had discovered so that to confirm that whatever studies they were doing on their own was right. From the responses, it is clear that scaffolding has a positive effect on learners' rate of asking questions. The findings concur with the findings in Nigeria by Chizoba, Mohammad and Haruna (2023) which revealed that students taught using scaffolding developed interest in learning than those taught using lecture method. On the other hand, a study in India by Sahaya and Raja (2024) revealed that before scaffolding was adopted, learners got engaged during lessons, but the engagement increased after the adoption of scaffolding learning.

Additionally, 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 8 weeks. Control group 2 who were not pretested achieved a mean rate of 3.4. 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 counterparts 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 mean score 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. However, a study in the USA by Aikens and Kulacki (2023) reported that collaborative learning benefited self-efficacy where learners with initial low self-efficacy gained more than learners with initial high self-efficacy, which were achieved through teaching others, getting help from peers and consulting with the teacher.

The study went ahead to probe interview respondents on the frequency with which the English language learners contributed during discussions. 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. (INT2aT6)*

> *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. (INT3bT6)*

According to the extracts INT2bT6, in Subject Interest theme, learners participated in class discussions which were done in groups. The respondents further explain that the chair of each group would perform the role of selecting the group members who would make contributions during the discussion. The findings are supported by those of Banda and Musonda (2018) that cooperative learning increased learners' positive attitude towards learning.

On the same note, how actively they participated 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. The results show that learners who underwent scaffolding intervention made class presentations, contributed to group discussions, taught other students as well asked for clarification more often compared to those who were taught using other methods, suggesting a positive effect of scaffolding. 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.

Similarly, interview respondents gave the following remarks:

> *Discussion groups have been functional but of late the groups are more active, I think because I gave my students enough time to do their studies… 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. (INT2bT7)*

> *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. (INT3bT7)*

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

> *I became very active in group discussions. We organized ourselves well. We could do research on the topics we are given, and we bring the points we have got. So I have to contribute during the discussions. (INT2bL8)*

According to the extracts INT3bT7 and INT2bL8, in Subject Interest theme, explain why the mean rate of contributions was not much different between the pretest and posttest. Moreover, the excerpts INT2bT7 and INT2bT8 express that, teachers gave their learners opportunities to select the topic or question that they wanted to discuss. INT2bL8 also reveals that for the learners to benefit from cooperative learning, they must actively make contributions during group discussions because they assist each other. This could suggest that during the application of scaffolding technique the learners of English selected 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. On the other hand, Sugino (2019) asserted that students were only able to actively participate in classroom activities when they were given information in scripts.

The survey, moreover, 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 3.0 to 3.6 while the mean of experimental group 2 was at 3.6. On the other hand, 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. Similarly, 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. and 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. The study therefore established that learners who had been subjected to scaffolding techniques competed assignments and consulted their teachers more frequently than those who learned using other methods. The findings of the current study are comparable to those of a study in the Kenya 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:

> *There was notable improvement in the manner in which assignments were cleared… Unlike in the past, I do not have to follow them up. I just find the assignment books on my table. (INT4bT6)*

> *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. (INT6bT6)*

The remarks were echoed by another respondent as follows:

> *I could finish my assignments in time, and while doing the assignments, (INT4bL4) I would consult my teacher when I find a problem we were encouraged to first consult fellow students who perform better but when the students cannot help, I go to our teacher (INT6bL9).*

> *I completed the homework because we have enough time and the homework we do is not the difficult one. Our teacher insisted that we begin with simple exercises, when we have mastered them, we move to the difficult ones. So would I finish because I like doing them. (INT4bL9)*

The responses are in Subject Interest theme and they confirm an improvement in the rate at which learners cleared their assignments before the next lesson as well as the rate at which the learners consulted their teachers. According to the respondents, the learners finished the assignments in time. Also, the learners sought for the teachers' support as they did their assignments. Support is given when the learners went to the teachers to consult. The respondent anticipated better learning outcomes if scaffolding learning technique would be employed throughout. Moreover, extract INT6bL9 clarifies that learners would enjoy the assignments because they learned within their ZPD. To achieve their optimal ZPD they consulted their teachers. This was coupled with the application of cooperative learning; hence, the learners enjoyed the scaffolding learning process. Thus, from the extracts, the study established that scaffolding teaching technique has a positive effect on how the learners did their assignments as well as made consultations. The findings concur with the findings of a study in Nigeria by Ezeudu et.al (2019) which revealed that learners readily cleared the homework given after their normal lessons. The findings are further supported by a study by Chizoba, Mohammad and Haruna which revealed that students exposed to scaffolding showed greater interest in learning than those taught using lecture method.

In addition, the learners were asked to indicate whether they get fully focused and forget everything around them when learning English. Experimental group 1 was rated at 3.1 but after exposure to the scaffolding technique the rating improved to a mean of 4.1. Experimental 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. moreover, 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 experimental group 1 and 3.5 by the experimental group 2. The control groups on the other hand attained a pretest mean of 3.2 and posttest mean of 3.3 in both control groups1 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 study therefore concluded that scaffolding learning positively affected learners' ability to fully focus on the lessons. 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. However, according to a study in Canada by Falardeau, Guay, Dubois and Pellitier (2024), repeated measure analyses showed that with or without peer feedback, the intervention group produced better feedback and higher self-efficacy compared to control group.

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

> *True, the learners were mostly very attentive during the lesson because they did 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 would participate fruitfully if the learner loses focus. Also unlike earlier, the learners would listen more attentively because they discovered my work as a teacher is minimal. (INT8bT6).*

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. (INT9bL10)*

The remarks coded INT8bT6, and INT9bL10 in Subject Interest theme 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. A similar study in Nigeria by Okechukwu (2020) reported a significant difference in attitude among learners taught using scaffolding techniques and those taught using conventional methods.

Finally, the degree at which learners of English 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 scaffolding teaching technique improves the learners' general subject-interest. The findings concur with the findings of a study in India by Sahaya and Raja (2024) which reported a much higher enjoyment level of the lesson among the experimental group than the control group.

Similarly, an interview respondent gave some remarks:

> *I may agree with learners that they are enjoying the lessons (INT9bT7) 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. (INT12bT7)*

Another respondent said:

> *We really enjoyed our lessons. I do not want to miss any English lesson. We are doing our studies on our own most of the time…We don't want to miss the lessons because even the topics I have not been enjoying are not that difficult. (INT9b and INT12bL10)*

From the extracts, INT9bT7 and INT12bL10 in Subject Interest theme support 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. Additionally, the excerpts fully supports this assertion and adds that if the teacher delays, learners start 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. Similarly, a study in India by Sahaya and Raja (2024) established that during scaffolding learning., students enjoyed the learning process compared to the use of other methods.

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

The null hypothesis was: **$H_0$1**: There is no statistically significant effect of scaffolding on subject interest among learners of English in Kenyenya Sub County. The intervention was scaffolding learning technique to which English learners were subjected for a 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 subject-interest between the experimental and control groups. Two experimental and two control groups allowed the researcher to ensure that confounding and extraneous variables 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 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 .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 respectively. Since the results on Table 15 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 and tabulated the results on Table 16.

Table 16: Level of pre-post interest in English as a subject for the four groups

	Group	N	Mean	Std. Error	Std. Deviatio
Pretest Scores	Experimental grp1-Pretest	103	31.6117	.64158	6.51128
	Control grp1-Pretest	78	31.4744	.85177	7.52265
	Exp. Grp 2-Pretest	101	-	-	-
	Control2-Pretest	51	-	-	-
Posttest Scores	Exp. grp1-Posttest	103	42.9059	.45991	4.62207
	Control grp1-Posttest	78	31.7179	.80249	7.08735
	Exp. grp2-Posttest	101	42.4126	.64614	6.55760
	Control grp2-Posttest	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 was 42.9 (SD=4.6) while pretest mean was of 31.6 (SD=0.6). Experimental group 2 attained a posttest mean of 42.4 (SD=6.6) though the participants had not been pretested. Control group 1 students recorded pretest score of mean=31.5 (SD=7.5) and a post-test mean score of 31.71, while control group 2 attained a posttest mean score of 32.60. The study established that experimental groups 1 and 2 recorded higher post-test mean scores than the control groups. The higher posttest scores among the experimental groups can be associated with scaffolding learning method. Similarly, a study in South Korea by Lange, Gorbunova, Shmeleva and

Costley (2022) revealed an improvement of leaners' interest after scaffolding learning. On the other hand, a study in Saudia Arabia by Hassan and Karim (2019) only focused on writing skills, though scaffolding had led to improvement among the experimental group.

Figure 5 shows graphical presentation of the relative difference in mean rating for subject-interest for the four groups of students.

