



Principals' Management Strategies of Resources on Learners' Academic Achievement in Public Secondary Schools in Nyamira North Sub-County, Kenya

Sylvia Kerubo, Beatrice Nyakan, Elijah Omosa
Kisii University

Email: sylviakerubopamela@gmail.com

Abstract: *The study focused on the management strategies of principals on learners' academic achievement, despite government funding being similar, schools in Nyamira North sub-county perform below average. The study was guided by two objectives: assessing the principal management of infrastructural facilities and financial resources on learners' academic achievement. Systems theory was used; descriptive research design was employed. Data collected by questionnaires and interviews schedule. The target population was 54 principals and 580 teachers. A sample size of 16 principals was purposively sampled, and 163 teachers were randomly sampled. The study used stratified sampling, purposive and simple random sampling. Multiple linear regression technique was used in sampling. Data was collected and analysed both quantitatively and qualitatively. Pilot study and University experts assisted in validating the instruments while reliability was measured by test-retest method and the scores obtained were applied on Cronbach alpha to a certain the recommended threshold coefficient of ≥ 0.7 . Quantitative data was analysed by use of descriptive statistics inform of frequencies, averages, percentiles using SPSS while qualitative data inferential statistics was used. Quantitative data was presented on tables and graphs while for qualitative was presented in form of narratives where main ideas were quoted. The researcher also upholds the ethical consideration of the respondentsts, the study conclude that efficient management of resources has a positive impact on learners' academic achievement. The study recommended that the Ministry of Education and school leaders should ensure sufficient funding is offered for renewal of infrastructural facilities to enhance student learning.*

Keywords: *Management, Strategies, Resources, Academic achievement, Nyamira*

How to cite this work (APA):

Kerubo, S., Nyakan, B. & Omosa, E. (2026). Principals' Management Strategies of Resources on Learners' Academic Achievement in Public Secondary Schools in Nyamira North Sub-County, Kenya. *Journal of Research Innovation and Implications in Education*, 10(2), 259 – 271. <https://doi.org/10.59765/jprb3>

1. Introduction

1.1 Background to Study

Education is a foundation for every society's development and progress. It helps in the development of an individual as a whole. It has a pivotal role in shaping individuals, fostering critical thinking and equipping them with necessary skills. Access to quality

education is important to individual and societal development and the performance of education (World Bank, 2019). This quality in education is achieved through proper principals' management strategies. Principal management strategy refers to the style and techniques that school principals manage organizations to achieve their goals. These strategies include: planning strategy, organizing strategy, coordinating strategy, and control strategy.

Planning provides a path to lead the school from the current situation to achieving the desired outcomes leading to achievement of educational objectives because when the school principal plans on how to use and utilise the resources effectively then the learners outcomes are likely to be achieved (Gbollie & Keamu, 2017). The school principal through planning strategy will plan on how to get funds and budget well on the construction, renovation and improvement of the infrastructural facilities.

Another management strategy is organising. Organising involves arranging tasks and resources for efficient goal attainment. The principal ensures that infrastructural facilities that are necessary are available.

Another strategy used by the principals to achieve the educational goals is coordination strategy. The principals are supposed to bring together appropriate instructional materials and infrastructural facilities to create a conducive environment for effective learning and teaching to realise academic achievement of learners. The last management strategy is control strategy. By control strategy, the principals can check if the budget is spent correctly, infrastructural facilities are in good condition that create a conducive environment for teaching and learning.

All these management activities are driven by financial resources which is the major responsibility of most governments world-wide. School principals should be responsible to ensure that the funds are well utilized so that the schools may acquire the curriculum materials, learning resources and infrastructural facilities (Tannehill, Dermirhan, Caplova & Avsar, 2021). Sohn, Park and Jung (2023) argue that underperforming schools should be provided with extra funding and school principals should utilize the extra funds to create new academic programmes for learners to help improve learners' academic achievement.

In South Africa, Nonyashe (2017) argues that school principals should carry out their management roles in carrying out both the school curricular and even co-curricular activities to foster smooth, efficient and successful running of the school. Principals should execute their roles well to enhance effective teaching and learning that in turn could lead to positive learners' outcomes.

In Nigeria, Ossai (2021) states that to be effective administrators, principals should be involved in seminars, workshops to be trained on management issues. There should also be regular supervision of teachers to develop skills in both curricular and

curricular activities which enhances academic achievement.

In Ethiopia (Hadiso, 2018) notes that principals are found to be ineffective managers in schools in terms of management of teachers which hinders the academic achievement of learners.

According to the National Education Management Information systems (NEMIS) as of July 2021, the Kenyan government, through the ministry of education, funds public secondary schools and each learner receive a grant of Kenya shillings 22, 244 per year. Each learner is entitled to this amount, which is distributed termly in term of 50 percent for first term, 30 percent for second term and 20 percent for third term. Government funding to schools has increased learners' enrolment rates, and school attendance especially those learners from humble background. These funds have enabled principals to set up infrastructural facilities and purchase learning equipment (Nyakoe, 2020).

