

Relationship Between Self-Regulated Learning And Academic Achievement Among Form Three Students In Kakamega County, Kenya

By

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Abstract

The purpose of the study was to investigate the relationship between self-regulated learning and academic achievement. The cognitive theory of self-regulated learning guided the study. This study adopted a correlation research design with a target population of 2097 Form three learners in public schools found in Navakholo sub-county. A sample of 450 form three students was selected from 8 public schools to participate in the study. Stratified and simple random sampling techniques were used to select the sample. Data were collected using questionnaires. Academic achievement of the students was obtained from examination records that were obtained from schools that were used in the study. To establish the validity and reliability of the research instruments, pilot study was done on 30 students in form Three that were selected from a day and mixed public school in the neighboring Mumias Sub-county, Kakamega County. Descriptive procedures and inferential statistical methods were applied in analyzing the data. The results revealed a positive and significant correlation between self-regulation in learning and achievement in academics, $r = .59, p < .00$. Therefore, the null hypothesis is rejected and the alternative one adopted. For supplementary hypothesis, the results reveal existence of positive and significant relationship between all subscales of self-regulation in learning and achievement in academics, memory strategy, $r = .66$; goal setting, $r = .44$; self-evaluation, $r = .63$; seeking assistance, $r = .43$; environmental structuring, $r = .45$; learning responsibility, $r = .51$; organizing, $r = .48, p < .05$. Therefore, the null hypothesis was rejected and alternative one adopted. The results imply that the higher the self-regulation among the students the higher the achievement in academics. Based on the results, teachers and parents should come up with programs to help students enhance their self-regulation strategies and skills by providing the necessary support to help them to improve their academic achievement. School administration should help the teachers with the necessary teaching materials and resources geared towards improving students' strategies of self-regulation. This will enable the students achieve higher grades in academics.

Key Words: Kenya, Kakamega County, Academic achievement; self-regulated learning; Form three students

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1. Background to the Study

In Kenya, the Form Four final public examination is sat by candidates at the end of their secondary education. Poor performance among secondary school students in K.C.S.E has been an issue of concern as many Form four candidates miss opportunities to secure admissions in institutions of higher learning and also employment opportunities. Student's performance in K.C.S.E examination in past and recent years has been poor. For instance, examination statistics in 2021, 2022 and 2023 National examination show that out of all total candidates who did the K.C.S.E examination, on average 27% had a score of mean grade C+ and approximately 43% of the candidates had a score of D+ downwards (KNEC, 2024). A large disparity exists in number of learners who got the highest and the lowest grades giving a distribution of grades that is skewed towards poor grades in the National examinations.

In Navakholo Sub-county, students' academic performance in the National examination in the recent years has also been poor. In 2021, 2022 and 2023 K.C.S.E Examination results, approximately 20% got a grade of C+ upwards and approximately 50% of candidates in this sub-county scored D+ and below. Out of Twelve Sub-counties in Kakamega County, Navakholo Sub-county has always featured bottom three in the K.C.S.E national examination. Many students in this sub-county are missing opportunities in higher education and employment due to poor performance in K.C.S.E examinations.

Researchers in Kenya have reported that academic achievement is affected by many factors; student related factors and the student's own willingness to learn and actively engage in class activities. A research by Muema (2021) in Kitui County revealed that peer influence, socioeconomic factors, lack of parental involvement are key factors that influence students' academic performance. Similarly, Luketero and Kangangi (2019) carried out research in Kirinyaga County and found out that low teacher-students ration reduces contact between students and teachers leading to poor understanding of concepts and hence poor academic performance. Other factors identified as causing students' academic failure include peer pressure, drugs and substance abuse and truancy. Related results were established by Mokuia (2021) among secondary school students from Nyamira County. Media reports have also cited poor learning foundations including admission policies and poorly equipped schools as some reasons that lead to poor student performance at the KCSE level (Standard Media, 2019; People Daily, 2022). In spite of research having been done in the foregoing areas, few investigations have been done about psychological factors such as self-regulation in learning, which may affect achievement in academics.

Self-regulated learning entails the ability to self-motivate and take action through understanding and controlling ones' learning environment (Brenner, 2022). Studies have shown a link between self-regulated learning and academic achievement. For instance, Al-Abyyadh et al. (2022) found out that self-management and self-efficacy positively influence students' academic performance. Xu et al. (2022) observes that students who are self-regulated may exhibit different dimensions of self-regulation which includes their learning

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motives, self-evaluation, self-control and planning. Self-regulated students are self-efficacious, they have self-control in their academic activities and this leads to high academic achievement.