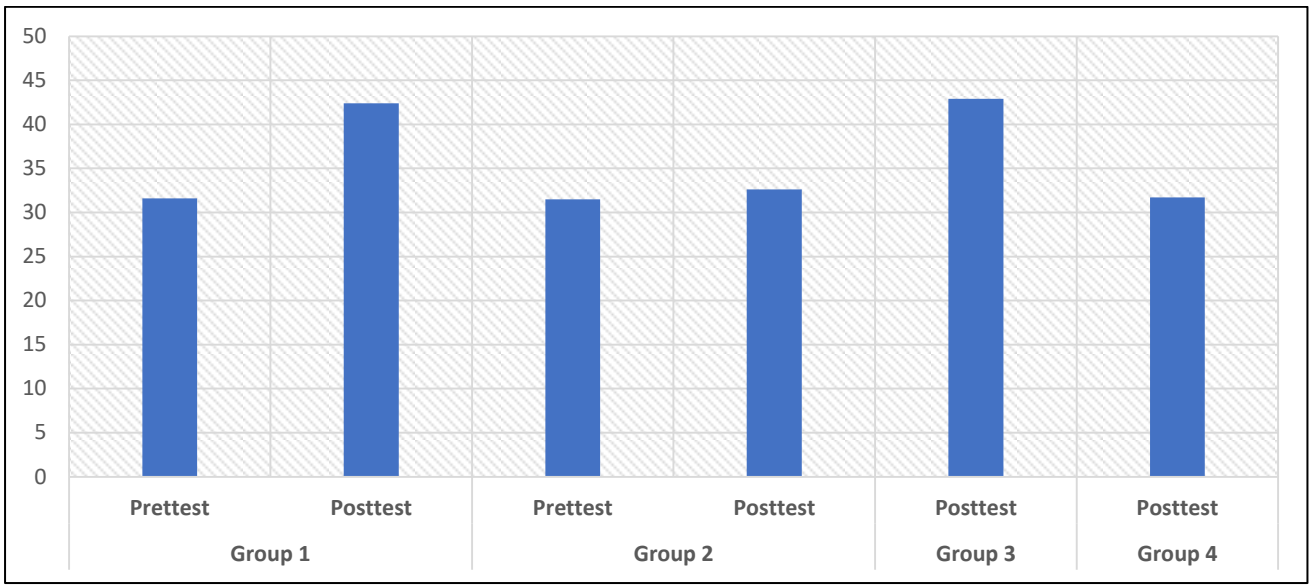

Figure 4: Mean Rating in Subject Interest

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 interest in English as a subject, 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			
Exp. 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. Results show a statistically 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 of learners of English. 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 Gonzaga and Arellano (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 statistically significant difference between pre-test and post-test values in the control group [t (50) = -.92, p =.364], but a t-test on pair 1 reveals that there was a statistically 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 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 had 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. However, a study in Finland by Ursin, Jarvinen and Pihlaja (2020) for learners to develop interest towards a subject, they must be helped to overcome academic setbacks first.

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. 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.

Contrary to the findings, the study noted a possible 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, 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 between pretest and post-test scores of the Experimental 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. The findings concur with the findings of a study in India by Sahaya and Raja (2024) which revealed a statistically

significant difference in enjoyment (F=34.373, p<.05) and engagement (F=6.498, p<.05), whereby the enjoyment and engagement in the experimental group were higher that in the control group.

From the test in Pair 3, the study also 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 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 had 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. Similarly, in South Korea, Lange, Gorbunova, Shmeleva and Costley (2022) reported a positive relationship between combined scaffolding strategies and maintained interest.

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. It was therefore concluded that there was statistically significant effect of scaffolding strategies on learners' interest in

English among 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%. Additionally, Gonzaga and Arellano (2022) revealed that scaffolding enhances student emotions of being enthusiastic, interested in learning activities, joyful in learning activities and proud of learning achievement. Contrary to the findings, Kibos, Wachanga and Changeiywo (2015) reported no significant difference in learners' interest after adoption of scaffolding.

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

The second objective of the study was to investigate the effects of scaffolding on self-efficacy among learners of English in Kenyenya Sub-County. The objective was addressed using both descriptive and inferential statistics. Descriptive statistics were used to explore the distribution of 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, a student with high self-efficacy is able to show confidence in learning on their own, solving unexpected problems in their study, setting high goals and accomplishing something difficult by focusing on their progress instead of feeling discouraged.

Before the intervention, the student participants in the experimental group 1 were given fifteen itemed questionnaire whose constructs showed the level of self-efficacy. The questionnaire was meant to ascertain the level of self-efficacy before learners 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. Students' responses were summarized in frequency percentages, mean and standard deviation, as tabulated on Table 20. After the analysis and tabulation of the views, participants in the control groups were interviewed and their responses collaborated with the survey findings.

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	10	16	46	18	13	3.1	1.1

problem, I can usually find several solutions	(9.7%)	(15.5%)	(44.7%)	(17.5%)	(12.6%)		
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 ratings on the self-efficacy items as reported by the participants. For instance, the study sought to establish whether students were confident enough to learn on their own and the results showed that while 12(11.7%) were always competent to learn on their own, 27(26.2%) were often competent. However, 39 (37.9%) of the respondents agreed that they are sometimes competent in learning on their own, 16(15.5%) and 9(8.7%) were rarely and never competent enough to learn on their own, translating to competency level of 3.2 (SD=1.1). Similarly, on the ability to keep things unforgotten, 11 (10.7%) of the respondents agreed that they never keep things unforgotten, 16 (15%) rarely do so while 45(43.7%) of the respondents admitted that they sometimes keep things unforgotten. 22(21.45%) and 9(8.7%) either often or always keep things unforgotten, translating to self-efficacy mean rating of 3.0(SD= 1.0). The study verified that learners were averagely able to learn on their own as well as keep things they learnt unforgotten. 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. On the contrary, a study in Sweden by Grotherus, Jepsson and Samuelsson (2018) reported that learner participation in scaffolding activities altered their self-efficacy.

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…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 (SE1aT1)*

Similarly, another response was as follows:

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. (ES1aL2)

The extracts coded SE1aT1 and SE1aLoE2 belonged to Self-efficacy theme and confirmed the findings of the study that before scaffolding learning method was adopted, most learners of English neither had the confidence to learn on their nor kept the things they had learned unforgotten. According to SE1aT1, 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. SE1aL2 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 participants. Thus, before scaffolding learning was adopted, self-efficacy of the learners was relatively low. The findings are supported by those of a study in Colombia by Valencia-Vallejo, Lopez-Varga and Sanabria-Rodriguez (2019) that before scaffolding, learners were cognitively low and were dependent on teachers when learning.

In addition, students were asked to indicate whether they believed they could seek help from their teachers when they needed it, the pretest results showed a 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, 15(14.6%) and 11(10.7%) were rarely and never able to seek for the help of their teachers whenever they need it, but some 19(18.4%) and 5(4.9%) of the surveyed students held the view that they were often and always able to arrange for the help of their teachers whenever they need it. Thus, before scaffolding learning, learners lacked the confidence to seek for help from their teachers. Similarly, a study in Saudia Arabia by Hasan and Karim (2019) reported that learning cannot be successful if teachers and learners cannot follow a similar pattern of scaffolding. However, a study in the UK by Angelica (2018) asserted that for children to get autonomy to learn, support from more knowledgeable others is mandatory.

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. ...I think the learners have formed an attitude towards English. Some give up as early as in form one. Most learners have language barriers due to a poor language background. (SE3aT2)*

Another respondent gave sentiments that explained the remarks by another respondent:

> *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.… Another reason, they always want us to speak in English although I am more comfortable in Kiswahili. (SE3aL2)*

The extracts labeled SE3aT2 and SE3aL2 belonging to Self-efficacy theme, explain why a small number of participants make arrangements to seek the teachers' help when needed. According to SE3aT2 a learner who needs help must meet some criteria before the help is accorded; the learner must be proficient in English. The remarks were echoed by SE3aL2 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, 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 the other hand, in Indonesia, Prabawanto, (2017) reported that scaffolding enhanced learners' self-efficacy, meaning before the treatment, the learners had some self-efficacy beliefs.

Moreover, participants were asked to state whether they could read and understand textbooks in English. The results recorded a mean rating of 2.9 (SD=1.1), where some 16(15.5%) never and 13(12,6%) 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 2(22.3%) and 7(6.8%) confirmed that they could often and always read and understand textbooks in English. Similarly, a study in Saudia Arabia by Hasan and Arab (2023) revealed that scaffolding learning improved reading and comprehension skill both in lower and higher ability groups.

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

> *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. … I need the teacher to help analyze the book for me so that I can understand them text deeply. (SE5aL2)*

Similar sentiments were given by another respondent.

