

Citation: Makini, V.S; Barasa, F. S & Chemwei, B. (2019). Effect of cooperative learning approach on students' academic motivation in English in co-educational public secondary schools, Nakuru County, Kenya. *Journal of African Interdisciplinary Studies*, 3(11), 22 – 37.

Effect of Cooperative Learning Approach on Students' Academic Motivation in English in co-educational Public Secondary Schools, Nakuru County, Kenya

By

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Abstract

The purpose of the study was to determine the effect of cooperative learning approach (CLA) on student's academic motivation in English in public co-educational secondary schools in Nakuru, County Kenya. The study adopted quasi experimental design, based on Solomon Four- group, Non-equivalent Control Group Design. The study involved two Experimental groups, E₁ and E₂ which were taught through CLA method and two Control groups, C₁ and C₂ which were taught through the Conventional methods. The target populations were students and teachers from the four co-educational public secondary schools of Nakuru County. Nakuru County was selected due to its low academic achievement with a mean score of 3.33 in 2015, a mean score of 2.81 in 2016 and a mean score of 3.00 in 2017. The study sample size was 242 Form three students from the four co-educational public secondary schools in Nakuru County. Students' Motivation Questionnaire (SMQ) was used to collect quantitative data. The study found that by teaching English subject using CLA in public co-education secondary schools in Nakuru County, the students were likely to improve with a margin of 37.0% while teaching of the subject using the conventional methods would only realize a gain of 7.5%. The study concluded that there was statistically significant effect of cooperative learning approach on students' academic motivation in English in public co-education secondary schools in Nakuru, County Kenya ($F(1,126)=737.625, P<0.05$). The study recommended that English teachers should use cooperative learning approach (CLA) in teaching of English. The study further recommends teachers to motivate and inspire their learners with regard to positive virtues' which enhances students' motivation to improve and have a desirous drive towards the learning.

Keywords: Kenya, Nakuru County, Cooperative Learning, Academic Motivation

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Introduction

Background to the study

Teaching has for many years been always linked with conventional teaching styles, where teachers become the fountains of knowledge and learners are taught and are required to comprehend and give feedback of the same during evaluation time. Restructuring occurred through students learning to ask questions and looking for solutions through research, finding out and relating of concepts. One such method of active learning was Cooperative Learning Approach, (CLA) which is student centered, and uses team members or group work to improve on student academic achievement and was linked with better performance, motivation and interdependence skills (Olsen, (2018). Scholars (Slavin, 2014; Farzaneh & Nejadansari, 2014) indicated that CLA involved students working in small cohorts with multiple potentials, prowess and backdrops who worked together as a group in order to finish assignments, answer tasks and achieve apportioned objectives. Motivation is defined as the means that which causes somebody to act. It refers to the states of the individual which attends certain aspects of the environment such that behavior is both initiated and directed (Dornyei, 2015).

Statement of the Problem

The role of English language in Kenya's education system is crucial and central in shaping students' careers and facilitating their economic, political and social interactions in the society. However, it's importance is overshadowed by students' low achievement in English annually in National Examinations as is evidenced by the KNEC (2018) reporting a constant mean score of 40.29% (which is equivalent to 4.83) in the years 2015 to 2017 nationally, and Nakuru County reported a mean score of 3.33 in 2015, a mean score of 2.81 in 2016 and a mean score of 3.00 in 2017. This implies that Nakuru County performed poorly in English Subject compared to the national performance in the subject. This English Language Analysis report made manifest that the overall performance fell short of the ideal national mean of 50% (mean score of 6.0) hence calling for innovation and creativity in teaching and preparing candidates for Examinations.

Past studies have attempted to explain this trend of low achievement focusing on output factors such as in adequate syllabus coverage and lack of content mastery, with no scrutiny of input and process factors such as instructional methods, learner motivation and perception of the classroom environment (Kiamba & Mutua, 2017; Kiarie, 2017; Kimosop, 2014; Limbe, 2017). It's on this premise of persistently low achievement of English yearly that this study sought to fill the gap and examine the effect of incorporating cooperative learning approach on students' academic motivation in English in public coeducational secondary schools in Nakuru County. Some scholarly research articles have lauded the positive significant contributions of CLA and its effect on students' academic motivation in various subjects around the world (Johnson & Johnson 2014; Slavin 2010).