According to Lysenko et al. (2022), a self-regulated student embarks on his or her own planning, self-inspection, his or her self-control and his or her own self-evaluation and thus creates an enabling environment for learning to take place at different levels of his or her academic achievement activities. Mwaura et al. (2019) further observes that learners who are self-regulated get involved in different learning strategies such as setting goals, seeking for assistance and evaluating themselves by putting in practice this learning strategies, learners are therefore in position to experience independence and self-worth in their academics hence leading to better academic achievement. Otieno and Povey (2022) underscores the importance of having well designed text books to be student-centered as opposed to being teacher-centered in order to enhance the success of self-regulated learning.

2. Statement of the Problem

Continuous low achievement in academics in the Kenyan National Exams especially K.C.S.E poses a great challenge to many Kenyan students whose life become full of despair and uncertainty. K.C.S.E performance determines whether the students will join University or other institutions of higher learning for training and career development to fit in the society. Continuous failure in the KCSE examination may hinder many individual learners to pursue their education at higher institutions of learning. They fail to merit to be absorbed in higher institutions of learning because of poor academic achievement and in the end, these students may end up missing rewarding career opportunities for individual and the development of the society at large. The society may end up lacking enough skilled human capital for national development. Hence the need to study factors related to low or high academic achievement in Kakamega County.

Research by other scholars has established from the background to this research that self-regulation in learning has been seen to play a significant role as a variable that predicts achievement in academics among students. Investigations by educational researchers in Kenya on factors which influence learners' achievement in academics have looked on academic self-concept, parental involvement, parenting style, entry behavior, cultural practices and home school dissonance. Self-regulated learning has received little attention in Kakamega County, even though it has been found to predict academic achievement of students in other counties in Kenya and even in developed countries. Therefore, the main aim of this study was to come up with a prediction model of achievement in academics given self-regulation in learning among high school learners so as to improve the fallen level of academics in Kakamega.

3. Significance of the Study

Findings of this research may help students, school administrators, parents and teachers. This study may assist students to acquire better strategies of self-regulation learning and control measures that will help them to perform well in academics. This study may also benefit teachers, school administrators and parents who may find out the significance of setting up an enabling school and home environment that gives room for students to work on their own to enhance effective academic achievement. In research, results of this research may bring about important information to available knowledge on the significance of strategies of self-regulation in learning that improve achievement in academics.

4. Literature Review

Sahranavard et al. (2018) investigated the correlation between students' self-regulation and their academic achievement. The study which used a correlational cross-section design sampled 200 female university students from Iran. The study results revealed a significant correlation between the students' self-regulation and their academic performance. Similarly, Jaramillo et al. (2022) investigated the relationship between self-regulated learning and academic performance among Chilean university students. The study used a sample of 716 students and collected the study data using Self-Regulated Learning practices scale. Data were analyzed using descriptive and inferential means. The study results showed a positive correlation between self-regulation with students' academic performance. Since the study was conducted in a Chilean University among senior students, the results may not be applicable to secondary schools in Kenya making it necessary to undertake the current study to compare results.

In another study, Papageorgiou (2022) conducted a study in South Africa to examine the correlation between self-regulated learning and students' academic achieving. The study used a sample of 617 students drawn from a South African university. The study data were collected using questionnaires while data analysis was conducted using descriptive and inferential statistics. The study results showed that there was a positive correlation between self-regulated learning and academic performance. The study was consistent with other reviewed studies making it necessary to undertake the current study to see whether similar results would be obtained from Kenya.

In a similar study, Ononuju et al. (2023) conducted a study in Nigeria to establish the relationship between self-regulation and students' academic performance in biology. The study sample comprised of 200 students of biology drawn from public secondary schools in Imo State, Nigeria. The study results showed that students' self-regulation positively collated with the students' academic performance in biology. The study focused on academic performance in one subject while the current study focused on general academic performance.

In Kenya, Kimani et al. (2022) investigated the relationship between self-regulation and academic achievement among public secondary school students from Nairobi County. The study adopted a correlational research design, and used a sample of 738 students. The study data were collected using Emotional Regulation Questionnaire, while the study data were analyzed using descriptive and inferential means. The study results showed that there was a positive and significant relationship between emotional self-regulation and students' academic performance. The study was undertaken using Emotional Regulation Questionnaire while the current study was conducted using Self-Regulated Learning Questionnaire to provide a comparison frame.