> *My learners seem not to understand the textbooks on their own. But when I explain to them, they seem to understand. 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 (SE5aT3)*

From the extracts coded SE5aL2 and SE5aT3, it comes out clearly that the learners of English as a subject are fully dependent on their teachers for them to understand the textbooks of English, in grammar, reading, writing and literature. They lacked confidence that they could read on their own and understand, a characteristic of low self-efficacy. The extracts thus support the pretest findings of the study. A similar study in Indonesia by Jamani (2023) established that learners needed teacher support for them to perform difficult tasks.

Participants were also asked to indicate whether they could complete their homework without any help from guidebooks or previous notes. The results revealed a mean rating of 2.7 (SD=0.9). While 16 (15.5%) of the respondents who never, 20 (19.4%) others 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 15(14.6) and 2 (1.9%) were often and always able to complete their homework without any help from guidebooks and previous notes. This means that before the application of scaffolding learning, learners' belief in their ability to do homework independently was low. 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. Similarly, a study in Sweden by Grotherus, Jepsson and Samuelsson (2018) reported learners' inability to participate in test cycles independently before the application of scaffolding.

Interviews were also carried out on the learners' ability to clear homework without the help of note or guidebooks and the following information obtained:

> *…I find it easier to refer to my notes when doing homeworks. Most homework is given immediately and we are not given enough time to revise before we do them, so I refer to my notes. (SE6aL3)*

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 homework, 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 (SE6aT3)

From the comments coded SE6aL3 and SE6aT3, the study found out that scaffolding has improved the learners' self-efficacy where they are able to complete their homework 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 homework. The learners were employing cooperative learning scaffolding technique while doing their homework. The interviews therefore confirmed as well as explained the quantitative results. In other words, without scaffolding, learners could not have confidence to do their homework independently. Similarly, a study in the USA by Aikens and Kulacki (2024) reported that students who developed higher self-efficacy got teacher and peer support and confirmed answers while doing their assignments.

The sampled learners were moreover required to indicate their ability to deal with unexpected problems and a mean rating of 2.6(SD=1.1) was produced. Only 20 (19.4%) often and 3(2.9%) always believed that they can deal efficiently with unexpected problems in their studies. On the other hand, 20(19.4%) never and 23(22.3%) rarely had the efficacy of dealing 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, according to 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. (SE7a L2)

The remarks by LoE2 were echoed by ToE1 who said:

> *Most learners need preparation before they engage in an activity, especially learning activities. ... Otherwise, most of our learners cannot solve unexpected problems amicably. (SE7aT1)*

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From the excerpts named SE7aL2 and SE7aT1 in the theme of Low Efficacy 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. On the other hand, in Japan, Yantrprakon, Darawasang and Wiriyakarun (2018) reported high efficacy among learners.

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). a proportion of 14(13.6%) never while 20(19.4%) compensate lost lessons. Additionally, 38(36.9%) could sometimes compensate while 22(21.4%) often and 9(8.7%) always compensated for lost lessons. 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 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.

This was followed by interviews where responds gave various comments on learners' ability to compensate for lost lessons shown in the excerpts:

> *My students do miss lessons but when it comes to compensation we have an uphill task. I mean they do not compensate. So I don't think they have the capability to compensate for the lost lessons. (SE8aT2)*

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. (SE8aT1)*

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 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. (SE8aL2)

From the excerpts themed Self-efficacy 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. The findings are comparable to the findings in Australia by Fletcher (2016) that before scaffolding, most learners were identified low achievers.

Moreover, the study also sought to establish whether the sampled learners could answer essay questions very well and a mean rating of 2.9 (SD=1.1) was obtained. Out of the sampled participants, 9(8.7%) were always and 16(15.5%) were often able to answer essay type questions. A greater number, 45 (43.7%) indicated that they could sometimes answer the essay questions well, while 14(13.6%) were never and 19(18.4%) were rarely able to answer essay questions. Similarly, the findings of the study show that many students could not answer short answer questions well before scaffolding learning a mean response rating of 2.9 (SD=1.1) on the statement that "I can score well in short answer type questions". Whereas 9(8.7%) were always able and 16(15.5%) were often able to answer short answer questions, 44 (42.7%) admitted that they could sometimes answer the short answer questions well. However, 14(13.6) and 20(19.4) were never and rarely able to answer short answer questions well. The study therefore established that before scaffolding intervention, a greater proportion of learners did not belief in their ability to answer both essay type and short answer questions. The findings are comparable to the findings of a study in Canada by Falardeau, Guay, Dubois and Pelletier (2024) learners would only perform well in writing after peer scaffolding and feedback.

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. (SE10aL1)

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. (SE11aL1)

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. (SE11aL1)

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. …. So their essays are mostly average. Similarly, 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 (SE10aT2)

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. So the inability to answer both essay type and short answer questions is reflected in the poor performance in exams. (SE11aT2)

From the interview extracts, the study confirmed that most students could not have the ability to answer both the essay type as well as the short answer questions. SE11aL1 suggests that when they did the questions on their own, the questions became more difficult but with the teacher's support, the questions proved very easy. The respondent further feels that the teacher's presence is paramount for them to comprehend the textbooks and the other topics prior to answering questions. Also, SE11aT2 makes 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. Similarly, a study in the U.K by Angelica (2018) stated that for learners to achieve autonomy, they needed support from more knowledgeable others.

On a similar note, when the study sought to find out how effective the respondents were able to solve difficult problems, a mean rating of 3.1 (SD=1.1) was obtained. The study determined that 9(8.7%) could always solve difficult problems while 27(26.2%) could always do. In addition, some 38 (36.9%) of the respondents suggested they could sometimes. However, 11(10.7%) admitted that they could never and 18(17.5%) would rarely solve

difficult problems in the study of English. The findings are suggestive of 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. … 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. (SE12aL1)*

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". (SE12aT2)*

From the extracts belonged to Low efficacy sub-theme and it confirmed that the learners did not trust that they could deal with difficult problems in their studies. They fully depended on their teachers. Even if they tried to tackle some issues, they did not believe in the solutions they found unless the solutions were confirmed by the teacher. This is a clear indication of low self-efficacy among the learners. On a similar note, a study in Nigeria by Dimogu (2017) noted support by co-operative learning would enable learners achieve high scores. Contrary to the findings, a study in the USA by Aikens and Kulacki (2023) confirmed that support through collaboration was necessary since learners with initial low self-efficacy improved more that those with initial high self -efficacy after collaboration.

Similarly, 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 average self-efficacy. Although 11(10.7%) and 18(17.5%) the surveyed students accepted that they are never and rarely able to relate new concepts to knowledge from the earlier classes, 46 (44.7%) of them admitted that they are sometimes able relate the two. On a positive note, 17(16.5%) were often while 11(10.7%) were always able to recall and relate knowledge from the earlier classes. Thus, whereas some learners believed in their ability to relate new knowledge with the previous one, majority could not, meaning their efficacy was average. 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 as follows:

> *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. (SE9aT4)*

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. (SE9aL3)*

From the excerpts coded SE9aT4 and SE9aL3, 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 of 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. Thus, according to Vasquez, Remy and Sanchez (2022) scaffolding can help students make connections between previous knowledge and new knowledge.

Moreover, respondents were asked about their efficacy of setting high goals and a mean rating of 2.8 (SD=1.0). A smaller percentage, 9(8.7%) and 12(11.7%) of the sampled students indicated that they were always and often confident that they could set higher goals in their studies. The students who sometimes set higher goals were 35 (34.0%). However, 23 (22.3%) and 24 (23.3%) of respondents held that they never and rarely had confidence to set higher goals in their studies. On the level of goal achievement, the results show a rating of 2.9 (SD=1.1). This was corroborated by the fact that 48 (46.6%) of the participants were sometimes confident of achieving their set goals. In addition, 12(11.7) and 20(19.4%) never and rarely had confidence in achieving the goals they set. Therefore, before scaffolding learning, learners had little belief in their confidence to either set high or achieve goals. 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. (SE3aL1, SE14aL1)*

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. (SE4aL2)*

The sentiments of were echoed 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. (SE4aT3, SE14aT2)*

The extracts labeled SE3aL1, SE14aL2 and SE14aT3 (Low Efficacy minor theme) support the fact that very few learners had 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 were given an opportunity to set goals freely, they set very low ones which they can easily achieve. Thus, a characteristic of low self-efficacy is displayed. However, a study in Australia by Fletcher (2016) reported that students who were identified as low achieving by their teachers, exceeded expectations by demonstrating greater motivation, effort, persistence and pride.

Therefore, the results on table 20 reveal that the selected students had generally average self-efficacy levels before they were taken through scaffolding learning as was inferred from an overall mean rating of 3.0 (SD=0.6) in the self-efficacy rating. This suggests that before the application of scaffolding learning, students averagely believed in their abilities to achieve their learning goals successfully. Similarly, Julius, Twoli and Maundu (2018) reported low self-efficacy among study participants before they were taken through scaffolding learning process. Additionally, Pishadast (2022) established that language abilities were low among English learners before they were subjected to scaffolding learning methods

4.3.2: Comparison of Students' Pre-test and Post-test Self-Efficacy Levels

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.