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Objective of the Study

The objective of this study was to investigate the effect of using cooperative learning approach on public co-educational secondary school students' academic motivation in English in Nakuru, County Kenya.

Hypothesis of the Study

H01: There is no statistically significant effect of cooperative learning approach on students' academic motivation in English in public co-education secondary schools in Nakuru, County Kenya.

Literature Review

General overview of Cooperative Learning Approach (CLA)

Scholars (Slavin, 2014; Farzaneh & Nejadansari, 2014) indicated that CLA involved students working in small cohorts with multiple potentials, prowess and backdrops who worked together as a group in order to finish assignments, answer tasks and achieve apportioned objectives. Yusuf (2005) established that CLA activities had many functions in learning activities for instance it gave a lot of learners a chance to operate in cohorts, work and discuss in groups and ensured that all team members did everything from lesson planning and solving difficult challenges together. Jones, (2009) found that learner's collaboration promoted constructiveness and inspired students to learn unlike in competition strategies. Johnson and Stane (2000) found out that cooperative learning methods encouraged constructive feelings towards both instructional and active methods of instructing science, and that learners exposed to cooperative strategies believed that they gained a lot from its lesson content unlike learners exposed to conventional approaches for instance competitive methods.

Slavin, (2016) established that cooperative learning had the following five components: constructive interactions that made every learner to recognize individual duty and responsibility as an important role in the team; individual responsibility where each student within the team was held accountable in understanding the taught material made manifest and that team tokens made it possible for the team to work together. Promotive encouragement: took place when students motivated and made possible each other's endeavors' to attain the cohort objectives (Johnson & Johnson, 2014). Social skills: These were student competence that aided them to convey and interact well amongst themselves, these skills were needed in creating a team work environment required for creating success in the cooperative group (Johnson & Johnson, 2014). Group processing: Inferred to the various contributions made by each member in attaining the team's objectives and engaging positively in order to realize the team's objectives, hence ended up attaining better performance as a group. (Johnson & Johnson, 2014).

There are five types of cooperative learning approaches, namely; student Teams – Achievement Divisions (STAD), Cooperative Integrated Reading and Composition (CIRC), Jigsaw, Group Investigation and Cooperative Scripting. These types are discussed in this section. According to Slavin (2010) students' teams-achievement division involved learners being put into small mixed ability level group of between 4 to 5 boys and girls and of all nationality. The instructor taught and the learners operated from their groups in order to ascertain that all were benefiting. Cooperative Integrated Reading and Composition (CIRC) are holistic educational activities tailored for instructing, reading and writing in the upper elementary grades (Slavin, 2014). Students worked in groups of four members and interacted with content among each other including reading to one another, summarizing stories to one another, decoding and mastering main ideas and other comprehension skills.

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According to Slavin (2014) established that jigsaw learners were slotted into a six-member group to work and discuss on educational activities that were divided into smaller units for each member. Individual learners got an area in which they became experts, and learners of a similar area conglomered in expert teams to deliberate and later got back to their initial groups to instruct what they studied with other team members. According to Seetape, (2003) Group investigation was a full learning environment classroom where learners worked in minimal groups and made use of collaborative investigation, group deliberation, and collaborative organization.

Learners were fixed into groups of between two to six and the entire class listened to presentations from all the groups about their solutions to the challenge. In cooperative scripting learners became aware that it was pleasant to work together with their colleagues and analyze content that they had either heard or had been given to them by their instructors. Learners took turns and presented the condensed content to each other. Those learners who used this approach retained content more than those who summarized individually (Seetape, 2003). Based on these discussions about the various types of cooperative learning approaches, this study used Student Teams – Achievement Divisions (STAD) in its pursuit of seeking the effect of cooperative learning approach on student's academic motivation perception and achievement in the English subject.

Cooperative Learning Approach and Student's Academic Motivation

Adams (2015), carried out a study to examine the effect of cooperative learning on the classroom learning in United States America. The study established that the use cooperative learning approach was associated to a number of advantages in the classroom learning. The study revealed that positive interdependence and individual accountability aspects of the cooperative learning improved the motivation of students towards learning classroom subjects. The study was carried out in USA and since the education system in USA is different from that of Kenya, the study there by presented a contextual research gap.

