INFLUENCE OF INSTITUTIONAL DYNAMICS ON STUDENTS' ACADEMIC PERFORMANCE IN PUBLIC SECONDARY SCHOOLS IN TRANS NZOIA EAST SUB-COUNTY, KENYA

YOUR NAME IN FULL (Upper case and No abbreviations)

A PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF EDUCATION DEGREE IN ADMINISTRATION, LEADERSHIP AND MANAGEMENT OF MOUNT KENYA UNIVERSITY

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DECLARATION AND APPROVAL

Declaration

This thesis/project is my original work and has never been presented for any academic award in any institution.

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DEDICATION

To my parents Mr. Fredrick Magwaga and Mrs. Alice Magwaga for their support and my siblings Irene, Aggrey, Collins and Paul for their encouragement.

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ABSTRACT

Education is essential for individual growth and national progress, but its success largely depends on the institutions that sustain it. Identifying how these institutional factors contribute to or hinder academic success is vital for overcoming challenges in the education sector and promoting academic achievement. This study seeks to examine how institutional dynamics influences academic performance of learners in public secondary schools in Trans Nzoia East Sub-county. The study aimed to determine the following effects in the academic performance of students in public secondary schools in Kenya's Trans Nzoia East Sub-County: the influence of availability of physical facilities; influence of principals monitoring teachers' professional records; the influence of instructional resources; and the influence of the teacher-student ratio. The study was grounded in the education production function theory and incorporated a descriptive research design along with a mixed-methods approach to gain comprehensive insights. The research targeted a population of 4574 persons consisting of 73 principals, 1,280 serving instructors and 3221 senior students in government secondary institutions. Participants were selected using random sampling to appoint the sample of principals, teachers and students. A sample of 354 individuals were identified using the Krejcie & Morgan table (1970) of choosing the appropriate number of sample. The sample consisted of 6 principals, 99 serving teachers and 249 form four students. To collect data, the study used interviews, questionnaires, document analysis and observation. The instruments were piloted in three public secondary schools in Trans Nzoia West region. Validity testing was done by the researcher being assisted by professionals who expertise in various aspects of validy. In reliability, test-retest method was administered and determined by the Cronbatch alpha coefficient of a 0.7 threshold. . The analysis of quantitative data employed descriptive and inferential statistical techniques, with the aid of SPSS version 26 while qualitative data were categorized into themes corresponding to the study's key objectives. The key findings indicated a statistically significant association between institutional dynamics—such as physical facilities, principals' oversight, availability of instructional materials, and teacher-student ratios—and the academic performance of students. Based on these results, it is recommended that educational policymakers invest in enhancing physical facilities, establish robust monitoring systems for teachers, ensure adequate instructional materials are available, and address class size issues to improve academic outcomes for students in public secondary schools.

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LIST OF ABBREVIATIONS AND ACRONYMS

MOE: Ministry of Education

EPF: Education production function

TLM: Teaching and learning materials

OECD: Organization for Economic Co-operation and Development's

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This section provides a thorough overview that includes the background to the study, the problem statement, the objectives of the study, research hypotheses, rationale, justification, significance, limitation, delimitations, scope, assumptions of the study and operational definitions of terms.

1.1 Background of the study

Education plays a pivotal role in society by equipping students with knowledge, skills, and ethical values necessary for both personal development and professional success. For education to be truly impactful, it must occur within an environment that fosters learning. The institutional framework of a school is closely tied to this environment, as it influences the policies, procedures, and resources that directly affect students' educational experiences and outcomes. Harb and El-Shaawari (2006) suggest that poor student performance often stems from an institution's failure to create a learning atmosphere that adequately meets the needs of its students. Furthermore, studies cited by the Department of International Development (2007) highlight that the most critical factors in enhancing student achievement include access to textbooks and instructional materials, the presence of qualified and motivated teachers, and the provision of adequate physical resources.