In Kenya the government funds education and the school principal who is the manager in the school plans and budgets on the funds allocated to the school. He is supposed to plan and organise on for infrastructural facilities and ensure they are adequate and well maintained for effective curriculum implementation and delivery (Mokaya, 2013).

Funding of education in Kenya is supposed to be at the beginning of every term but the funds are always allocated late like for the first term of the academic year 2023-2024 the funds were disbursed on march which was towards the end of the term this force most principals to send learners home for fees that will help in running the school. Learners sent home miss a lot teaching as the rest continue with the learning process hindering the learners' outcomes. Principals attend short courses driving their teaching career and administration skills to sharpen them for their leadership skills. Despite these trainings most principals still lack management skills, and this affects the learners' academic achievements in schools.

According to the ministry of education in Kenya the mean grading system ranges from A-(12 points) which is the maximum point to E- (1point).

Nyamira North Sub-County has registered a fairly low mean grade over the years, even though there was a positive trend in the deviation in 2022 and 2023, the deviations are still below average.

Table 1 shows an analysis of K.C.S.E KNEC examinations of Nyamira North sub-county from 2018 to 2023

Table 1: KCSE Mean Scores of schools in Nyamira North County.

Sub-county	2020	2021	2022	2023
Borabu	4.690	4.821	6.009	6.51
Nyamira South	4.258	4.429	5.230	5.30
Nyamira North	3.649	3.549	4.504	4.21
Masaba North	3.841	3.870	4.752	4.83
Manga	4.084	3.822	4.502	4.510

Source: Nyamira County Director of Education office.

These show that the sub-county is recording poor performance from the mean scores of KCSE results and hence the principals are to be blamed for the low performances. Despite government funding education to improve the performance of learners the sub- County is still recording low grades in the Kenya Certificate of Secondary Examinations, the mean being 3 and 4 which is below average thus high wastage rates as few learners are able to attain the university entry grade of a C plus.

1.2 Statement of the Problem

Most schools in Nyamira north sub-county have been recording low performances in the recent years although the Kenyan government implemented a strategy of funding school so as to help in the acquisition of adequate resources used in teaching and learning and KEMI induction of school principals on skills used to manage schools so as to improve the academic achievement of learners still the academic performance of learners is low.

It has also been observed that despite these challenges with the government funding being insufficient but uniform to the schools, there has been disparities in learners' academic achievement from school to school. According to the (sub- county director of education office, 2024) the mean grade of learners over the years is a D the highest being a D plus these shows that Nyamira North sub-county is still below average in the KCSE examinations scores and few learners manage to score a C+ which is the entry grade to the university. Few studies have shown that low performance has been attributed to inadequate learning resources, infrastructural facilities and financial resources which are crucial for effective teaching and learning. In Nyamira North sub county studies have not been done on principal management strategies therefore, there is need to investigate the principal management strategies of resources on learners' academic achievement in Nyamira North Sub-County.

1.3 Research Objective

The study was guided by the following objectives:

1. To assess the principals' management strategies of infrastructural facilities on learners' academic achievement in public secondary schools in Nyamira North sub-county.
2. To assess the principals' management strategies of financial resources on learners' academic achievement in public secondary schools in Nyamira North sub-county.

1.4 Theoretical Framework

The study was guided by systems theory. Systems theory was founded by Ludwig Von Bertalanffy in 1940. This theory states that any organisation is a single unified system of interrelated parts or sub-systems. Each part of the overall system is dependent on others and cannot function optimally without them. The school has various departments that should function appropriately to achieve the goal.

System theory comprises three components which include the input, the process and the output. The school is a system teaching and learning is a process used to transform the learners after they acquire the necessary knowledge and skills thus attainment of educational goals and objectives. Government funds schools and the principal who is the manager of the schools ensures the funds are allocated well in the provision of learning, infrastructural facilities and staff development and hence should plan, organise and budget well for the resources for effective curriculum implementation. The inputs are the independent variable, principal management strategies of infrastructural facilities, and finance. These will make learners to acquire the necessary knowledge and skills thus improved learners' academic achievement which the output (dependent variable). If one component fails, then it affects the whole system and hence principals should employ effective management strategies in managing infrastructural facilities and financial resource as they influence learners' academic achievement.

The whole of this process is driven by the funds from the government in which the principal uses to acquire

the necessary educational resources which creates a conducive environment for teaching and learning. In schools there is a relation between the teachers, learners and resources for teaching and learning to take place. The principal as the leader in school should be held responsible for the smooth running of the school. Arnold and Wade (2015) underscore that a system denotes a set of parts that are interrelated so as to function as a whole in order to achieve a common purpose.