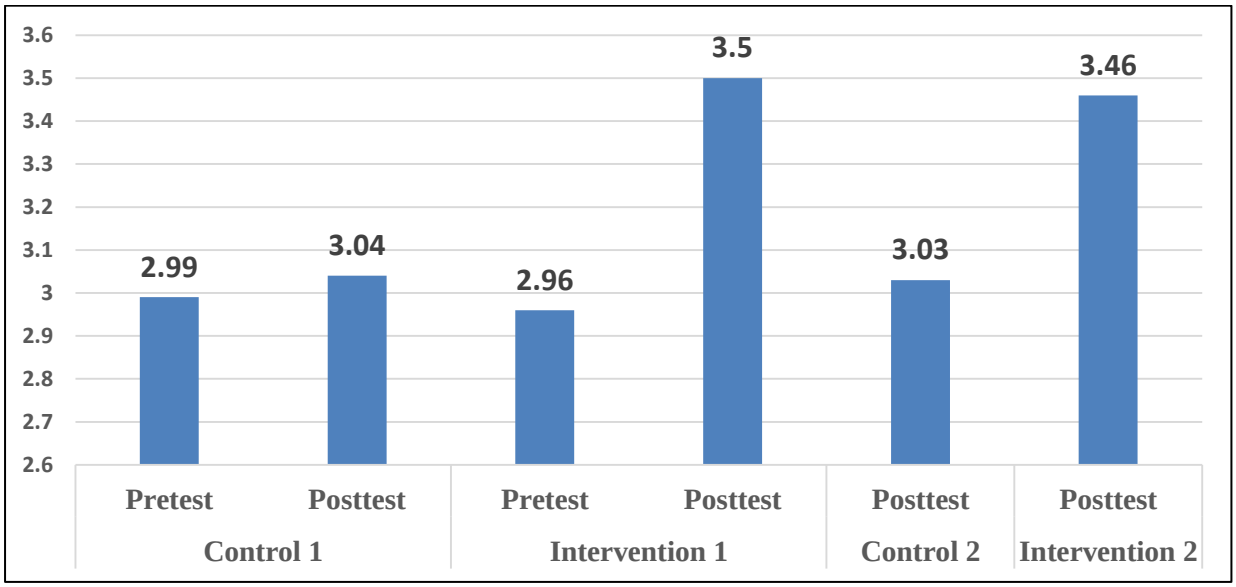

Figure 5: Students' Level of Students' Self-Efficacy

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, experimental group 1 students' self-efficacy rating improved from a composite mean of 2.96 during the pretest to 3.50 at the posttest stage, similar to experimental group 2 posttest at 3,46. 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 3.04 at posttest stage while control group 2 attained a mean of 3.03. These findings indicate that students who were taken through scaffolding learning technique had higher posttest self-efficacy mean 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 findings agree with the findings of a study in Saudia Arabia by (2023) that scaffolding made learners in the intervention group to gain more in terms of reading skills.

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	3.81
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.

Participants were asked to indicate whether they were able to competently learn on their own, and 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. Similarly, 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 comparable 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. Contrary to this, a study in Canada by Falardeau, Guay, Dubois and Pelletier (2024) reported that with or without scaffolding through peer feedback, intervention group produced better writing performance.

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, I noted a difference in the way our students are doing their personal studies…we see the students very busy*

studying on their own which I think has made them to seek clarification here and there. ...SE1bT6

I can say that as the learners are studying on their own, they are more active in coming for further clarification and guidance. SE2bT6)

The assertion was supported as follows:

When I adopted your new method, I started seeing a difference in them because they mostly do their studies without being pushed…they are more comfortable learning on their own. (SE1bT7)

If they need assistance, they freely send one of them or they come to me at individual level and I assist them (SE2bT7)

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. (SE2aL7)

After studying a topic for instance and try to do a question and take it for marking, (SE2bL9)

From the extracts belonging to Self-efficacy theme, the study confirmed an improvement in learners to learn on their own. Learners can successfully have their studies with minimal help from the teachers. The learners' competence had 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. The results are similar to those of a study in Nigeria by Dimogu (2017) which revealed that participants exposed to scaffolding techniques had higher posttest self-efficacy than those exposed to other methods though, co-operative learning technique did not improve the posttest scores. However, a study in China by Guo, Wang and martin (2023) reported that language proficiency did not moderate students' willingness to communicate but blended learning scaffolding technique did.

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 improved learners' belief that they could read, understand and keep things unforgotten. The results concur with the results of a study in the Indonesia by Jamani (2023) that scaffolding made learners in the intervention groups gain more from pre-test to post-test.

Interviews were also carried out and the following extracts obtained:

> *… 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. (SE5bL8)*

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. SE5bL6)*

And another one said:

> *My students seem to have improved when it comes to reading and understanding English because they started performing better in tests. So, in this case they are utilizing the new method well. (SE5bT8)*

The extracts in Self-Efficacy theme confirm that after the application of scaffolding teaching, learners improved in their ability to read and understand English as a subject was well as keeping things unforgotten. The learners were learning within their Zone of Proximal Development. I addition, the learners admited to breaking the material into smaller chunks as well as collaborating with their peers. These techniques made the learners understand what they read. Moreover, 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 improved the self-efficacy of learners in reading and understanding English as a subject. The findings are comparable to those in Philippines by Dorigo (2023) which reported a significant difference in reading comprehension skills of students before and after their to scaffolding strategies. However, a study in Saudia Arabia by Hasan and Arab,

(2023) reported that scaffolding had a varied effect on English as Second Language learners' improvement for both lower and higher ability participants, whereby, lower ability students gained more in terms of reading comprehension growth.

In addition, the ability of the learners to set higher goals in their studies was also compared and experimental group 1 improved from a mean rating of 3.40 to 4.04 while experimental group 2 recorded a mean of 4.10. **b**ut control groups did not record any significant difference as control group 1 had a pretest mean of 3.3 and a posttest mean of 3.4 similar to that of control group 2. On the same note, the respondents' belief that when they want to accomplish something difficult, they focus on their progress instead of feeling discouraged 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, the level of confidence that they would achieve the goals that they set for themselves rose for experimental groups from a mean of 2.9 to 3.4 and 3.3 for experimental group 2, while for control groups the pretest mean rose negligibly from 2.7 to 2.9 and 2.8 for control group 2. 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. Additionally, a study in the US by Aikens and Kulacki (2023) established that scaffolding made learners with initial low self-efficacy gain more in efficacy beliefs compared to learners with initial high self-efficacy, meaning it is possible for learners to set high goals and achieve them.

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. (SE4bL9)*
>
> *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. SE14bL9)*

Another respondent added some remarks:

> *We always encourage learners to set achievable targets or goals. (SE4bT7)*
>
> *.. 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. (SE14bT7)*

The extracts coded SE4bL9 and SE14bT7 in the theme of Self-efficacy express that the learners would set achievable goals, meaning that the learners started working within their Zone of Proximal Development, unlike when they could set very high targets beyond their level. Moreover, the learners could achieve their targets or goals since they worked 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. The findings are supported by the findings of a study in Japan by Shao, Chen, Wei, Li and Li (2023) that scaffolding made learners get expected learning outcomes.

Participants were additionally asked about their efficacy in completing assignments. Learners in intervention groups improved in their belief in ability 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 homework.

Interviews were carried out on the learners' ability to complete homework, and the following data recorded:

> *Our teacher started giving us enough time to do our own studies hence I complete my homework easily…I do not have to rely on my notes so much. …when we do homework together, we finish quickly without referring to the dictionary or the notes. (SE5bL9)*

Another respondent gave a similar assertion:

> *My students could finish homework early enough. Unlike earlier when we could push them to finish their homework, now they are completing in time, (SE5bT7)*

The extracts labeled SE5bL9 and SE5bT7 belong to Self-efficacy theme and explain the quantitative findings. Evidently, the learners' self-efficacy in finishing their homework without the help of reference materials improved because the learners had enough time to do their work in addition to having group work. During group work the learners could get support from superior others who are their peers, deemed better in English as a subject. This clearly shows that scaffolding method improved the learners' ability to clear their homework

in time. The findings agree with a study in the US by Erdil (2019) which revealed that through scaffolding, learners were able to clear learning tasks and assignments.

Moreover, the learners' ability to compensate for lost lessons 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. A similar study in Ethiopia by Getachew and Afawossen reported an improvement in self-efficacy among learners in experimental groups compared to control groups, hence a statistically significant difference.

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. 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. (SE8bL8)*

According to the respondent, if a lesson is missed, the superior peers would help compensate for 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 for a missed lesson, hence higher self-efficacy.