In the context of England, Melnichuk & Osipova (2017) carried out a study that sought to establish the influence of cooperative learning on the academic motivation of learners. The study research design was based on quasi experiment. The study established that cooperative learning approach was beneficial to students. It was revealed that cooperative learning enabled the students in critical thinking and gave ideas on their understanding on various concepts. The opportunities provided by the cooperative learning approach motivated students' towards learning as opposed to the other conventional methods of learning. It was revealed that the students preferred cooperative learning approach more than any other learning approach.

A study by Gokhale (2015), sought to establish the advantages of cooperative learning approach on students in respect to the learning environment. The study used both qualitative approach and quantitative approaches. The study revealed that in cooperative learning approach, students were responsible for one another's learning as well as their own. Thus, the success of one student helped other students to be successful. The study also noted that cooperative learning approach led to active exchange of ideas within small groups and this not only increased interest among the participants but also promoted critical thinking. The study further noted that cooperative teams achieved at higher levels of thought and retained information longer than students who worked quietly as individuals. The shared learning experience was found to give students an opportunity to engage in discussion, take responsibility for their own learning, and thus become critical thinkers. All these aspects were seen to improve the level of academic motivation of the students.

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Tran (2014), carried out a study to examine the effect of cooperative learning in Vietnam schools. The study used quasi experiment and established among other aspects that cooperative learning improved the academic motivation of learners. The author noted that that learner's who were taught using cooperative learning approach were self-driven in undertaking academic assignments. It was indicated that through the learning approach students were able to complete their assignments in time and demonstrated high ability if critical thinking. It was however noted that due to the requirement for students to excel in all stages of academic engagements, some students were academically demotivated. The current study sought to bridge this research gap by carrying out a study in Kenyan context.

A study by Njenga (2018), sought to examine among other objectives the effect of cooperative learning on the academic motivation of students in mathematics. The study used quasi experiment research design with 31 respondents in the experiment group and 22 in the control group. The study revealed that cooperative learning approach through use of small groups encouraged learners to work together and accomplish shared goals and subsequently maximized theirs and others' potential. It was also found out that students who worked in cooperative groups were more engaged, more responsible in completing group assignments and more organized while working in their respective groups. The study further found out that there were significant differences in the level of academic motivation of students towards learning of mathematics. Njenga (2018), concluded that cooperative learning was effective in improving the academic motivation of students. Since the study was done in Mathematics, there is a research gap for a study to be done in other subjects. The current study filled this gap by examining the effect of cooperative learning approach on the academic motivation of students.

Using quasi experimental research design, Nyabiosi, Wachanga, & Buliba (2017), sought to establish the effect of cooperative learning approach in improving the performance of Kiswahili Language Comprehension in secondary schools Kisii County. The study revealed that the use of cooperative learning approach was a significant predictor of academic achievement of students in Kiswahili Language Comprehension. In respect to this, the study found out that there were significant differences between the academic achievement of the students that used cooperative learning approach and those who used conventional methods of learning. It was concluded that cooperative learning was effective in improving both the academic motivation of students and the academic achievement in Kiswahili Language Comprehension. Since the reviewed study was done in Kiswahili Subject, there exists a research gap and hence informed this study to be done in the English subject due to differences in subject content.

Njoroge & Githua (2013), carried out a study to examine the effect of the use of cooperative learning approach on the academic achievement of students in Mathematics in secondary schools in Kenya. Solomon-four-non-equivalent-control-group design was used and a sample of 323 students. The experiment group comprised of 162 students while the control group comprised of 161 students. The study found out that the use of cooperative learning approach among the students resulted to an increase in the level of academic motivation. In respect to this, there were significant differences in the level of academic motivation towards performing Mathematics tasks in class between the students using cooperative learning approach and those using conventional methods of learning. The study recommended the use of cooperative learning approach in order to change the negative perception of students towards Mathematics Subject. Though on Kenyan context, the study by Njoroge & Githua (2013) was done in mathematics while the current study was done in English subject.

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Focusing on Biology subject in secondary schools, Muraya and Kimamo (2017), established the influence of cooperative learning approach on the academic achievement in the subject. The study used Solomon-four-non-equivalent-control-group design and comprised of 183 form two students from secondary schools in Machakos County. The study revealed that there were significant differences in the mean scores of the students in Biology tests between the students taught using cooperative learning approach and those taught using regular methods of teachings. In respect to this, the study revealed that the students taught using cooperative learning approach were more motivated towards learning Biology subject compare to those taught using the regular methods. The study concluded that cooperative learning was effective in improving the academic motivation of learners in Biology Subject. The current study was done on English and therefore different from the reviewed study that was done in Biology subject.