In addition to this, a key factor in raising students' academic achievement is physical facility availability. Globally, studies have indicated that the presence and conditions of physical facilities affects the school's academic performance. As stated by (Bullock 2007) the association regarding institution building conditions and pupils academic performance in Virginia, USA a newly

constructed or recently refurbished facilities exhibits superior student performance, in comparison to an older facility. In addition to this, a study done by Neilson and Zimmerman (2014) at Princeton University and the University of Chicago regarding the impact of building new schools in Newhaven, Connecticut showed that there was significant increase in reading scores after relocating to a reconstructed or renovated school. The availability, adequacy and maintenance of physical facilities have an impact in process of learning and instruction which may negatively impact students' academic achievement.

A study conducted in India revealed that students attending schools with inadequate infrastructure—whether in makeshift spaces, under trees, or borrowed from other institutions—tend to perform poorly academically (Govinda & Varghese, 1993). Similarly, Arshad, Qamar, and Huma (2018) investigated the impact of physical facilities in public educational institutions on student achievement. Their quantitative study, utilizing a survey method, was conducted in the Sahiwal district of Punjab through multistage random sampling. They found that physical infrastructure accounted for approximately 15.4% of students' academic success. Fuller (1990), after reviewing numerous global studies on educational environments and construction, affirmed that physical infrastructure is a critical factor in shaping student outcomes. Given the significant role that these facilities play in academic performance, schools should prioritize the renovation and maintenance of their physical resources.

In Sub-Saharan Africa, there are shared trends and difficulties that relate to institutional dynamics. According to the Sub-Saharan Africa regional study, there are worries regarding human resource availability, physical resource availability, and the quality of physical facilities. This has been primarily brought about by underfunding in the education sector. Learning outcomes are important indicators of the quality of education, but the African Union Plan of Action for the second decade

of Education for Africa (2006–2015) also considered learner characteristics, teacher qualifications, competence, and motivation, subject matter relevance, professional support for teachers, and good governance when defining quality. According to research done by Baafi (2020) in Ghana, Students at senior high schools with good physical environments outperform those in less favorable learning environments. Sufficient educational facilities create an atmosphere that is favorable for learning. Respondent data was collected using a quantitative methodology in this study.

On a national perspective, the high population of students in public secondary schools in Kenya has been influenced by 100% transition rate policy from primary institutions to secondary institutions. Public secondary schools have suffered a major setback due to insufficient resources both human and physical in demand by the overwhelming number of students. According to a study carried out by (Murungi and Muthee 2017), the availability of resources was one of the factors that affected the KCSE performance in Kenya. They also stated that the physical design or arrangement of a classroom that supports the social and emotional requirements of the students is what makes it effective. This is backed up by research done by Luketero and Kangangi (2019) on the factors that influence students' academic performance in Kirinyaga Central region. With a representative sample of 163 participants and a descriptive survey technique, it was shown that 94.1% of the people surveyed concurred that pupils' performance is influenced by school resources. A study conducted by Akungu (2014) titled the impact of instructional resources on academic success in Embakasi District, discovered that apart from physical facilities and severe human resource shortages, which result in overstretched resources with yearly increases in enrolment rates, educational resources, particularly those used in learning in the classroom, such as chalk and charts, are accessible and in use in schools. This compromises the quality of education.

Trans Nzoia East Sub-county has experienced a substantial population surge in public secondary schools, mirroring the national trend. Although the pace of primary school migrations is ecstatic, this issue has also caused physical and human resources in rural places, such as Trans Nzoia East Sub-County, to become strained. Various factors affect institutional dynamics in Trans Nzoia East Sub-county. Due to tight budgets, most schools may experience a shortage of materials for instruction and learning. The head teacher's ability to review teachers' progress reports and keep tabs on their activities may be hampered by a shortage of administrative staff. Additionally, the students' academic success could be impacted by the increased ratio of students to teachers brought on by the high population. The educational institutions in Trans Nzoia East Sub County have complex institutional dynamics that call for a multifaceted strategy that includes funding teacher training and professional development, providing enough resources to schools, enhancing physical facilities, and encouraging a favorable teacher-to-student ratio.

By addressing these issues and striving to establish a more equitable and encouraging learning environment, stakeholders can raise the academic achievement of every student inside the sub-county.