Another area was on 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 groups 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. Moreover, according to Aikens and Kulacki (2024), leaners efficacy improved when they got help from peers and consulted with teachers.

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. … 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. (SE7bL6)*

Similar remarks were given by another respondent:

> *Most of my learners are not very good at dealing with unexpected or difficult problems. It is for this reason that we put them into groups. … This is the area where the new method is more applicable. They are better though, compared to when we use the other teaching methods. (SE7bT9)*

From the excepts coded SE7bL6 and SE7bT9 in the theme of Self-efficacy, the study found that learners tried their best to deal with unexpected and difficult problems and evidently, the learners did not manage to do it at individual level but relied on their groups. However, in finding several solutions the learners performed better since each member of the group members could come up with a different solution and at the end they achieved a variety. Learners thus applied cooperative learning, one of the scaffolding learning techniques. Clearly, the learners scored better meaning that their self-efficacy improved compared to when conventional methods were being used. Similarly, a study by Dimogu (2017) found out a difference in post-test scores due to scaffolding intervention strategies.

Additionally, 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 show that scaffolding

enhanced learners' ability to answer both essay and short answer questions. On a similar note, a study in Saudia Arabia by Hasan and Karim (2023) reported an improvement in writing skills among learners who were taught using scaffolding techniques compared to those using other methods.

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… In fact, when it comes to essay writing therefore, I am scoring better. (SE10bl8)*
>
> *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 gosing to improve (SE11bL8).*

Similar sentiments were given thus:

> *My students utilized this method well and there is some improvement, though small. Generally, there is some improvement in answering all types of questions, both essay and short answer questions. (SE11b and 12bT9)*

From the extracts which belong to the theme of Self-efficacy, 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 agree 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. On the other hand, Aikens and Kulacki (2024) reported that in addition to teacher and peer support, self-efficacy could be built through accomplishing the problem, teaching others, confirming answers, getting help from peers and consulting with a teacher.

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 level of self-efficacy ratings before scaffolding learning. Later, post-test questionnaires were administered to all the four groups 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.grp1 Pretest Control. grp1-pre-test	.37	8.17	.92	.40	77	.640
Pair 2	Exp. grp 1 Pretest Control Group 2 Posttest	.28	10.4	.87	.42	55	.816
Pair 3	Control Group 1-Pretest control Group 2- Posttest	.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 the stage sampling and assignment of groups to either experimental and control, hence the participants were similar in terms of self-efficacy at the beginning of the experiment.

Moreover, paired samples t-tests were performed to determine the difference in English self-efficacy between 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 pre-post self-efficacy ratings for the four groups

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

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

From Table 23, experimental group-1 attained a pre-test mean rating of 37.63 (SD 6.0) and a posttest of 52.6 (SD=7.6). The aggregate self-efficacy mean scores for experimental group 2 followed closely at 50.5 (SD=7.1) in the post-test. Control group 1 recorded a pretest mean score of 37.47 (SD=5.5) and a posttest mean score of 37.46 (SD 5.4). At the same time,

control group 2 recorded a posttest mean score of 36.74 (SD 4.4). Thus, experimental groups 1 and 2 which had been subjected to scaffolding intervention recorded higher self-efficacy post-test scores compared to control groups. The findings therefore show that scaffolding learning technique had a positive effect on learners' self-efficacy. The findings are comparable to those of a study in China by 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 shows graphical presentation of the relative difference in mean rating of learners' self-efficacy for the four groups of students.

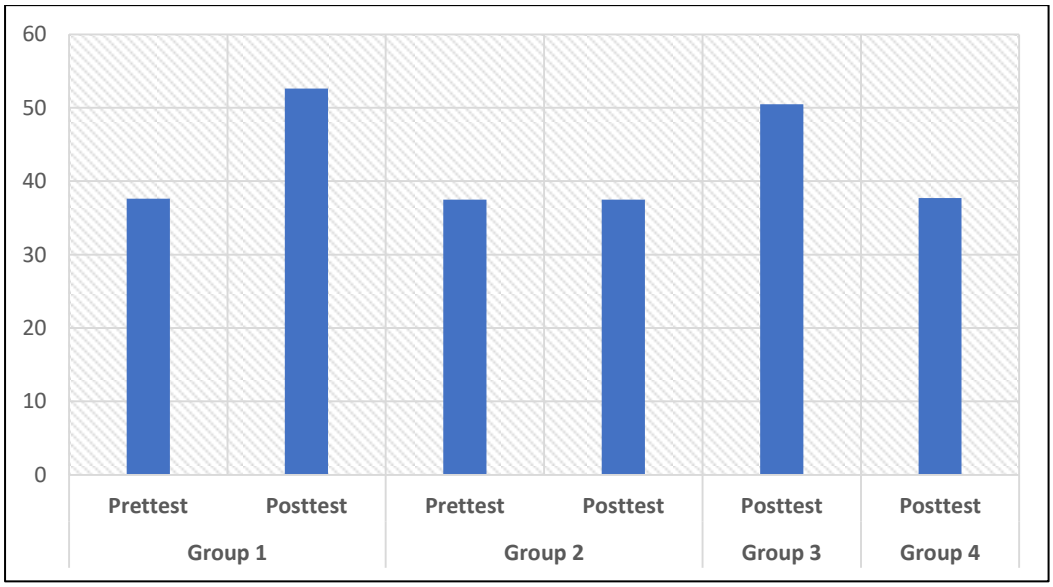

Figure 6: Mean Rating in Learners' Self-Efficacy

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 mean 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. Similarly, in the US, Aikens and Kulacki reported that after scaffolding, higher initial self-efficacy significantly increased the odds (ratio 1.5) of reporting that accomplishing the problems benefitted self-efficacy whereas lower initial self-efficacy significantly increased the odds (odds ratio 1.6) of reporting peer help benefitted self-efficacy.

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 Exp.grp1-Posttest	-14.92	8.74	.86	-17.34	102	.000
Pair 2	Control grp 1-Pretest Control Group 1-Posttest	.01	1.51	.17	.08	77	.940
Pair 3	Exp. Group 1-Pretest Control Group 1- Posttest	.37	8.17	.92	.40	77	.689
Pair 4	Exp. Group 1-Pretest Control Group 1- Pre-test	.36	8.21	.93	.386	77	700
Pair 5	Exp. Group 1-Posttest Control Group 2-Posttest	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 pre-post values in the Control groups [t (77) = .08, p =.940].

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. Similarly, Namubiru (2019) reported a statistically significant relationship between scaffolding and self-efficacy. On the contrary, study in Ethiopia by Getachew and Afawossen (2016) revealed no statistically significant difference (t=. 626.df=85, p=.553), between experimental and control groups on self-efficacy beliefs mean scores, though experimental groups had scored higher than control groups.

Pair 3 which compares of experimental group-1 pretest and control group-1 posttest revealed no statistically significant difference in learners' self-efficacy rating [t(77)=.40,p=.689]. Similarly, Pair 5 shows a statistically significant difference between experimental group 1 Post-test and Control Group 2 Post-test, t (50) = 11.03, p<.001. From the results the study established that scaffolding learning method had appositive effect on the English learners' self-efficacy. This is comparable to the findings in India by Mardian, Sya'roin and Junaidi (2023) that Using t-test analysis, the mean post-test of experimental class showed a significant improvement, 14 points above the control class. Hence scaffolding has an effect of improving students writing skills.

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] established between experimental group 1 Pretest mean scores and Control Group 1 Pretest self-efficacy mean scores.

The study, however, envisioned 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 using 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	14.05	8.77	1.03	16.34	50	.000

	Efficacy						
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 Canada by Falardeau, Guay, and Dubois (2024) that the intervention group produced better feedback and higher self-efficacy compared to control group

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 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. The findings show that pre-testing did not interfere with the results. 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, suggests 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. Another study in Uganda by Namubiru (2019) reported a statistically significant relationship between scaffolding technique and self-efficacy.

4.4: Effects of Scaffolding on Academic Buoyancy among Learners of English

The study objective was: To investigate the effects of scaffolding on academic buoyancy among learners of English in Kenyenya Sub-County. The 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 can effectively handle academic impediments and encounters that are typical of school life, including poor grades, difficult homework, 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 schoolwork 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 an overall mean rating of 2.9 (SD=0.8) in academic buoyancy of learners of English.

The study sought to investigate how good the students were in handling setbacks in school, and results indicated that while only 15 (14.6%) were often and 10 (9.7%) were always good at dealing with setbacks at school. A sizeable proportion 45 (43.7%) of the respondents were sometimes able to deal with setback at school while 15(14.6%) were never and 18(17.5) were rarely able to handle setbacks such as negative feed-back on their work and poor results at school. In general, the item attracted a mean response rate of 2.9 (SD=1.1), which was equal to the composite mean, 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 pressures encountered in their school life. The findings of the study concur with the findings of a study in England by Shafi, Hatley, Middleton, Millican and Templeton (2018) 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.