Conceptual Framework

A conceptual framework for determining the effect of using co-operative learning approach on students’ academic motivation in English had two independent variables and three dependent variables. The independent variables included, CLA with STAD as its indicator and the conventional teaching methods, dependent variable was Student Motivation whereas confounding variables included, type of school, learner and teacher characteristics as represented diagrammatically in Figure 2.1.

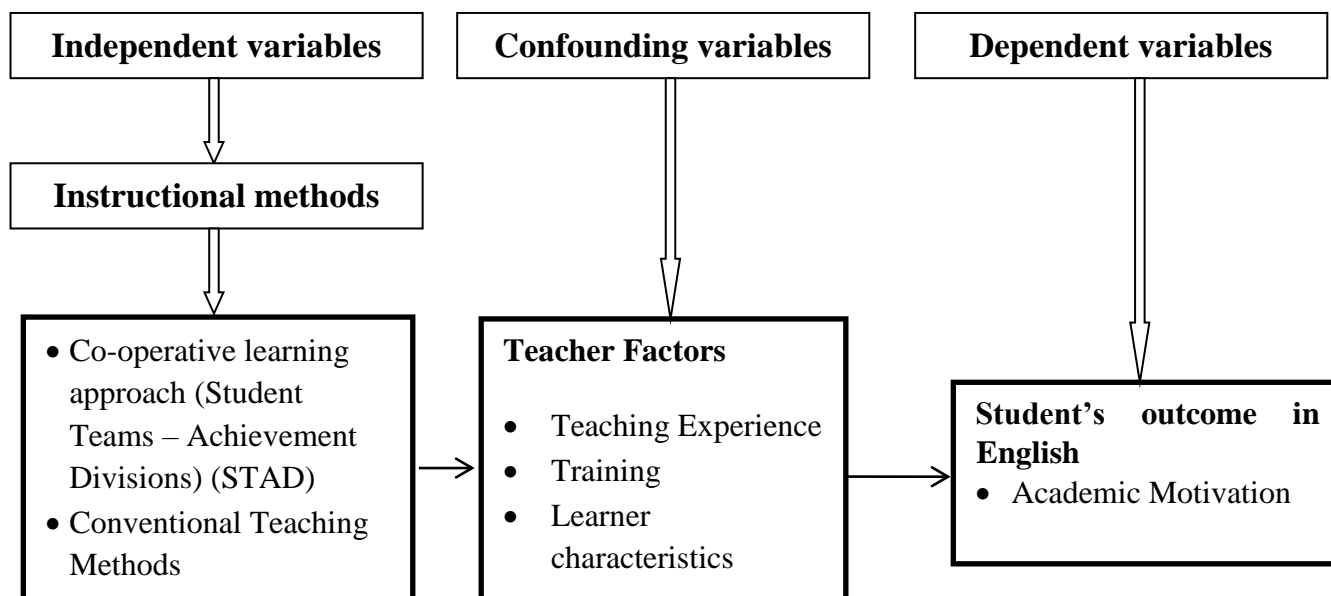


Figure 2.1: Cooperative Learning Approach and Student’s Academic Motivation

Source: Authors and Field Data, 2019

Research Methodology

The study used a Quasi-experimental based on Solomon Four-Group, non-equivalent control group design. The design was also appropriate because once secondary schools’ classes are constituted, they exist as intact groups and school authorities do not normally allow such classes to be broken up and re-constituted for research purposes. The target populations were learners and teachers from all co-educational public secondary schools in Nakuru County.

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According to Nakuru County Education Office, (2019) there are only five co-educational public secondary schools. The accessible population was 766 Form Three students from the five co-educational public secondary schools.

Since the study used Solomon Four Non-equivalent Control Group Design, four co-educational public secondary schools were randomly selected from the five co-educational public secondary schools in Nakuru County. The four co-educational public secondary schools were selected using simple random sampling. Two schools were randomly selected to be experimental groups while the other two as control groups and one for piloting. From each of the school, the researcher then selected the class with the highest number of learners to participate in the study using purposive sampling. In addition to that, from each of the selected co-educational school, the study selected one senior teacher of English with the most experience in teaching using purposive sampling. The four teachers of English were the key informants of the study. The study sample size was 242 Form three students from the four co-educational public secondary schools in Nakuru County. Table 3.1 shows the distribution of the sample size.