5. Methodology

a. Research Design

A correlation research design was adopted in this study, because this study examined the relationship between self-regulation in learning and achievement in academics among form three secondary learners in Navakholo Sub-county, Kakamega County. Pearson's moment correlation was applied to find out the strength of a relationship between self-regulation in learning and achievement in academics.

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b. Target Population, Sampling Techniques and Sample size

Secondary school learners in form three from 10 secondary public schools formed the accessible population. This was based on the fact that these schools had students in form three who would help in providing the sample size that was required. Statistics derived from Navakholo Sub-County Education department Office in 2023 showed that there were a total number of 2,097 form three students in Navakholo Sub-County.

The researcher chose to use two procedures of sampling. These sampling procedures were stratified sampling procedure and simple random sampling. Schools were stratified into four categories that represented boarding boys, mixed day and boarding, girls boarding and mixed day category. In order to select a boarding school for boys', girls' boarding school, four mixed boarding and day schools and four mixed day schools, simple random procedure of sampling was used.

Table 1: Sampling Frame

School Type	Population			Sample Size		
	Schools	Male	Female	School	Male	Female
Boarding boys	2	370	-	1	40	-
Boarding girls	2	-	200	1	-	40
Mixed boarding and day	8	366	319	4	100	98
Mixed day	13	429	393	4	88	85
Sub-total	-	1,165	912	-	228	222
Total	25(100%)	2,097	(100%)	10(17%)	450	(10%)

Source: Director of Education Office, Navakholo Sub- County, Kakamega County, Kenya (2023)

In this study 450 participants formed the sample; they were derived from a random procedure of sampling. The number expected for the participants in a school, were obtained by the researcher from all form three class lists. The researcher then folded pieces of paper of equal size, color and texture totaling to the exact number of form three secondary school students. The researcher then folded the papers into equal size and shape equal to the number that were targeted of the participants in school and wrote yes and the remaining papers remained blank. The folded papers of equal size, same color and same texture were put in a container and thoroughly mixed. The participants were assembled in the dining hall and were asked to pick a paper fold randomly. Those that picked 'yes' were humbly requested to be at the dining hall while those that picked blank folds of paper were humbly asked to go to their streams. Learners who remained were issued unique figures in line with their admission numbers in school to help retrieve the participants' academic achievement school records. A total number of 40 participants were selected from boys' boarding, 40 participants from girls boarding, 198 participants were selected from mixed boarding and day schools, 173 participants were selected from mixed day schools.

c. Research Instruments

(i) . Academic Self-Regulated Learning Scale by Magno (2010)

This scale was used in measuring academic self-regulation in learning. In this scale, 54 items are categorized under seven self-regulated learning factors namely; strategies of memorizing, setting goals strategy, evaluating one self, seeking assistance, environment structuring, responsibility in learning, good organization planning strategies. Each item was classified on a four-point scale; 1- stood for Strongly Disagree, 2- stood for Disagree, 3- stood for Agree and 4- stood for Strongly Agree. Magno used this scale to evaluate self-regulation in Philippian college learners on their learning achievement. Each of the items had a four-point Likert scale that consisted of four measuring aspects namely strongly agree, agree, disagree and strongly disagree.

It comprised of seven factors which were goal setting that had 5 items, memory strategy had 14 items, self-evaluation had 12 items, environmental structuring had 5 items, learning responsibility had 5 items, seeking assistance had 8 items, organizing had 5 items and planning had 5 items. An initial component analysis which had varimax rotation was used to uncover the seven factors. When another sample was investigated, the seven-structure factor was well confirmed by factor analysis. The Convergent area of validity is evident where the seven factors were inter-correlated highly. As studied by Magno (2010), reliability was found to be 0.88. An overall and reliable co-efficient for Academic self-regulation in learning scale was determined and thus found to be 0.97, which was high hence adopted in this study. Generally, academic self-regulation learning scores range from 54 and 216 high score on the range of sub-scale indicated a high usage of that particular strategy that was applied.

(ii) Document Analysis

Learner's achievement in academics was obtained from academic school achievement records; this was the end of term three examination. The obtained academic achievement results were then recorded in a table that was designed for the purpose of comparing the academic achievement among the different secondary schools, Z-scores and T-scores were used.

(iii) Data Collection

The instruments of research were administered during class time and during free time in various schools that were allocated by the school administration. Instructions about the completion of the measuring scales were given to those who participated. Participants were given time to fill questionnaires. Directors of studies were requested to avail records of participants' academic achievement. These records were availed in order to get the scores of the participants at end of the term evaluation.