2. Literature Review

2.1 Principal Management of Infrastructural Facilities and Its Implication on Learners' Academic Achievement

School infrastructural facilities are school buildings which include classrooms, laboratories, and libraries, playgrounds, dining hall, dormitories and latrines. These facilities are important in schools as they create a conducive environment which enable learners have access to teaching and learning making it effective and efficient thus high academic performance. School infrastructural facilities are not only a physical presence but also a determinant of a conducive learning environment. Recent studies by Dumont (2021) and Thompson (2023) indicate that schools with well-maintained classrooms, libraries, laboratories, and playgrounds witness higher academic performance among their students. Infrastructural improvements, such as the installation of smart classrooms, the provision of science laboratories equipped with modern tools, and the establishment of libraries with internet access, have had a notable impact on education systems worldwide.

Thompson (2023) says that school funding is used to manageable class size with these learners and teachers are attracted to learning thus influencing learners' academic achievement.

Filado and Vincent (2017) state the best facilities a school may have may fail to produce learners' good results for the school if they are not successfully implemented therefore principals should manage the infrastructure facilities well to achieve the desirable learners' outcome. Santika, Pargestu & Nurahlaini (2021) states that the management of infrastructural facilities by school principals has an impact on education and plays a crucial role in improving learners' academic achievement.

Akoto-Baako (2018) observes that smaller class size and a good school climate enable learners to participate in the learning process and this is enhanced by the management strategies employed by school principals leading to improved learners' academic achievement. Adeyanju (2018) posits that it is crucial for both learners and teachers to be provided with adequate and well-

equipped infrastructural facilities for learning and teaching process respectively. When a teaching and learning environment is comfortable the learners' outcomes are likely to improve.

In Uganda, Naigaga (2019) argues that well maintained and equipped laboratories furnished with safety equipment like first aid tool kits, fire extinguishers attract students to learn impacting positively on learners' outcomes.

In Kenya, Omae, Onderi and Mwebi (2017), says that libraries, science laboratories, latrines, classrooms and electricity when available and well managed create a positive school climate for teaching and learning enhancing learners' academic achievement. Ndemo and Kwaba (2023) posit that school principals should ensure that there are adequate and well-equipped infrastructural facilities such as classrooms, laboratories and libraries using the education funds provided by the government so as to improve the learners' academic achievement.

Lumuli (2022) schools with inadequate infrastructural facilities face challenges in running the school programs since it affects the teaching and learning process hindering learners' academic achievement. The government provides funds that are used to acquire and construct infrastructural facilities. Despite these the learners' outcomes of schools in Nyamira North sub-county is still below average this maybe because of the different management strategies of infrastructural facilities employed by school principals. In Kenya, schools like those in Nyamira North Sub-County continue to grapple with challenges related to poor infrastructure. Many schools lack modern science laboratories and digital libraries, and even basic necessities such as sufficient classrooms remain a challenge. These limitations prevent students from fully engaging in their learning, leading to low performance in national exams.

2.2 Principal Management of financial resources and its implication on Learners' Academic achievement

Financial management is the process of planning and utilizing of school funds in an efficient and effective way (Klapper, El-Zoghbi & Hess, 2016). Financial resources are crucial for the success. Financial management is the responsibility of every principal such that if the school funds are not well managed then the activities of a school may come to standstill hindering learners' academic achievement. In education financial management is the process of relating resources to the goals of a school which exists to provide education so as to achieve the desired outcomes. Proper planning, monitoring and control systems are crucial in ensuring efficient utilization of school funds (Paisley, 2018).

Therefore, school principals should be able to plan, budget and have control on how school funds are being used and account to enhance effective teaching and learning process.

In South Africa school funds were poorly budgeted such that funds are misallocated affecting the procurement process of school requirements which has hindered teaching and learning process hence negatively impacting on learners' academic achievement (Mestry, 2016).

Kariuki (2017) observes that despite the Kenya Education Management Institute inducting secondary school principals on financial management skills, school principals are still mismanaging school funds through misallocation and embezzlement of the funds which affecting the way in which the school activities are operated therefore leading to low learners' outcomes.

Junge, Bosire and Kamau (2018) argues that budget control and allocation have an impact on learners' academic achievement.

In Kenya regulations have been made to curb mismanagement of financial resources such as introduction of financial management policies, having qualified board of management and management policies (Munge, Kimani & Ngugi, 2016). Despite these measures there is still mismanagement, poor budgeting and misallocation of school funds therefore there is need to investigate the principal management of financial resources on learners' academic achievement in Nyamira north sub county, Kenya.

3. Methodology

3.1 Research Design

Research design is the overall strategy or plan for conducting research studies. The study employed descriptive survey research design. It is mainly concerned with collection of facts rather than manipulation of variables (Kothari, 2014). The design used both quantitative and qualitative methods in collecting and analysing data.

3.2 Target Population

Target population is the population in which the sample will be drawn from Kombo & Tromp (2018). The target population was 54 school principals and 580 teachers from public secondary schools in Nyamira North sub-county.