Table 3.1: Actual class Size

	School	Form students	Three Sample Size
Experimental 1	School A	201	80
Experimental 2	School B	104	41
Control 1	School C	175	69
Control 2	School D	132	52
Total		612	242

Source: Field Data, 2019

The study used Student Motivation Questionnaire (SMQ) in assessing the students' motivation and feelings towards the English content and was be used to collect quantitative data. It was based on a five-point Likert scale having choices, Strongly Agree=SA, Agree=A, Undecided=U, Disagree=DA and Strongly Disagree =SD. Data was analyzed using both descriptive and inferential statistics using the statistical package for social science (SPSS version 24). Qualitative data was coded into themes, interpreted and organized and a computer assisted qualitative data analysis (CAQDAS) package was used. The level of significance was computed at 5% significant level in order to guide in the rejection or acceptance of the null hypothesis.

Results and Discussion

The Effect of Cooperative Learning Approach on Students' Academic Motivation in English

The objective of the study was to determine the effect of cooperative learning approach on students' academic motivation in English in public co-education secondary schools in Nakuru County, Kenya. Students' academic motivation in English was measured by the use of Students' Motivation Questionnaire (SMQ). The instrument was administered six times; two times as a pre-test for two groups and four times as post-test for the four groups. Pretest was carried out to show the entry condition of the students in regard to their academic motivation in English for both the experimental and control groups while the post-tests were used to show the effect of cooperative learning approach on the students' academic motivation in

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English in public co-education secondary schools in Nakuru County, Kenya. Table 4.1 shows the pre-test mean scores for academic motivation for experiment group 1 and control group 1.

Table 4.2: Comparison of Pre-test Means of Groups on Academic Motivation

Test	Group	N	Mean	SD
Academic Motivation	E1	71	2.6183	0.30110
	C1	58	2.5328	0.34711

Source: Field Data, 2019

Table 4.1 shows that the mean scores for academic motivation for E1 was 2.6183 and that for C1 was 2.5328. This implied that the entry level of academic motivation of the two groups was different. The mean score obtained was around the middle point of five point Likert scale and therefore implying that the respondents had an average motivation towards learning of English. Ngendahayo and Askeel-williams, (2016) asserts that mean scores in the range of 2.5 – 3.5 implies average scores on measured phenomenon on a five- point Likert scale of 1 to 5. The achieved standard deviation was below 1.0 implying that there was convergence among the respondents in rating various statements of Students' Motivation Questionnaire (SMQ) (Latunde, 2016). The study not only sought to establish if there were differences in the academic motivation but also, it established, whether the differences in the academic motivation level towards learning English was statistically significant. This was achieved through the use of Independent Samples, t-test. The findings are presented in table 4.2 below.

Table 4.3: Independent Samples t-test of the Pre-test Scores on Academic Motivation

Test	Group	N	Mean	SD	t-value	DF	P-value
Academic Motivation	E1	71	2.6183	0.30110	1.4499	127	0.136
	C1	58	2.5328	0.34711			

Source: Field Data, 2019

From the findings above, it is evident that there was no statistically significant differences at $t(127) = 1.4499$, $P > 0.05$ in the students' pre-test scores in Academic Motivation between E1 and C1. The null hypothesis was not rejected / was upheld and concluded that there are no significant differences in the mean scores of pre-test on academic motivation between E1 and C1. This implied that the groups used in this study exhibited comparable characteristics and therefore were suitable for the current study. The Experimental groups' classes were taught using CLA for a period of four weeks while the control groups' classes were taught using the conventional methods during the same period of time. The four weeks was sufficient to cover the EAT content for both the control and experimental groups. The post – test instrument of Students Motivation Questionnaire (SMQ) was administered to all the four groups (E1, E2, C1 and C2) at the end of the treatment period. Table 4.3 shows the post-test mean scores and standard deviations of the groups' academic motivation.

Table 4.4: Comparison of Post-test Means and SD of Groups on Academic Motivation

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Test	Group	N	Mean	SD
Academic Motivation	E1	71	4.1183	0.30110
	C1	58	2.8069	0.31615
	E2	37	4.0270	0.32459
	C2	44	2.7000	0.31916

Source: Field Data, 2019

Table 4.3 indicates that E1 had the highest level of academic motivation of 4.1183, followed by E2 with academic motivation of 4.0270, then C1 with academic motivation of 2.8069 and lastly C2 with an academic motivation of 2.7000. All the achieved standard deviations were below 1.0 which implied that there was high consensus among the respondents in rating the statements in the Student Motivation Questionnaire (SMQ) (Gratton, 2015).