1.3 Statement of the Problem

This research aims to explore how factors within the school environment may affect students' academic performance. The education setting has a big influence in shaping students' academic experiences; and hence the quality of institutional dynamics in the school influences their overall performance. In response to Kenya's 100% transition policy to secondary education, public schools now face resource shortages, which have impacted students' academic achievement. Over

the past five years, Trans Nzoia East Sub-County has reported below-average results in the Kenya Certificate of Secondary Education (KCSE), as illustrated in Table 1.

Following Kenya's 100% transition rate to secondary schools, the educational environment has insufficient resources, which affects students' academic achievement. It should be noted that in the last five years there has been a below par performance in the Kenya Certificate of Secondary Education (KCSE) in Trans Nzoia East Sub-County as table 1 illustrates.

Table 1: **KCSE** means score in Trans Nzoia East Sub-county

Year	2019	2020	2021	2022	2023
KCSE mean score	4.21	4.37	4.14	4.32	4.41

These figures suggest that specific aspects within the school environment may hinder students' academic performance. If institutional dynamics are not addressed, schools may continue to face challenges in improving academic outcomes due to unresolved structural and resource-related issues. Therefore, this study aims to determine how institutional dynamics influence students' academic performance in public secondary schools in Trans Nzoia East Sub-County, Kenya.

1.4 Purpose of the study

The purpose of this research is to examine how institutional dynamics impact students' academic performance in public secondary schools within Trans Nzoia East Sub-County, Kenya.

1.5 Objectives of the Study

1) To investigate the influence of physical facilities availability on students' academic performance in public secondary schools in Trans Nzoia East Sub-county.
2) To determine the influence of school Head teachers monitoring teachers' professional records

on students' academic performance in public secondary schools in Trans Nzoia East Sub-county.

3) To determine the influence of teaching and learning resources on students' academic performance in public secondary schools in Trans Nzoia East Sub-county.

4) To investigate the influence of teacher-pupil ratio on students' academic performance in public secondary schools in Trans Nzoia East Sub-county.

1.6 Research hypothesis

HO_1: There is no statistically significant relationship between physical facilities availability and students' academic performance in public secondary schools in Trans Nzoia East Sub-county, Kenya.

HO_2: There is no statistically significant relationship between head teachers monitoring teachers' professional records and students' academic performance in public secondary schools in Trans Nzoia East Sub-county, Kenya.

HO_3: There is no statistically significant relationship between teaching and learning resources and students' academic performance in public secondary schools in Trans Nzoia East Sub-county, Kenya.

HO_4: There is no statistically significant relationship between teacher-pupil ratio and students' academic performance in public secondary schools in Trans Nzoia East Sub-county, Kenya.

1.7 Justification for the research

The educational standing of students in public secondary schools in Trans Nzoia East Sub-county remains low despite the endless efforts of the Ministry of Education. This is presumably on account

of institutional dynamics. Principals, teachers, and students gathered data for the project, which examined the impact of institutional dynamics on academic performance in public secondary schools in Trans Nzoia East Sub-county. The study was pertinent since it is necessary to report on the connection involving institutional dynamics and students' academic performance in order to increase the body of information already in existence.

1.8 Significance of the study

The insights from this research are intended to assist education stakeholders, particularly school administrators, in crafting targeted plans to improve students' performance on national examinations at the local level. By understanding and implementing effective strategies, these leaders can foster more supportive and productive learning environments. Educators and teachers will have actionable strategies drawn from the findings to address specific factors influencing students' academic progress through informed decision-making.

Moreover, this research provides regional education officials with valuable insights for overseeing and supporting schools. They will be able to identify areas in need of development and allocate resources more efficiently to meet those needs. At the national level, the Ministry of Education (MOE) stands to gain a comprehensive understanding of how institutional dynamics impact academic success. With these findings, the MOE can refine policies such as the allocation of teaching and learning resources, the improvement of student-teacher ratios, and the enhancement of school infrastructure standards. Additionally, this study addresses structural challenges, guiding the Ministry in reforms aimed at enhancing overall educational quality and reducing disparities across different demographic and geographic groups.