3.3 Sampling Technique and Sampling size

Sampling is the process of selecting a number of individuals from a population to be a representative of a larger group from which they are selected. According to the (sub-county director education office, 2024) there are 54 public secondary schools and 580 teachers in Nyamira North Sub County. The schools are categorised into 3 extra- county schools, 7 county schools and 44 sub county public secondary schools. The study used purposive, stratified and simple random sampling techniques to select proportionate number of schools. Kothari (2014) states that stratified sampling involves dividing a population into stratus then select samples randomly but independently from each stratum. The researcher selected one extra county schools, two county and 13 sub county schools. Simple random sampling and purposive sampling was then employed to sample 163 teachers and 16 principals respectively.

Creswell and Creswell (2018) observes that 30% of the population is the appropriate sample size, hence 163 teachers which constitute 30% was deemed appropriate for the study.

3.4 Instruments of Data Collection

The choice of research instruments depend on what research is all about and the nature of respondents to whom the instruments will be administered to. The study employed questionnaires and interviews instruments for data collection.

Questionnaire is a collection of items of questions which a research subject is expected to respond to (Omari, 2011). The researcher used self -administered questionnaires to teachers comprising of closed-ended questionnaires and Likert scale.

Interview schedule is a method of obtaining information from others in face-to-face contact. Interviews were administered to the 16 principals.

3.5 Piloting of research instruments

Connley (2008) states that a pilot study sample should be 10% of the actual sample size to be used in the study. Piloting was done on neighbouring sub county schools to help reveal if the research instruments to be used may have any defects.

3.6 Instrument Validity

This refers to the appropriateness of measuring instruments; the instruments should measure what it purports to measure (Orodho 2012). The researcher ensured that the questions are constructed well. And the

instruments that were used measured the purpose of the study. The supervisors and experts helped in testing the validity of the instruments. Content validity and construct validity was measured. Feedback from supervisors helped in validating research instrument.

3.7 Instrument Reliability

This refers to the accurateness and consistency of the data instrument (Fraenkel and Wallen, 2009). Instrument reliability was tested using test-retest method. Cronbach’s alpha was applied on the results to be obtained. For the research instruments to be reliable it will have a coefficient 0.7 and above. Data gathered from pilot study helped in measuring reliability of instruments.

3.8 Procedure of Data Collection

The researcher obtained an introductory letter from Kisii University Ethics Committee office to collect data. The researcher then applied for a research permit from the National Council for Science and Technology and Innovation (NACOSTI). The researcher also asked for permission from the County Director of Education. Obtain permission from the school principals also have the consent of the respondents to participate in the study. pay a visit to the schools to introduce themselves to the relevant authorities and make arrangements on how and when to administer the research instruments. The researcher visited the school to administer the research instruments,

3.9 Data Analysis

This is the simplifying of data in order to make it understandable. Descriptive statistics were used in analysing data. After data was collected, cleaned and sorted. Quantitatively data was assigned numerical values and tabulated, coded and entered into statistical analysis software using the computer program statistical

package of social science (SPSS) 26 version. The data was analysed using descriptive statistics in form of frequencies, averages and percentages and presented in form of charts and graphs in which data was interpreted. Inferential statistics analysing data for qualitative method, data obtained from open ended interview gave insights that were more detailed. The responses obtained were grouped into same responses of each item. Data was analysed thematically.

3.10 Ethical Considerations

This is whereby the researcher protects and respects the rights of those who have volunteered to participate in the study. First permission was sought from NACOSTI, the university, county director of education and school administration, the respondents were informed about the study, the researcher must have the consent of the individual to have agree to participate in the study and that they have a right to withdraw from the study at any time if one wants. The researcher was able to honour the agreement made with the respondents and be able to protect them from any form of abuse or harm. The researcher assured the respondents that the information obtained from them will be confidential. The respondents participated voluntarily and incentives were offered to the participants of the study.

4. Results and Discussion

4.1 Principal’s Management strategies for infrastructural facilities

Infrastructural facilities play a key role in the school environment. When principals manage these facilities well, they stay usable and available for school activities. This study looked at how principals maintain, use, and monitor physical resources in public secondary schools in Nyamira North Sub-County. The results, based on descriptive statistics, are shown in Table 2

Table 2 Frequency of Repair and Maintenance of Infrastructural Facilities

Statement	Frequently	Rarely	Never	Mean	Std. Dev
Development Opportunities	70	62	10	1.58	0.623

Table 2 Frequency of Repair and Maintenance of Infrastructural Facilities

Table 2 shows how often schools repair and maintain their facilities. These findings imply that infrastructural maintenance is undertaken in many schools within Nyamira North Sub-County, which is essential for sustaining the usability, safety, and longevity of school

facilities. In support of the literature, Ndemo and Kwaba (2023) posit that school principals should ensure that there are adequate and well-equipped infrastructural facilities such as classrooms, laboratories and libraries

using the education funds provided by the government so as to improve the learners' academic achievement. Beyond maintenance practices, the study also examined broader aspects of principals' management strategies relating to infrastructural facilities. Respondents were

asked to indicate their level of agreement with several statements concerning funding allocation, adequacy of facilities, accessibility, and their effectiveness in supporting teaching and learning. The descriptive statistics for these items are presented in Table 3