The study further sought to examine whether the established observed differences in mean scores between experimental groups E1, E2 and control groups C1 and C2 for the post-test on academic motivation were statistically significant. This was ascertained by the use of ANOVA as shown in Table 4.4.

Table 4.5: ANOVA of the Post-test Score on the Academic Motivation

	Sum of Squares	DF	Mean Square	F	P-value
Between Groups	92.758	3	30.919	315.060	0.000
Within Groups	20.216	206	0.098		
Total	112.974	209			

Source: Field Data, 2019

Table 4.4 indicates that the differences in the mean scores for the Post-test on the Academic Motivation were statistically significant at $F(3,206)=315.060$, $P<0.05$. Before rejecting the null hypothesis of the F-test, findings in Table 4.5 do not indicate which of the groups are similar and which are different from the other. To establish this, the study carried out Least Significant Difference (LSD) post hoc test and whose results are shown in Table 4.5.

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Table 4.6: Least Significant Difference (LSD) Post Hoc Comparisons of the Academic Motivation Post-test Means for the Four Groups

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	P-Value
E1	C1	1.31141*	0.05545	0.000
	E2	0.09128	0.06352	0.152 (NS)
	C2	1.41831*	0.06011	0.000
C1	E1	-1.31141*	0.05545	0.000
	E2	-1.22013*	0.06591	0.000
	C2	0.10690	0.06263	0.089 (NS)
E2	E1	-0.09128	0.06352	0.152 (NS)
	C1	1.22013*	0.06591	0.000
	C2	1.32703*	0.06988	0.000
C2	E1	-1.41831*	0.06011	0.000
	C1	-0.10690	0.06263	0.089 (NS)
	E2	-1.32703*	0.06988	0.000

*The mean difference is significant at the 0.05 level.

(NS) –Not Significant

Source: Field Data, 2019

As shown in Table 4.5, Least Significant Difference (LSD) Post Hoc shows the differences in any two groups. It was revealed that there were significant differences in students' academic motivation between groups E1 and C1, E1 and C2, C1 and E1, C1 and E2, E2 and C1, E2 and C2, C2 and E1, and between groups C2 and E2. This was because of their p values being less than 0.05. However, there were no significant differences between groups E1 and E2, C1 and C2, E2 and E1, and between groups C2 and C1. This was due to their p values being greater than 0.05. This therefore implied that the prior exposure to the Student Motivation Questionnaire (SMQ) had no significant effect on their (student) motivation.

In overall, the experimental groups outperformed the controls groups in academic motivation in English. This implied that the usage of cooperative learning approach in the teaching of English improved students' academic motivation towards learning of the subject. Table 4.6 shows the comparison of the students' academic motivation post-test mean scores between the experimental E1, E2 and control groups C1,C2 combined.

Table 4.7: Comparison of the Students' Academic Motivation Post-test Mean Scores between the Experimental and Control Groups

Test	Group	N	Mean	SD	Std. Error Mean
Academic	Experiment (E ₁ ,E ₂)	108	4.0870	0.31089	0.02992
Motivation	Control (C ₁ ,C ₂)	102	2.7608	0.32032	0.03172

Source: Field Data, 2019

Table 4.6 shows that the experiment groups had a mean score of 4.0870 out of a maximum of 5.0 while the control groups had a mean score of 2.7608 out of a maximum score of 5.0. The difference between the two groups was 1.3262. This further implied that the experiment groups outperformed the control groups in students' academic motivation. The study sought to establish whether the observed differences between the experiment and control groups were

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statistically significant by using Independent Samples t-test. The results are shown in Table 4.7.

Table 4.8: Independent Samples t-test of Students' Academic Motivation Post-test Mean Scores between the Experimental and Control Groups

Test	Group	N	Mean	SD	t-value	DF	P-value
Academic	Experiment	108	4.0870	0.31089	30.445	208	0.000
Motivation	Control	102	2.7608	0.32032			

Source: Field Data, 2019

The null hypothesis of t-test was rejected due to $t(208)=30.445$, $p<0.05$ and therefore concluding that there are statistically significant differences in the students' academic motivation post-test mean scores between the experimental and control groups. In order to establish the effect of cooperative learning approach, the differences in the pre-test scores and the post test scores on Students' Academic Motivation for E1 and C1 Groups were computed and results presented in Table 4.8.