(iv) Data Analysis

Quantitative data obtained using questionnaires were well organized, arranged and then coding was done using statistical package of social sciences (SPSS) Version 25, in order to carry out a statistical analysis for the purpose of obtaining descriptive statistics. Entry of data and cleaning was done in order to make sure no poor entry of data that could give wrong analysis. In order to properly explain the participants characteristics and for the purposes of summarizing collected research data, descriptive statistics was applied. Inferential statistics was used in hypothesis testing.

6. Findings

6.1 Demographic Information of the Respondents

A cross-tabulation was also done to determine the gender representation in the three age categories as shown in Table 2. Results of research presented in Table 2.

Table 2: Age and Gender Cross-tabulation

		Respondent's Gender		Total
		Male	Female	
Respondent's Age	15-17 years	196 (97)	194(97)	390(97)
	18-20 years	4 (2)	4(2)	8(2)
	21 and above	3 (1)	1 (1)	4(1)
Total		203(100)	199(100)	402(100)

Source: Field Data 2024

The results in Table 2 reveal that 97% of male students were between 15-17 years of age while those aged between 18 -20 years of age were 4 representing 2%. Male students aged 21 years and above were 3 representing 1%. For the girls, 97% were aged 15-17 years, 2% were aged 18-20 years while 1% were aged 21 years and above.

6.2 Relationship between Self-Regulation in Learning and Academic Achievement

6.2.1 Descriptive Statistics of Self-regulation

The researcher obtained descriptive statistics of self-regulation in academics to determine minimum score, the maximum score, range, the mean score, standard deviation, coefficient of skewness and kurtosis coefficient. The findings are presented in Table 3.

Table 3: Descriptive Statistics of Self-regulation Scores

	N	Range	Min	Max	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Kur</i>
SRL	402	108	108	216	167.73	18.59	.28	-.03

Note. SRL – Self-regulation in Learning, Min-Minimum, Max-Maximum

Source: Field Data 2024

As shown in Table 3, the minimum score obtained for self-regulation was 108 while the maximum score was 216, resulting in a range of 108. The mean score obtained, $M = 167.73(SD = 18.59)$. The coefficient of skewness was .28 indicating that the distribution was approximately symmetric. The kurtosis coefficient was -.03 implying that the distribution was platykurtic. The results suggest that a few students had very low and very high scores in SRL.

The descriptive statistics of self-regulation was also obtained by gender to determine if there exists mean differences between male and female students. Table 4 gives the results.

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Table 4: Descriptive Statistics of Self-regulation by Gender

Respondent's Gender	N	Min	Max	Range	<i>M</i>	<i>SD</i>
Male	203	108	208	100	166.47	17.69
Female	199	123	216	93	169.02	19.43
Total	402	108	216	108	167.73	18.59

Note. Min-Minimum, Max-Maximum

Source: Field Data, 2024

The results in Table 4 show that female students obtained highest mean score ($M = 169.02$, $SD = 19.43$). Their lowest score was 123 while the highest was 216. The minimum score of male students for self-regulation was at 108 while the maximum was 208 ($M = 166.47$, $SD = 17.69$).

The descriptive Statistics of self-regulation were also obtained based on the subscale of self-regulation which included of memory strategies, goal setting, evaluating self, seeking assistance, environmental structuring, responsibilities in learning, and organizing. Results are shown in Table 5.

Table 5: Descriptive Statistics of Self-regulation Subscale Scores

	<i>N</i>	Range	Min	Max	<i>M</i>	<i>SD</i>
Memory strategy	402	36.00	20.00	56.00	41.85	6.23
Setting Goals	402	11.00	5.00	16.00	12.57	2.15
Evaluation Self	402	25.00	23.00	48.00	37.14	4.97
Assistance Seeking	402	24.00	8.00	32.00	23.83	3.93
Environmental structuring	402	13.00	7.00	20.00	15.86	2.38
Responsibility in Learning	402	13.00	7.00	20.00	15.67	2.55
Organizing	402	13.00	7.00	20.00	16.28	2.22

Source: Field Data 2024

As shown in Table 5, the memory strategy sub scale had the highest mean score ($M = 41.85$, $SD = 6.23$) minimum score 20 and maximum 56. Self-evaluation sub scale had second highest mean score ($M = 37.14$, $SD = 4.97$) minimum score 23 and maximum 48. Seeking assistance subscale had the third highest mean score ($M = 23.83$, $SD = 3.93$) minimum score 8 and maximum score 32. Organizing subscale obtained the fourth highest mean score ($M = 16.28$, $SD = 2.22$) minimum score 7 and maximum score 20. Environmental structuring obtained the third lowest mean score ($M = 15.86$, $SD = 2.38$) minimum score 7 and a maximum 20. Learning responsibility obtained the second lowest mean score ($M = 15.67$, $SD = 2.55$) minimum score 7 and a maximum 20. The lowest mean score ($M = 12.57$, $SD = 2.15$) was obtained in goal setting subscale, minimum score 5 and maximum 16.