Table 3: Descriptive Statistics on Principals' Management of Infrastructural Facilities

Statement	SA	A	N	D	SD	MEAN	STD. DEV
Principal allocates enough funds for maintenance of infrastructural facilities	33	74	19	3	13	2.22	1.112
Infrastructural facilities are well equipped and maintained	26	64	29	9	14	2.44	1.158
The condition of infrastructural facilities affects students learning and motivation	32	63	25	9	13	2.35	1.168
Infrastructural facilities are accessible to all learners	32	73	20	8	9	2.22	1.058
Infrastructural facilities are effective for teaching and learning	36	71	18	6	11	2.19	1.104
Principal checks on learners' progress	41	75	10	4	12	2.09	1.110
The principal evaluates the effectiveness of infrastructural facilities	31	75	19	3	14	2.25	1.126
Scale Reliability							
Cronbach's Alpha (7 items)							
Cronbach's Alpha (standardized)	0.934						

Overall, the results presented in Table 4.2 suggest that principals in Nyamira North Sub-County play an active role in managing infrastructural facilities. These management practices are critical in creating supportive learning environments that enhance instructional effectiveness and contribute to improved student academic outcomes.

4.2 Principal's Management strategies of financial resources

Proper financial management ensures that schools can procure essential instructional materials, maintain

infrastructure, support staff development, and implement academic programmes that enhance student learning outcomes. In public secondary schools, principals are expected to demonstrate accountability, transparency, and adherence to financial regulations when managing school funds. The results are according to the literature, Bosire and Kamau (2018) argues that budget control and allocation have an impact on learners' academic achievement. Descriptive statistics including frequencies, means, and standard deviations were used to summarize respondents' perceptions. The results are presented in Table 4 provides a summary of the mean ratings for the financial management practices examined.

Table 4: Descriptive Statistics on Principals' Management of Financial Resources

STATEMENT	SA	A	N	D	SD	MEAN	STD. DEV
Principal organizes for income generating projects in school	26	56	29	13	18	2.58	1.250
Principal receives school funds from the government	52	71	10	3	6	1.87	0.944
Fee payment done through bank	38	71	19	3	11	2.14	1.082
Principal follows tendering guidelines in procurement of goods and services	31	71	20	6	14	2.30	1.155
The principal does not interfere with the tendering process	31	69	21	10	11	2.30	1.124
Principal consults H>O>Ds before budgeting and procurement of department goods and services	29	62	21	9	21	2.51	1.298
The principal communicates school projects and priorities at the beginning of the year	30	62	25	7	18	2.44	1.241
Scale Reliability							
Cronbach's Alpha (7 items)							
Cronbach's Alpha (standardized)	0.915						

Overall, the results presented in **Table 4** suggest that principals in Nyamira North Sub-County are actively involved in managing school financial resources. These practices reflect a commitment to accountability and collaborative financial management, which are essential for ensuring that available resources are effectively utilized to support teaching, learning, and overall school development.

4.3 Learner Achievement

Teachers were asked to rate statements relating to learners' academic achievement using a five-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. The reliability test produced a Cronbach's Alpha of 0.836, indicating good internal consistency of the eight items. This means the items consistently measured the same construct and were therefore retained for further analysis. Table 5 presents the frequency distribution for each Likert scale category together with the mean, standard deviation, and the reliability coefficient of the scale.

Table 5: Teachers' Perceptions of Learners' Academic Achievement (N = 142)

Statement	SDA (1)	DA (2)	N (3)	A (4)	SA (5)	Mean	SD
Students perform well in internal exams	19	70	46	7	0	2.29	0.76
Improvement in national exams	9	43	61	28	1	2.78	0.86
Assignments completed on time	6	25	60	48	3	3.12	0.87
Good understanding of content	17	57	52	16	0	2.47	0.85
Students apply learning in class	3	14	58	54	13	3.42	0.87
Students are academically motivated	8	36	65	30	3	2.89	0.88
Overall academic performance is satisfactory	4	27	55	51	5	3.18	0.88
Students demonstrate steady academic progress	13	52	58	17	2	2.60	0.87
Scale Reliability (Cronbach's Alpha)						0.863	8 items

The findings in Table 5 show varied perceptions among teachers regarding learners' academic achievement in public secondary schools in Nyamira North Sub-County. Overall, the results indicate mixed perceptions of learners' academic achievement, with moderate strengths in practical application of knowledge and assignment completion, but notable concerns regarding examination performance and conceptual understanding among students.