Table 4.9: Gain analysis on Students' Academic Motivation Post-test Mean Scores for E1 and C1 Groups

Stage	Scale	E1	C1
Pre-Test	N	71	58
	Mean	2.6183	2.5328
Post-Test	N	71	58
	Mean	4.1183	2.8069
Mean Gain		1.500	0.2741

Source: Field Data, 2019

According to Table 4.8, the difference between the pre-test mean score for E1 and its post-test mean score was 1.500. This implied that the cooperative learning approach resulted to a gain of 1.5 in a five point Likert scale. This is equivalent to 37.5% improvement in academic motivation in English when CLA is used in teaching the subject. On the other hand, the difference between the pre-test and post test results for the C1 was found to be 0.2741. This implied a 6.9% improvement in academic motivation in English when conventional methods are used. This improvement may have been as a result of the second exposure of the instrument (Students' Motivation Questionnaire) to the same group of Students.

However, since the study used non-equivalent groups, this might present a threat to the internal validity of non-equivalent control and experiment groups. This implies that the observed group differences on the post-test may be due to initial or pre-existing group differences rather than to the effect of the treatment (Glăveanu, 2012). This study involved non-equivalent control and experiment groups and therefore Analysis of Covariance (ANCOVA) using pre-test scores as the covariates was used as a confirmatory test and as a method to remove any biasness in group inclusion in the study. The purpose of ANCOVA is to reduce the effects of initial group differences statistically by making compensating adjustment to post-test mean scores of the groups involved. Table 4.9 shows the adjusted students' academic motivation post-test mean scores with pre-test scores as covariates.

Table 4.10: Adjusted Students' Academic Motivation Post-test Mean Scores with Pre-test scores as Covariates

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Test	Group	N	Observed Mean	Adjusted Mean
Academic Motivation	E1	71	4.1183	4.099
	C1	58	2.8069	2.831

Source: Field Data, 2019

Using pre-test scores as covariates, the academic motivation in English mean scores for E1 were adjusted from 4.1183 to 4.099, while the academic motivation in English scores for C2 were adjusted from 2.8069 to 2.831. The study sought to establish whether the differences in the adjusted mean scores between E1 and C1 were statistically significant. The results of these endeavors are presented in Table 4.10.

Table 4.11: ANCOVA Test Results Comparing Students' Academic Motivation Post-test Mean Scores

	Sum of Squares	DF	Mean Square	F	P-Value
Pre-Test Scores	3.431	1	3.431	50.192	0.000
Academic Motivation	50.420	1	50.420	737.625	0.000
Error	8.613	126	0.068		
Total	1673.200	129			

Source: Field Data, 2019

According to Table 4.10, there are significant differences in the adjusted mean scores for the Students' Academic Motivation Post-test Mean Scores between the E1 and C1 using pre-test results as covariates. This is due to a $F(1,126) = 737.625, P < 0.05$. The first hypothesis of the study stated that: There is no statistically significant effect of cooperative learning approach on students' academic motivation in English in public co-education secondary schools in Nakuru County, Kenya. This hypothesis was rejected at 5% significance level and the study concluded that there is statistically significant effect of cooperative learning approach on students' academic motivation in English in public co-education secondary schools in Nakuru County, Kenya. The level in which the cooperative learning approach affected students' academic motivation in English in public co-education secondary schools in Nakuru County, Kenya was presented in the gain analysis in Table 4.11.

Table 4.12: Gain Analysis on Adjusted Students' Academic Motivation Post-test Mean Scores for E₁ and C₁ Groups

Stage	Scale	E1	C1
Pre-Test	N	71	58
	Mean	2.6183	2.5328
Post-Test	N	71	58
	Mean	4.099	2.831
Mean Gain		1.4807	0.2982

Source: Field Data, 2019

A gain score of 1.4807 was achieved in respect to the academic motivation of students in English for the Experiment Group 1 and a gain score of 0.2982 was achieved in respect to the academic motivation of students in English for the Control Group 1. It implied that by teaching English subject using CLA in public co-education secondary schools in Nakuru

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County, the students are likely to improve with a margin of 37.0%. Teaching of the subject using the conventional methods would only realize a gain of 7.5%. These results further showed that cooperative learning approach improved students' academic motivation in English in public co-education secondary schools in Nakuru County more than the use of conventional teaching methods. In respect to this, students taught using cooperative learning approach are approximately 30% more motivated in learning English as compared to those using conventional teaching methods.