6.2.2 Descriptive Statistics of Academic Achievement

Descriptive statistics of achievement in academics scores were obtained to determine minimum score, also maximum score, range, mean score, standard deviation, coefficient of skewness and kurtosis coefficient. This was done after converting academic scores into t scores. Table 6 gives results.

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Table 6: Descriptive Statistics for Academic Achievement T scores

	N	Range	Min	Max	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Kur</i>
Academic achievement	402	66.45	14.83	81.28	50.10	10.65	-.24	.45

Table 6 shows that the lowest score of academic achievement obtained was 14.83 while the maximum was 81.28 ($M = 50.10$, $SD = 10.65$). The coefficient of skewness was $-.24$ indicating that the distribution was near normal. The kurtosis coefficient was $.45$ implying that the distribution was platykurtic. The results suggest that few students obtained high marks in academic achievement. Academic achievement results were obtained too by gender to determine if there exist any gender differences. Results were as shown in Table 7.

Table 7: Descriptive Statistics of Academic Achievement Scores by Gender

Respondent's Gender	N	Min	Max	Range	<i>M</i>	<i>SD</i>
Male	203	14.83	76.63	61.81	49.27	10.63
Female	199	18.05	81.28	63.23	50.94	10.63
Total	402	14.83	81.28	66.45	50.10	10.65

Source: Field Data, 2024

The results in Table 7 reveal that female students obtained the highest mean score ($M = 50.94$, $SD = 10.63$). Their minimum score was 18.05 while the maximum score was 81.28. The male students obtained a mean score of 49.27 ($SD = 10.63$). Their minimum score was 14.83 while the maximum was 76.63.

Hypothesis testing was done to determine relationship between self-regulation in learning and achievement in academics. To determine if this relationship was significant, the following hypotheses was subjected to Pearson correlation test.

H₀₂: There is no significant correlation between self-regulation in learning and achievement in academics among form three learners.

H_{02(i)}: There is no significant correlation between the subscales self-regulation(memory strategy, goal setting, evaluation of self, assistance seeking, environmental structuring, learning responsibility, and organizing) in learning and achievement in academics among form three secondary school students. Outcomes are revealed in Table 8.

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Table 8: Pearson Correlation Between SRL and Academic Achievement

		Academic Achievement
SRL	Pearson Correlation	.59*
	Sig. (2-tailed)	.00
	N	402
Memory Strategy	Pearson Correlation	.66*
	Sig. (2-tailed)	.00
	N	402
Goal Setting	Pearson Correlation	.44*
	Sig. (2-tailed)	.00
	N	402
Self-Evaluation	Pearson Correlation	.63**
	Sig. (2-tailed)	.00
	N	402
Seeking Assistance	Pearson Correlation	.43**
	Sig. (2-tailed)	.00
	N	402
Environmental Structuring	Pearson Correlation	.45**
	Sig. (2-tailed)	.00
	N	402
Learning Responsibility	Pearson Correlation	.51*
	Sig. (2-tailed)	.00
	N	402
Organizing	Pearson Correlation	.48*
	Sig. (2-tailed)	.00
	N	402

Source: Field Data 2024

Table 8 shows a positive and significant correlation between self-regulation in learning and achievement in academics, $r(402) = .59, p < .00$. Therefore, the null hypothesis was rejected and the alternative one adopted. For supplementary hypothesis, the results reveal existence of positive and significant relationship between all subscales of self-regulation in learning and achievement in academics, memory strategy, $r(402) = .66$; goal setting, $r(402) = .44$; self-evaluation, $r(402) = .63$; seeking assistance, $r(402) = .43$; environmental structuring, $r(402) = .45$; learning responsibility, $r(402) = .51$; organizing, $r(402) = .48, p < .05$. Therefore, the null hypothesis was rejected and alternative one adopted. The results imply that the higher the self-regulation among the students the higher the achievement in academics.

e. Discussion of the Results

The study established that there exists a positive and significant relationship between self-regulation in learning and achievement in academics. The theory of social cognitive of self-regulated learning (Bandura, 1986) can be used to explain the above findings. Bandura argues that self-regulated learners have inward feelings, actions and thoughts that originate from within self, and one has control over how they will influence their learning styles, and can positively or negatively influence the outcomes in academic performance that they strive to achieve. The students who rely on external motivation are less likely to apply self-regulated strategies of learning which may result in low academic achievement. The findings of this study support the results of similar studies conducted in the past.