4.4 Influence of principal's management strategy on students' academic achievement

Pearson's correlation analysis was conducted to examine the relationships between principals' management strategies of school resources and students' academic achievement. The variables analysed included management of infrastructural facilities (MIF) and management of financial resources (MFR), and student academic achievement (SAA).

In addition, **management of financial resources (MFR)** is also strongly and positively correlated with **student academic achievement (r = 0.644)**.

Overall, the results demonstrate that effective management of infrastructural facilities and financial resources is significantly associated with improved student academic achievement in public secondary schools in Nyamira North Sub-County. Furthermore, the correlation coefficients among the independent variables are all below **0.70**, indicating that although the variables are related, they do not present serious multicollinearity concerns. This makes them suitable for inclusion in subsequent regression analysis to determine their individual and combined influence on student academic achievement.

4.5 Influence of principals’ management of infrastructural facilities on learners’ academic achievement in public secondary schools in Nyamira North Sub-County

To determine whether principals’ management of infrastructural facilities significantly predicts students’ academic achievement, an Analysis of Variance (ANOVA) was conducted as part of the regression analysis. The results of the ANOVA test are presented in **Table 6**

Table 6: ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1263.200	1	1263.200	77.140	.000 ^b
	Residual	2292.546	140	16.375		
	Total	3555.746	141			

a. Dependent Variable: SAA

b. Predictors: (Constant), MIF

As shown in **Table 6**, the **F-statistic (F=77.140 p=0.000)**. This means that principals’ management of infrastructural facilities significantly predicts students’ academic achievement in public secondary schools in Nyamira North Sub-County. This implies that the observed relationship between management of infrastructural facilities and students’ academic achievement is unlikely to have occurred by chance.

To further determine the specific contribution of principals’ management of infrastructural facilities to students’ academic achievement, regression coefficient analysis was conducted. The results of the regression coefficients are presented in **Table 7**

Table 7: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.007	1.412		5.672	.000
	MIF	.602	.068	.596	8.783	.000

a. Dependent Variable: SAA

Table 7 shows the results that management of infrastructural facilities (MIF) has a significant and positive impact on student achievement (SAA). The findings indicate that effective infrastructural management in terms of facilities maintenance, sufficient learning environments and accessibility of school infrastructure can be important to establish a favourable learning context that can improve the efficacy of teaching to students and to lead to improved academic achievement. These results demonstrate the need to reinforce infrastructure management and school-based practices to support educational quality, and performance.

4.5 Influence of Principals’ Management of Financial Resources on Learners’ Academic Achievement in Public Secondary Schools in Nyamira North Sub-County

To determine the extent to which these management of financial resources practices influence students’ academic achievement. The ANOVA results presented in **Table 8** show that the regression model is statistically significant (**F = 99.301, p < 0.001**). The regression sum of squares is **1475.501**, while the residual sum of squares is **2080.246**, giving a total sum of squares of **3555.746**. The significant F-statistic indicates that management of financial resources significantly predicts students’

academic achievement in public secondary schools in Nyamira North Sub-County.

Table 8 ANOVA Results for Management of Financial Resources and Student Academic Achievement

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1475.501	1	1475.501	99.301	.000 ^b
	Residual	2080.246	140	14.859		
	Total	3555.746	141			

a. Dependent Variable: SAA

b. Predictors: (Constant), MFR

The regression coefficients presented in Table 8 show that management of financial resources has a **positive and statistically significant effect** on students' academic achievement ($B = 0.645$, $\beta = 0.644$, $t = 9.965$, $p < 0.001$). This indicates that a **one-unit increase in effective management of financial resources is**

associated with a 0.645-unit increase in students' academic achievement, holding other factors constant. The constant ($B = 7.143$, $p < 0.001$) represents the baseline level of students' academic achievement when the predictor variable is held constant.

Table 9 Regression Coefficients for Management of Financial Resources and Student Academic Achievement

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.143	1.334		5.353	.000
	MFR	.645	.065	.644	9.965	.000

a. Dependent Variable: SAA

In conclusion, the results indicate that principals' management of financial resources significantly influences learners' academic achievement. The results also support the argument that financial accountability and transparency in schools promote effective utilization of educational resources. When principals involve relevant stakeholders such as school boards and teachers in budgeting and financial decision-making processes, there is increased accountability and better prioritization of resources for academic improvement

4.6 Qualitative Findings from Principals' Interviews Triangulated with Quantitative Result

Interviews were conducted with 13 principals in public secondary schools in Nyamira North Sub-County to complement the quantitative data obtained from questionnaires. Responses were thematically analyzed and categorized into two main study variables: management of infrastructural facilities and financial resources.