> *… I am not that good at dealing with such challenges. If I get low marks for instance after revising very hard for the exam I really get discouraged because that is like a waste of my efforts. …Honestly, I am not good in handling such challenges because I get very emotional. (AB1aL2)*

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. (AB1aT4)*

The responses coded AB1aL2 and AB1aT4 in Low Buoyancy minor theme 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. A similar study in Indonesia by Kusmaryono, Gufron,and Gudiontoro (2020) revealed that learners who had not been taken through scaffolding were unable to deal with learning anxiety.

Participants were also asked to indicate whether they would let study stress get on top of them and a mean response rate of 3.0 (SD=1.1) was obtained. This was reflected by 13(12.6%) who were never and 17(16.5%) who were rarely able to manage study stress, while 44 (42.7%) of the respondents were sometimes able to manage study stress. On a positive note, 18(17.55) were often while 11910.7%) were always in a position to overcome study stress. These finding indicate that whereas some of the students of English could effectively handle study stress, many did not have such threshold, implying that they had low academic buoyancy. Similarly, a study in Indonesia by Rohinsa, Cahyadi, Djunaidi and Iskandar (2019) reported that every student needs the ability to deal with everyday problems and the ability can be fulfilled by teacher support. However, in Iran, Salimi, Asedzadeh, Ghotbian, Moghadam and Azizi asserted that academic buoyancy was better developed through co-operative learning.

Moreover, some respondents were probed on whether the learners were able to manage academic stress, and this is what they had to say:

> *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. (AB2aL2)*

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… To me I am not that able to manage this stress (AB2aL5)*

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... In English we try to help them cope by varying the learning activities. I do ask them to role play, and those willing can do it to the rest. So I as a teacher try to assist my learners manage stress. (AB2aT3)*

From the responses labeled AB2aT3 and AB2aL5, (in Low Buoyancy minor theme) it is evident that the learners could averagely manage their academic stress just like their mean scores indicate. The learners have adopted time management skills, though some admit that they work overnight. The teachers also would come 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, a study by Salimi, Asadzadeh, Ghotbian, Moghadan and Azizi (2016) reported low academic buoyancy among learners which only improved after scaffolding learning.

In addition, participants were asked to indicate the frequency with which they could deal with schoolwork pressures and a mean of 3.0(SD=1.2) was obtained. This was evinced by 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 schoolwork pressures. On the other hand, about a third 18(17.5%) and 16(15.5%) of the respondents admitted that they are never and rarely good in dealing with schoolwork pressures, but a respectable proportion 48 (46.6%) of the surveyed students indicated that they are sometimes able to deal with schoolwork pressures. This suggests that many of the students lack adequate academic buoyancy to handle schoolwork. A similar study in Mexico by Gonzaga and 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:

> *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. (AB3a L3)

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. (AB3aT3)

Evidently, the remarks codes AB3aL2 and AB3aT3 (in Low Buoyancy minor theme) 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 with 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 schoolwork pressures, a sign of low academic buoyancy. A similar study in Korea by Yun, Hiver and Al-Hoorie (2018) reported that academic buoyancy significantly predicted achievement.

Another area that was investigated was on the effect of a bad mark on the confidence of the students, the findings produced a mean of 3.0(SD=1.2), suggesting that the respondents were sharply divided on this matter. While 12(11.7%) and 18(17.5%) of the sampled students indicated that a bad mark would affect their confidence. On the other hand, 18(17.5%) and 14(13.6%) 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. The findings therefore show that many students lack ability to cope with fluctuations in performance, 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. … In fact a low mark makes me very much ashamed and I can't show my results to anybody. (AB4aL3)

The remarks were supported by another participant:

A greater majority do not care about a bad mark. That is when they will go underground. If we do not follow them up and try to encourage them they will get lost altogether. (AB4aT1)

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. The findings concur with the findings of a study in Indonesia by Rohinsa, Cahyadi, Djunaidi and Iskandar (2019) which stated that every student needs the ability to deal with everyday academic problems and the ability can be fulfilled by teacher support, structure and involvement.

4.4.2: Comparison of Pretest and Post-test Levels 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.

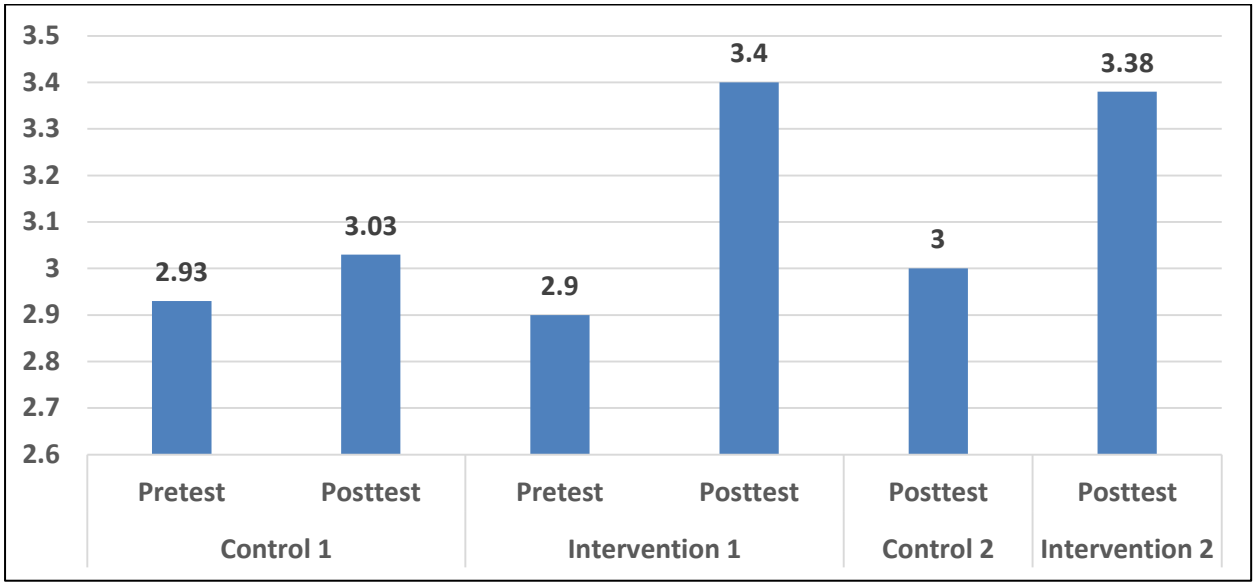

Figure 7: Students' Level of Students' Academic Buoyancy

The results on Figure 8 shows that academic buoyancy ratings among the students was 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, similar to experimental group 2 at 3.38. 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, comparable to experimental group 2 post-test score of 3.00. 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. A similar study by Kusmaryono, Gufron and Gusdiontoro (2020) reported a decrease in anxiety and an increase in buoyancy among learners who had utilized scaffolding learning.

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	2.9	3.1	2.9	3.4	3.0	3.3

work, poor results)						
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.

The findings reveal that 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:

> *... I have found a way of dealing with the issues. I have realized that the negative comment is not an insult but a wakeup call. 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 corrections using my fellow students' work. (AB1bL6)*

Another respondent gave his comments as follows:

> *Your learning method has made these learners more responsible. … they want to know the mistake they committed in their assignments so some of them are coming to me for clarification. (AB1bT7).*

From the comments which belong the theme of Academic Buoyancy, evidently there is an improvement in the way learners deal with academic setbacks. According to the excerpts, 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. The findings are like those of a study in Kenya by Olendo, Koinange and Mugambi that an improvement in academic buoyancy. However, more students were at a high level of self-efficacy and a moderate level of academic buoyancy.

Similarly, 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 agree 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.

Interview respondents were probed, and this is what they had to say:

> *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. (AB2bL6)*

Another interviewee gave similar remarks:

> *Stress in English has reduced nowadays because, we started 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 (AB2bL8)

From the responses which belonged to Academic Buoyancy theme, 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. The findings concur with the findings of Shafi, Hatley, Middleton, Millican and Templeton (2018) which revealed that, students who were academically buoyant were constructive in their response to feedback and looked for specific information for their future performance.

Moreover, the ability of learners to deal with schoolwork 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 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 schoolwork pressures. Similarly, in Finland, Ursin, Jarvinen and Pihlaja (2020) suggested that the effect of academic stress on cognitive engagement was mediated by support.

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. (AB3bL7)

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. (AB3bT6)*

The remarks coded AB3bL7 and AB3bT6 in Academic Buoyancy theme 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. Moreover, 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. The findings were supported by the findings of a study by Rohinsa, Cahyadi, Djunaidi and Iskandar (2019) that every student needs the ability to deal with every day academic problems and this ability can be fulfilled by teacher support.