1.9 Scope of the Study

The research addressed the impact of institutional dynamics on students' academic achievement in public secondary schools in Trans Nzoia East Sub-county, Kenya. It examined the influence of institutional dynamics such as physical facilities availability, head teachers monitoring teachers' professional records, teaching and learning resources and Teacher-pupil ratio on students' academic performance. The research study was undertaken in public secondary schools in a period of two months and involved principals, teachers and students.

1.10 Limitations of the Study

i. Busy Schedules of Participants: Several Head Teachers and teachers had demanding workloads, which made it difficult to schedule interviews at convenient times.

ii. Hesitation to Share Sensitive Data: Some respondents expressed reluctance to disclose sensitive information regarding the school.

iii. Need for Reassurance About Data Use: Participants required assurance that the information collected would be utilized solely for research purposes and would not lead to negative repercussions.

iv. Ensuring Participant Anonymity: To uphold confidentiality, participants were not asked to provide their names during the study.

1.11 Delimitations of the Study

i. Omission of Certain Variables: The research did not include variables that are not related to institutional dynamics, such as curriculum content, which may also affect students' academic success.

ii. Narrow Scope of Institutional Dynamics: The study focused on specific aspects of institutional dynamics, such as schools and libraries, while neglecting broader

influences like transportation.

iii. Constrained Geographical Focus: The investigation was limited to a particular geographical region to ensure the study remained manageable, which may restrict the applicability of the results to other areas.

1.12 Assumptions of the Study

The following assumption guided the research project's execution.

i. That institutional dynamics are the major determinant of academic success
ii. That improvements in institutional dynamics would lead to a rise in academic performance.
iii. That physical facilities are available in public secondary schools in Trans Nzoia East Sub-County
iv. That the monitoring of head teachers of teachers' professional records influences academic performance in public secondary schools in Trans Nzoia East Sub-County
v. That instruction and learning resources are sufficient in public secondary schools in Trans Nzoia East Sub-County.
vi. That teacher-pupil ratio affects academic performance in public secondary schools in Trans Nzoia region.

1.13 **Operational definition of key terms**

Institutional dynamics-refers to factors within the school environment

Students' academic performance- describes the degree to which a learner has fulfilled their immediate or long-term learning objectives.

Physical facilities- comprises of land, building and furniture that will be used

Physical facility adequacy-refers to whether a physical resource is sufficient to its users.

Progress records- refers to the materials that educators use to plan, carry out, and assess their students' learning processes.

Teaching and learning resources- refers to the tools that educators utilize to help students fulfill the learning objectives outlined in the curriculum.

Teacher- pupil ratio- is used to describe the proportion of students at the same educational level to teachers at the specified educational level.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section provides a summary of pertinent research on how institutional dynamics influences students' academic performance. It addressed the influence of head teachers monitoring teachers' professional records, the influence of teaching and learning resources, the influence of teacher-to-student ratio and the influence of physical facility availability on students' academic performance. A theoretical framework, a conceptual framework, and an assessment of the gaps in the literature are also included in this chapter.

2.1 Institutional dynamics and students' academic performance(Empirical Review)

The relationship between institutional dynamics and students' academic performance has increasingly gained attention in educational research. Various institutional factors, including the availability and quality of physical facilities, teacher monitoring systems, and access to essential learning resources, are often linked to academic outcomes. Empirical studies explore how these factors interact to shape the educational environment and, subsequently, student performance. Understanding this relationship is critical, as it can inform policies aimed at enhancing educational quality and achieving equitable outcomes. This review synthesizes key empirical findings on how specific institutional dynamics influence academic success in educational settings.

2.2 Physical facilities availability and students' academic performance

The quality of physical facilities stands as a cornerstone in determining the overall success of the educational process. As highlighted by Mohammad, Mohammad, and Mumtaz (2020), inadequate resources can yield graduates who are poorly prepared, thereby adversely affecting not just individual futures, but also the broader economy, social structures, and ethical standards of society. Hutton (2014), the general manager overseeing Texas schools, reinforces this notion by stating

that schools equipped with high-quality resources foster greater student engagement and attendance, regardless of the district's overall performance. This connection between consistent student attendance and enhanced academic outcomes illustrates the paramount importance of well-maintained learning environments.