The findings in this study are in line with those by Melnichuk and Osipova (2017) who indicated that the various viewpoints provided to students in cooperative learning approach such as an opportunity to converse with peers, present and defend their ideas as well as asking questions benefit learners in diverse ways such as academic motivation. However, Melnichuk and Osipova (2017) focused on teaching of English language translation to French language while the current study was on teaching of English and therefore advancement of knowledge. Williams (2018), also noted that through cooperative learning, learners were able to motivate one another towards learning the subject through arguing, presenting ideas to fellow students and challenging one another. This study however was done using college level students while the current study was done using public coeducation secondary schools level and therefore a contextual research gap.

This study also concurred with the findings by Pandya (2017) who noted that the use of cooperative learning was a predictor of academic motivation of students in diverse ways. However, the study by Pandya (2017) was done on teaching of mathematics subject, while the current study was on teaching English and therefore adding to the body of knowledge. The author noted that cooperative learning approach encouraged each student in the class to participate in the classroom learning through giving opportunity to each member to discuss what they understand in regard to concepts taught in the class.

In determining the advantages of cooperative learning approach, Nwabueze (2018) results are in line with this study. Nwabueze (2018) noted that students taught using cooperative learning approach had intrinsic motivation towards learning. The study noted that students had greater persistence throughout the education process, lower levels of anxiety and stress, and more positive and supportive relationships with peers which resulted to academic motivation. Nwabueze (2018) investigated the effect of cooperative learning approach in University level involving undergraduate students in education, sciences, humanities, social sciences and engineering. This therefore presents a contextual research gap.

Molla and Muche, (2018) established that through cooperative learning in Biology, students were inspired to continue with the subject in advanced studies and later on pursue a career in the subject. The study also noted that other students were motivated through cooperative learning to apply concepts that were learnt in class in real life situations while others continued to study the subject even during holidays without any supervision. The current study findings though in the English subject do concur to that by Molla and Muche (2018).

A study by Njenga (2018), similarly found out that there were significant differences in the level of academic motivation of students towards learning of mathematics. Njenga (2018) concluded that cooperative learning was effective in improving the academic motivation of students. In agreement to the current findings, Nyabiosi, Wachanga, and Buliba (2017) concluded that cooperative learning approach was effective in improving both the academic motivation and the academic achievement of students. The researchers however focused on performance of Kiswahili Language Comprehension in secondary schools in Kisii County and therefore a contextual research gap for the current study.

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Njoroge and Githua (2013), on the same context found out that the use of cooperative learning approach among the students resulted to an increase in the level of academic motivation. In respect to this, there were significant differences in the level of academic motivation towards performing Mathematics tasks in class between the students using cooperative learning approach and those using conventional methods of learning. Similarly, Muraya and Kimamo (2017) revealed that the students taught using cooperative learning approach were more motivated towards learning Biology subject as compared to those taught using the regular methods. The study concluded that cooperative learning was effective in improving the academic motivation of learners in Biology as a Subject.

Conclusion

In respect to the effect of cooperative learning approach on students' academic motivation in English, the study established that there was statistically significant effect of cooperative learning approach on students' academic motivation in English in public co-education secondary schools in Nakuru, County Kenya. It was further demonstrated that experimental groups outperformed the control groups in academic motivation in English. Accordingly, the study also concluded that the use of cooperative learning in English improves the academic motivation towards learning of English subject. In respect to this, students taught using cooperative learning approach were more motivated in learning English as compared to those taught using conventional methods.

Recommendations

The study recommended that English teachers should use cooperative learning approach (CLA) in teaching of English in secondary schools in Kenya. In respect to this, the study recommends in service training for teachers in regard to the use of cooperative learning approach and that Kenya Institute of Curriculum Development (KICD) to take into account and incorporate learner centered approaches such as cooperative learning approach as a method of teaching English in secondary schools, which is at the heart of the new curriculum CBC being rolled out in Kenya. The study further recommends teachers to motivate and inspire their learners with regard to positive virtues' which enhances students' motivation to improve and have a desirous drive towards the learning of English in secondary schools in Kenya.

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