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. Similarly, in Finland, Ursin, Jarvinen and Pihlaja (2020) reported that supporting children' ability to deal with setbacks could be effective in prevention of stress in school

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. (AB4bL8)*

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. (AB4bT9)*

From the extracts in Academic Buoyancy theme, 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. Similarly, a study by Collie, Martin, Malmberg and Hall (2015) reported academic buoyancy and academic achievement were associated with each other, meaning, for a student to be academically buoyant, he must have a good achievement.

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 and 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 randomly 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. During the intervention phase, experimental groups 1 and 2 were subjected to scaffolding learning technique for 8 weeks 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 to determine whether students' exposure to scaffolding learning process had an effect on academic buoyancy.

Before data analysis, the study sought to find out whether randomization was effective during sampling and assignment of students to groups, by comparing three pairs of groups. The groups had filled in questionnaires before being pretested or 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 Control group 1-pretest	.285	2.720	.308	.916	77	.363
Pair 2	Exp.Group1 -Pretest Control Group 2 -Post-test	-.10	4.64	.450	-.672	55	.497
Pair 3	control Group 1-Pretest Control Group 2-Post-test	6.08	2.45	.450	.816	100	.508

Table 29 shows 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	Experimental group 1-Prettest	103	9.8641	.17346	1.76040

Scores	Buoyancy				
	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: *Research Data (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). Following closely was the posttest mean rating of experimental group 2 learners at 15.9 (SD=2.1) of learners' academic buoyancy. Experimental group 1 and 2 participants had received the treatment of scaffolding learning. Control group 1 students recorded pretest mean score of 9.7 (SD=2.1) and a similar posttest 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). Students in the control groups had not been exposed to scaffolding learning process in English as subject, hence the difference with the experimental groups was attributed to scaffolding intervention. 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.

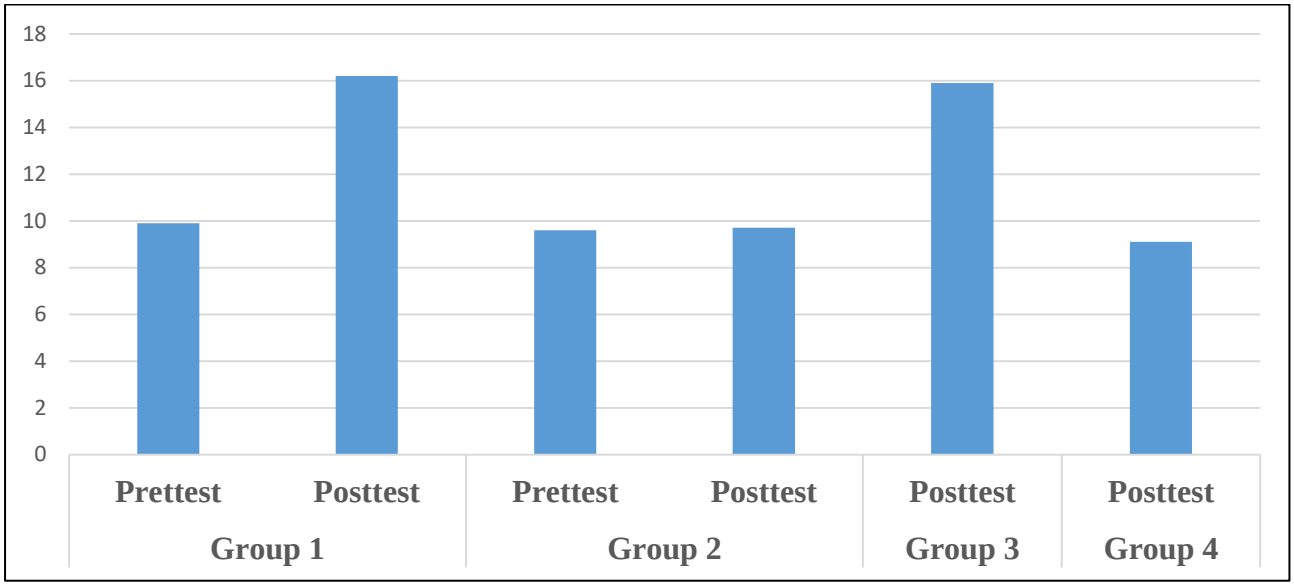

Figure 8: Graphical presentation of the pretest and posttest mean scores on academic buoyancy

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 on 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, 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. This is because learners who learnt using scaffolding strategies and materials attained higher academic buoyancy mean scores than 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

Results on Table 32 show that the paired sample t-test on pair 2 (control group 1 pretest and control group1 post-test) suggests no statistically significant difference in learners' academic buoyancy mean scores [t (77) = -.83, p =.409]. 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, hence the effect is only attributed to scaffolding learning method. The findings are comparable to 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. 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.

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. The findings are similar to those of Rohinsa, Cayyadi, Djunaidi and Iskandar (2019) that academic buoyancy is a function of teacher support.

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. On the other hand, a study in Kenya by Olendo, Koinange and Mugambi did not associate the improvement in academic buoyancy to scaffolding only. The study revealed a strong relationship between self-efficacy and academic buoyancy, hence self-efficacy predicted academic buoyancy.

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 and 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 in the normal way. English Achievement Test was administered to experimental group 1 and control group 1 to determine their level of achievement and their zone of Proximal Development 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, EAT post-test 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 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 Achievement Test which were obtained before and after the students had been exposed to scaffolding techniques. It is evident that post-test achievement scores of intervention groups were higher than the scores of the control groups. For instance, the average score recorded for the post-test by experimental group-1 learners was 57.6 (*SD*=8.5) and post-test mean score of experimental group 2 learners was 55.1 (*SD*=10.6). The pretest English Achievement Test score recorded from the control groups was generally low. This was reflected by a mean score of 47.1 (SD=9.5) for control group 1 pretest achievement score. Additionally, all the learners generally recorded higher posttest scores than pretest scores, but the post-test scores of experimental groups were significantly higher, since the participants had been subjected to scaffolding learning. Similar findings were reported in Egypt by Abdelaziz and Al Zehmi (2020) with a significant improvement in achievement in the experimental group while the control group reported no significant difference. On the other hand, a study in Ethiopia by Getachew and Afawossen (2016) reported a medium magnitude of the difference between experimental and control groups.

Figure 10 shows graphical presentation of achievement posttest scores for all the four groups

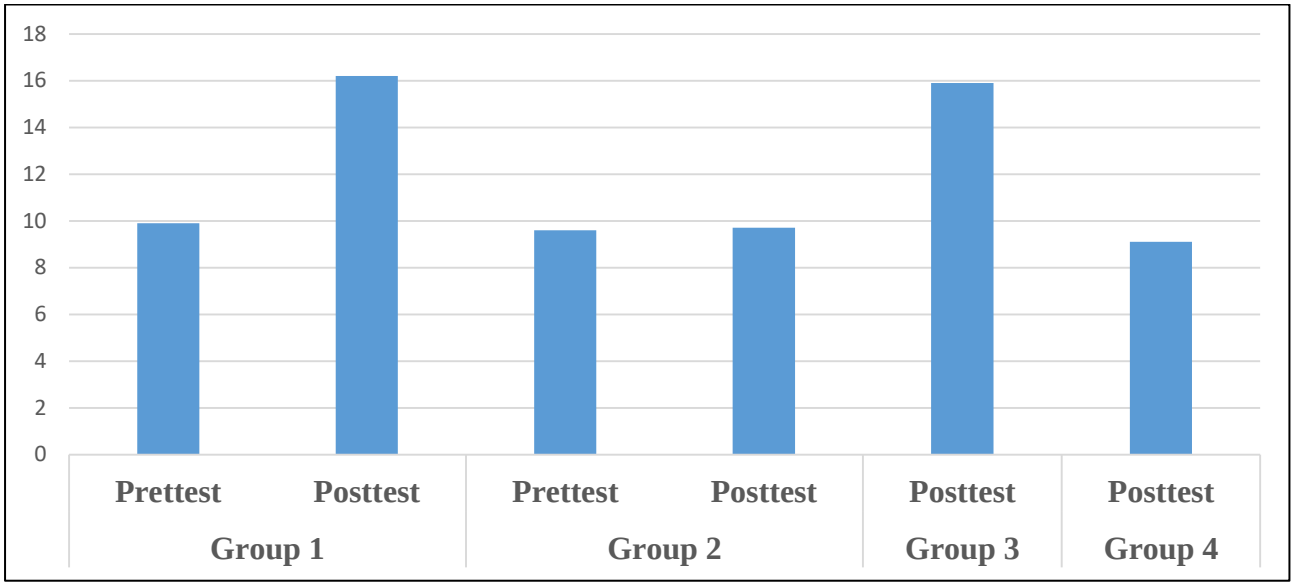

Figure 10. Graphical presentation of achievement posttest scores

Figure 10 reveals 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. The findings concur with the findings of a study by Hassen, Adugna and Bogale (2023) whose results implied that scaffolding treatment enabled experimental group participants to improve in all language skills. The findings are further supported by Samuel, Iwanger and Oka (2020) which established higher achievement in taught using scaffolding, compared to those taught using traditional 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 (SE1bL6). After that I go to fellow students in our group and I ask them to assist me (INT2bL6) I am happy that I am performing better in English (ACHbL6) … our teacher encouraged 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 (SE1bL6) Even we as students we are encouraged to learn together without discrimination (INT2bL6) Another decision I have made is about homework. I am always finishing my home works, because that is where exams are set from (INT4bL6). 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 (INT7bL6)*