For instance, Sahranavard et al. (2020) established that self-regulation had positive and significant influence on students' academic achievement, results that are congruent to those of the current study. This implies that students who are in full control of how they study have a greater chance of performing better than those who do not. Xiao et al. (2019) reported positive and substantial relationship between self-regulation and academic performance. The finding are supported by those of the current study and implies that the application of various regulation strategies can alter students' academic achievement.

A similar study carried out by Norsuhaily et al. (2017) among undergraduate students in Malaysia established a strong positive and significant relation between self-regulated learning and academic outcomes. These findings are consistent with those of the current study. The researchers further established that self-efficacy and adoption of various learning strategies are significant predictors of performance in academics among undergraduate learners. In China, Li et al. (2018) established that self-regulated learning strategies contributed greatly to improved performance in mathematics and physics. These findings indicate existence of positive and substantial correlation between self-regulation and academic performance, results which are supported by the conclusions of current research.

Another similar research done by Ningrum et al. (2018) in Indonesia established that learners with good self-regulation strategies attained better academic results than those who did not. This shows the existence of a relationship between self-regulation and academic outcomes, results which are supported by the current study. In their study, Ejubović and Puška (2019) established that metacognition, environment structuring, computer self-efficacy and social breadth positively influenced academic achievement among students. These findings are supported by the findings on the subscales of self-regulation in the current study which established that memory strategy, goal setting, evaluating self, seeking assistance, environmental structuring, learning responsibility, and organizing had a positive and significant relationship with academic achievement. However, Ejubović and Puška reported that goal-setting had no influence on academic achievement. The present study established a weak correlation between goal-setting and academic achievement.

At the continental level, Papageorgiou (2022) found that self-regulated learning strategies positively contributed towards students' success in academics in South Africa. These results are in tandem with those of the present study and indicates the importance of nurturing self-regulation skills among the students to help them perform better academically. In Uganda, Sangaire (2013) determined that self-regulation predicted academic outcomes among undergraduate students. These outcomes are consistent with those of the current study.

In Kenya, Kimani et al. (2022) reported positive significant relation between emotional self-regulation and academic performance in public secondary school learners in Nairobi County. In Nakuru County, the research done by Stephen et al. (2018) established

that self-regulated strategies were positively and significantly related to improved academic results in physics. In Migori County, Ochieng' (2015) found that self-regulation strategies were positively related to academic performance among secondary school students, though it was not being used effectively. Another study in Nairobi County by Mutweleli (2014) established that self-regulated learning had positive and significant correlation with academic performance among secondary school students. All these studies done in Kenya have given a significant correlation between self-regulation and achievement in academics, results which are in agreement with findings of current research. These outcomes imply that there is a need to focus on enhancing self-regulation strategies among the secondary school students to help them improve their academic achievement.

7. Conclusion

The aim of this research was to establish the relationship between self-regulation in learning and achievement in academics among form three learners. Research concludes that there exist a positive and significant relationship between self-regulation in learning and achievement in academics. Furthermore, there exists positive and significant relation between all subscales of self-regulation (which includes memory strategy, goal setting, evaluating self, seeking assistance, environmental structuring, learning responsibility and organizing) in learning and achievement in academics. The implication of these findings is that there is need to enhance students' self-regulation strategies to help them improve on their academic achievement.

8. Recommendations

a. Practice Recommendations

- i. The findings that there exists a positive and significant relationship between self-regulation in learning and achievement in academics implies that both teachers and parents should come up with programs to help students enhance their self-regulation strategies and skills by providing the necessary support to help them to improve their academic achievement.
- ii. School administration should help the teachers with the necessary teaching materials and resources geared towards improving students' strategies of self-regulation. This will enable the students achieve higher grades in academics.

b. Recommendations for Further Research

- i. Further studies should be done in other counties focusing on other classes to enhance generalization of the results.
- ii. Since research established that self-regulated learning significantly predict academic achievement, further research should be carried out in Kakamega county and other counties on factors that can be manipulated in order to enhance self-regulated learning so as to improve achievement in academics of secondary school learners.

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