On the Management of Infrastructural Facilities, the interview results further revealed that principals recognize the importance of maintaining and improving infrastructural facilities. The findings support the quantitative results of the study, which indicated that **management of infrastructural facilities has a positive and statistically significant influence on learners' academic achievement ($\beta = 0.596$, $p < 0.001$).**

On the Management of Financial Resources, the interview findings also demonstrated that effective financial management is an essential component of school leadership. These responses support the quantitative findings, which revealed that **management of financial resources significantly influences learners' academic achievement ($\beta = 0.644$, $p < 0.001$).**

Overall, the qualitative findings demonstrate that principals' management strategies play a crucial role in influencing learners' academic achievement in public secondary schools in Nyamira North Sub-County. The qualitative evidence therefore complements the quantitative findings of the study. Together, the results highlight the importance of strengthening school leadership and resource management practices in order to enhance academic achievement in secondary schools.

5. Conclusion and Discussion

5.1 Conclusions of the Study

With the study findings, there are few conclusions that can be drawn:

The research results suggest maintaining the infrastructural facilities is essential leading to the favorable educational environment. Schools that have the proper condition in their building (classrooms, laboratories, libraries, and sanitation facilities) are able to conduct more impactful

instructional teaching and learning processes, which affect students' academic performance.

The study presents that good financial management practices through transparent financial dealings, proper budgeting and efficient funds allocation ensuring that essential education resources and programmes that contribute significantly to improving academic performance in secondary schools.

5.2 Recommendations

Guided by the findings of this study, the following recommendations were established:

1. The Ministry of Education and school leadership groups ought to invest on school infrastructure, such that resources are invested. Sufficient funding should be offered for periodic renovation, upkeep and renewal of classrooms, laboratories, libraries and other areas of study that enhance student learning to establish learning environments.
2. Transparent and procurement processes will need to be promoted, as well as a participatory budgeting process with HODs and other key stakeholders in financial management.
3. Education authorities need to create leadership training programs for school principals dealing with the matters of school resource management, financial accountability and instructional leadership to improve their performance to manage school resources efficiently.

5.3 Recommendations for Future Research

The study yielded important insights into the impact of the way principals manage educational resources on the academic performance of their learners, but here are several areas that merit further analysis. Future studies could:

1. Use multivariable regression models to examine joint impact of multiple school leadership practices on student achievement. When viewed with respect to a unified set of management practices, this would yield more nuanced insights into how one management practice weighs in the scales of a similar approach to management practices.
2. Consider how variables related to this question can be interlocked or interact with school personnel management, impacting learning outcomes: whether or not student-related factors such as motivation,

socioeconomic status, and parental involvement are associated with a positive impact in achieving academic success, or it is an interaction between school management approaches.

3. Be conducted in any other county or region in Kenya to enable comparison of findings and improve the generalizability of findings.

References

- Adeyanju, L. (2018). Teacher perception of the effects and use of learning aids in teaching. Nigeria Obatemi university press.
- Akoto-Baako, H. (2018). Perceived influence of large class size and psychological classroom environment on students' academic performance. Doctoral dissertation, university of Cape Coast.
- Arnold, R. D. & Wade, J. P. (2015). A definition of system thinking: Systems approach. Retrieved from <https://www.researchgate.net/publication/273894661>.
- Awour, W. A., (2018). Discipline strategies used on students and their influence on academic performance: A case study of Rachuonyo North sub-county, Homabay County.
- Cresswell, J. W., & Cresswell, J. D. (2018). Research Design: qualitative, quantitative and mixed methods approach. Thousand Oaks, CA: Sage publications.
- Day, C., GU. Q., & Sammons, P. (2016). The impact of leadership on student outcomes: How successful school leaders use transformational leadership and instructional strategies to make a difference. *Educational administration quarterly*, 52(2), 221-258. <https://doi.org/10.11770013161X15616863>.
- Dumont. (2021). School facility condition and student achievement. UCLA's Institute for Democracy, Education and Access (IDEA): Los Angeles, CA.
- Filado, M., & Vincent, J. M. (2017). Adequate and equitable US PK-12 infrastructure: priority actions for system report. A report from the planning for PK-12 School infrastructure Nation initiative. 21st century school fund.