Another respondent made the following comments:

> *Sure enough many of my students performed better in this exam (ACH1bT8) I think when we give then the opportunity to do things on their own SE1bT8) they own up the learning process. These learners are very active in group work, consultations (INT6bT8)*

The responses suggest that one of the reasons there was overall improvement in the post test mean in EAT was due to the increase in subject interest among the learners as shown by the extracts coded INT2bL6, INT4bL6 and INT6bT8. Moreover, the improvement in self-efficacy led to better achievement as suggested by Self-efficacy excerpts labeled SE1bL6 and SE1bT8. The study established that that learners in the treatment groups could discover where they are weak, something a teacher using the traditional methods could not do. The learners further got support from their superior others who comprised of the more knowledgeable peers and teachers only when there was need. This was possible through cooperative learning. Moreover, the learners studied within their ZPD which made studies very easy for them. But, as much as the learners enjoyed learning actively on their own, teacher support was necessary as shown in the extract INT2bL6 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. The findings are comparable to those of a study in Kenya by Jepkosgey (2018) which revealed a statistically significant effect of co-operative learning on achievement in English and the effect was positive.

However, to investigate whether there was any statistically significant difference in English achievement test 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 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. Additionally,

Ona (2022) reported that students in scaffolding group achieved better than their control counterparts.

The study went ahead find out the cause of improvement in achievement by performing interviews and the respondents gave their views as follows:

> *…I think I performed better in the test 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 (AB4bL6)*
>
> *.. when we got stressed about our studies, we did them in groups and what we could not handle our teacher helped us… we support one another when doing our work, either personal studies or home works (INT5b L6)*
>
> *Our teacher simplifies some topics or questions and we find it easy to do our work within a short time (SC).*

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 (AB3bT9)*
>
> *I think group work is contributing a lot since the stronger ones help the weak ones. We would give them feedback after marking their…So, I think their low mark does not discourage them anymore, instead of getting worried, they want what they can do to achieve better (ACH4bT9).*

The remarks confirm the findings that the increase in academic buoyancy made the learners improve in their achievement test as shown by the academic buoyancy extracts coded AB4bL6 and AB3bT9. The improvement in EAT performance was attributed to the 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. Moreover, the improvement in subject interest also boosted achievement as evinced by the extract INT5b L6 where learners embraced group work and peer teaching. .

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.

Further analysis was done to find out whether the existing difference in achievement was exclusively due to the use of scaffolding instruction technique or because 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. On a similar note, a study by Filgona and Sakiyo (2020) established that students exposed to scaffolding achieved better results than those who were taught using conventional methods. On the other hand, in Egypt, Abdelaziz and Al Zehmi (2020) found out no statistically significant difference in achievement among control groups.

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: achievement in English.

		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. Similarly, Joda (2019) revealed that students taught using scaffolding has a statistically higher academic achievement than those taught using lecture method.

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. Contrary to this, a study in Sri Lanka by Karalliyad (2017) reported no statistically significant association between scaffolding and academic achievement.

The study went on to probe on what might have led to the overall improvement in achievement and the following were their remarks.

> *I think I can learn on my own, 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 (SE1bL8)…*
>
> *This is because I do the topics that I can handle and our teacher comes in to help on more difficult topics or questions (SC)*
>
> *… 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 (SE4bL8)*
>
> *We no longer refer to our notes when doing homework (SE6bL8). We discuss the questions, and it has made me learn to remember what we learned (INT3bL8).*

Another respondent said:

> *… that is the time I would seeing students who were very focused, though the duration was short. It is the time I did minimum supervision in class. Even during the CAT, we 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 (SE1bT8)*
>
> *…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. (SE14bT8)*

From the remarks, the study established that the students achieved better results due to the increase in self-efficacy (coded SE1bL8, SE1bT8 and SE14bT8 which came about after scaffolding. 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, the study confirms that many of the learners achieved the set targets. The belief in their abilities was extended to the examination room where minimum invigilation was experienced during exams but still there was better achievement among the learners. Therefore, learners who underwent scaffolding performed better because their self-efficacy had improved. From the findings, the study concluded that there was a statistically significant effect of scaffolding on achievement in English. The findings are supported by a study in Uganda by Namubiru which found out a strong statistically significant relationship between scaffolding and achievement. However, a study in Kenya by Wawire (2022) which reported a moderate positive statistically significant correlation between scaffolding and academic achievement.

The study therefore revealed that scaffolding learning is effective in boosting subject interest, self-efficacy, academic buoyancy and achievement in English among learners, implying that one of the best teaching methods to teach language was unearthed and the technique is scaffolding. The findings are further explained by WeiBenfels, Hoffmann, Derrenbacher-Ulrich and Perels (2022)) that most students who had interest in the subject performed well. 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, achievement in English improved due to improvement in the other three variables.

The most important finding of the 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. Additionally, from qualitative data, interview respondents attributed better performance in posttest EAT to the increase in subject interest, self-efficacy and academic buoyancy, implying that scaffolding is a very crucial learning method since it not only boosts the psychological aspects of learners 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 pretested 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 boosted leaners' subject interest. Learners who had been exposed to scaffolding method scored highly in the posttest subject interest mean scores compared to those who learnt using other methods, hence, the study concluded that the high scores arose from the application of scaffolding method. 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 eagerly wait for the next lesson. In view of results from the paired samples t-tests, 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 of learners of English. Therefore, 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 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. Additionally, from qualitative data the study concluded 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. Moreover, 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 a statistically significant effect on the self-efficacy of learners. 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 made learners develop academic buoyancy. This is because, considering the pretest and posttest survey scores, learners who learner using scaffolding method scored more highly than learners who were taught normally. 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 feedback 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. 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. 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 enhanced learners' achievement in English. This is because learners who were exposed to scaffolding displayed a better posttest performance in the given exam that learners who were taught using conventional methods. 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. In addition, from experimental data, 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.

Therefore, 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 explanations and demonstration from teachers and cooperative learning such as group discussions, peer teaching and seeking for clarification. There was transfer of responsibility from the teacher to learners which made learners to do their studies on their own with minimum support from the teacher. Therefore, for learners to effectively learn English 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 air hostess
11. The fireman 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'ong'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

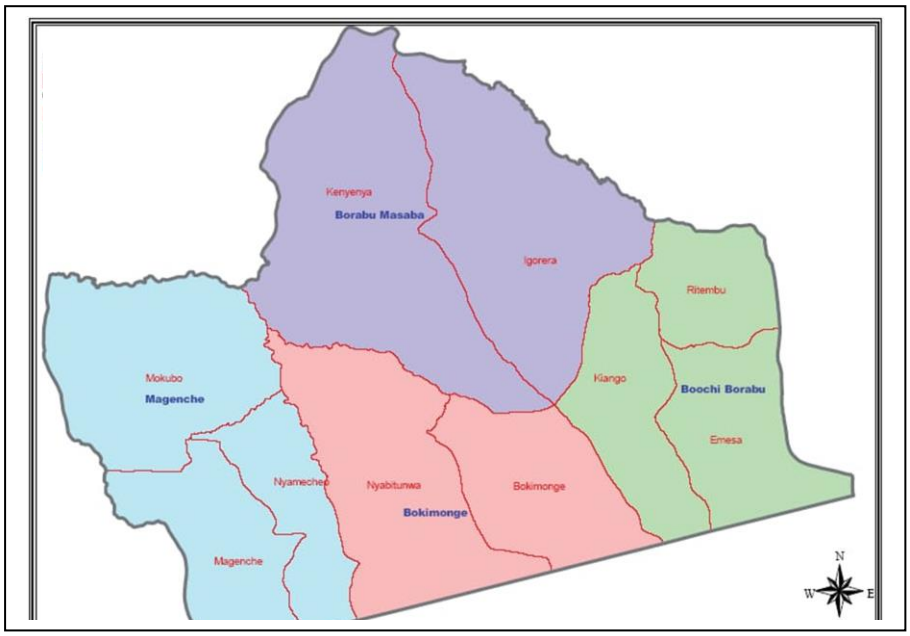
PARTICIPANT'S CONSENT

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