- Fraenkel, R. J. & Wallen, E. N. (2009). How to design and evaluate resources in education. 4th edition Illinois F.E Peacock publishers, Inc.
- Gbollie, C., & Keamu, H. P. (2017). Students' academic performance: The role of motivation, strategies and perceived factors hindering Liberian junior and senior high school students learning. *Educational research international*; Hindawi. <https://doi.org/10.1155/2017/1789084>.
- Gyasi, R. S., Bao, X. W. & Owusu, Y. (2016). The effect of leadership styles on learners' performance. The case study of Asonomaso Nkwaba in the Kwabre District assembly of Ahsanti region Ghana. *Journal of Education and Practice*, 7(29), 1-10.
- Hadiso, S.M. (2018). Practices and challenges of educational leadership in selected secondary schools of Bole sub-county, Addis Abba, Ethiopia. *Global Journal of Current Research*, 6(1), 1-10.
- Junge, H., Bosire, M., & Kamau, S. (2018). Effects of Budgetary practices on performance on performance of Public Secondary schools in Nakuru Municipality. *Research Journal of Finance Accounting*, 5(8), 1-3.
- Kamau, A. N. (2021). Relationship between principal management practices & students' academic performance at KCSE in Muranga County, Kenya. Master's thesis.
- Kariuki, T. (2017). Budgeting: A Fundamental management too. KASNEB News line volume 1 page 4.
- Kibet, M., Kindiki, J., Sang, J. & Kitilit, J. (2012). Principal leadership and its impact on student discipline in Kenya secondary schools. Eldoret. Moi University press.
- Kimalele, B. C. (2019). Influence of instructional resources on children's early literacy performance in public pre-schools in kanduyi sub-county, Bungoma County, Kenya. Masters thesis. Kisii University.
- Klapper, L., El-Zoghbi., & Hess, J. (2016). Achieving the Sustainable Development Goals. Washington, D.C.: CGAP, 22 April.
- Kombo, D. K., & Tromp, D. L. (2018). Proposal and thesis writing. An introduction. Nairobi Paulines publication Africa.
- Kothari, C. R. (2014). Research Methodology Methods and Techniques New Delhi retrieved from, www.sciepub.com 12/09/2018.
- Mestry, R. (2016). Functions of school governing bodies in managing finances South Africa. *Journal of Education*, 26(1), 27-38
- Muliati, A., & Sihotang, W. (2022). Effectiveness of school resources and management in improving quality of education. *East Asian Journal of Multidisciplinary Research*, 1/ (5), 901-916.
- Munge, M. N., Kimani, E. M., & Ngugi, D. G. (2016). Factors influencing financial management in public secondary schools in Nakuru County. *International Journal of Economic and Management United Kingdom*, 4(9), 91-114.
- NEMIS. (2021). Government funding per learner.
- Ndege, R.W. (2017). Influence of principal administrative practices on students' academic performance in KCSE in Butere sub-county, Kenya.
- Ndemo, O. D., & Kwaba, J. (2023). Influence of instructional resources on pupil academic achievement in public secondary schools: A case of Manga sub-count, Nyamira County, Kenya. *East African Journal of Education*, 6(2), 315-322.
- Ndungu, N. M. (2018). Relationships between head teachers' leadership styles and school academic performance in public secondary schools in Kilifi County (unpublished thesis).
- Nonyashe, M. (2017). Leadership styles used by rural secondary school principals: A case study of eight rural secondary schools in Mthatha. Master thesis. Mthatha: Walter Sisulu University.
- Nyaga, L. (2016). Factors Affecting Financial Management practices in Public Secondary schools: A Case Study of schools in Embu West sub-county, Kenya. Unpublished thesis at KCA University.
- Nyakoe, N. J. (2020). Influence of government funding on academic achievement of public secondary schools in Nyamaiya division, Nyamira County, Kenya. *International Journal for Innovation Education and Research*, 8(1), 1-8.
- Olembo, J. O. (2017). Management in Education. Nairobi: Educational Research Publication.

- Olubakola, J.O. (2018). Principal management techniques and student academic performance in secondary schools in Ilorin LGA, KWARA Estate. *Anatolian Journal of education*, 3(1).
- Omae, N. S., Ondai, H. & Mwebi, B. (2017). Quality implications of learning infrastructure in secondary education: A small-scale study of a county in Kenya. *European Journal of Education studies*, 3(7), 96-113.
- Orodho, J. A., Waweru, P. N., Ndichu, M. & Nthinguri, R. (2013). Basic education in Kenya: Focus on strategies applied to cope with school-based challenges inhibiting effective implementation of curriculum. *International Journal of Education and Research*, 1(11), 1-20.
- Owalo, J. K. (2021). Success and challenges of implementing competence-based curriculum in Kenya. (Unpublished thesis, the Aga Khan University).
- Paul, M. B. (2022). Principals Management Strategies on Students' Academic Performance in public secondary school in Imenti North sub-county, Kenya. Master's thesis.
- Rakiro, A. L., Oyara, A., & Otengah W. (2021). Does the preventive approach work? *International Journal of Research in Education Humanities and Commerce*, 2(5), 57-66
- Santika, F., Pargestu, S. U., Nurahlaini, M. (2021). School facilities and infrastructure management in improving educational quality. *International Journal of Research and Innovation in social science*, 5(6), 280-285.
- Sohn, H., Park, H. & Jurg, H. (2023). The effect of extra school funding on students' academic achievement under a centralized school financing system. *Education, finance and policy*, 18(1), 1-24.
- Tannehill, D., Demirhan G., Caplova, P. & Avsar, Z. (2021). Continuing professional development for physical education teachers in Europe. *European physical education review*, 27(1), 150-167.
- Waweru, P. N. & Orodho, J. A. (2018). Management practices and students' academic performance in national examinations in public secondary schools in Kiambu county Kenya. *International Journal of Recent Scientific Research*, 5(8), 1464- 1471.
- World Bank. (2019). World Development Report: learning to realize education promise.