In a comprehensive investigation into the factors linked to academic success in California, Tiruneh, Ahegaz, Bekel, Adamu, Kiros, and Woldeyes (2020) found that various aspects of physical facilities—such as overcrowded dormitories, substandard classroom conditions, unreliable internet access, insufficient library resources, and large class sizes—significantly impact students' academic performance. The findings indicate that the enhancement of students' academic achievements hinges on the quality of school amenities. Utilizing a cross-sectional research design, the study engaged 120 volunteers and collected data through questionnaires. McGowen (2007) aptly noted that school facilities are critical for achieving educational goals, as their availability influences both teacher and student performance. Ajayi and Ayodele (2001) further emphasized that a robust supply of physical resources is vital for effective teaching and learning oversight within the educational framework, illustrating that a lack of essential facilities—such as classrooms, offices, workshops, sports amenities, laboratories, and libraries—reveals systemic issues within the university landscape.

The study conducted by Olayinka, Olanipekun, and Oluwadaraet (2021) on the impact of school facilities in secondary institutions in Osun State, Nigeria, revealed that the low availability of crucial facilities—like adequately equipped science laboratories, computers, consistent electricity, healthcare services, and first aid kits—seriously hampers students' academic performance. Likewise, Yagambi (2023) explored how school infrastructure influences student learning and achievement in developing countries. This quantitative study utilized questionnaires to gather data

from 108 teachers across three secondary schools in Kinshasa. Yagambi concluded that sufficient school infrastructure is not just an option but a prerequisite for effective education, urging administrators to acknowledge this necessity rather than placing all blame for poor student performance on principals and teachers.

In a related investigation, Agbor, Onnoghen, and Nwachukwu (2022) examined the effects of physical amenities on undergraduate academic performance at the University of Calabar, Nigeria. Involving a sample of 600 students chosen through simple random sampling, their findings illustrated a significant relationship between the availability of physical resources and the academic success of environmental education students. This underscores the idea that effective education flourishes in environments where essential facilities are accessible.

Moreover, research assessing the impact of tangible resources on educational achievement in secondary schools funded by the Constituency Development Fund (CDF) in Rachuonyo South demonstrated that well-maintained physical facilities create an inviting learning atmosphere that enhances both teaching and learning experiences. Conversely, the presence of deteriorating facilities can obstruct students' education and diminish their motivation, particularly in environments lacking essential resources like computer labs, science laboratories, libraries, classrooms, and offices (Ojuok, Gogo, and Olel 2020). Notably, while previous studies focused solely on principals for data collection, the current research involved insights from principals, teachers, and students alike. This multifaceted approach enriched the study, allowing for a diverse array of perspectives and fostering a deeper understanding of the intricate relationship between physical facilities and students' academic success.

The cumulative findings from these studies powerfully illustrate the vital role that physical

facilities play in shaping academic achievement. They serve as a call for policymakers and educators alike to prioritize investments in school infrastructure, particularly in classrooms, to foster a more conducive learning environment.

2.3 Head teachers monitoring teachers' professional records and students' academic performance

In order to verify that teachers are meeting educational requirements, head teachers review teachers' professional records, which include lesson plans, to make sure they are effectively covering the curriculum. The head teacher must assess each teacher's proficiency and determine whether they are providing an excellent educational experience. Heinesen (2010) confirmed that instructors' skill and competency have a major role in raising students' performance and that their style of instruction improves students' comprehension of the material being taught. The standard of instruction provided will guarantee that students perform well academically. Professional development, which includes the availability of work plans, lesson plans, lesson notes, and work records, would be used to gauge the degree of quality.

According to Engin-Dermir (2009), lecturers are essential in fostering student progress and achievement. He confirmed that a teacher's credentials, subject-matter expertise, excitement, interactions with students, style of lecturing, and encouragement of discussion involvement all had a favorable and substantial influence on students' academic success. Therefore, Engin-Demir (2009) suggested that in order to promote learning, teachers should make use of suitable instructional strategies, resources, and basic technological equipment.

A quasi-experimental approach was used to look into how the job schedule affected the secondary school students' interest in chemistry and their academic performance. The population of the study

comprised 2,980 chemical students from all 30 secondary schools in Enugu State, Nigeria, and was represented by a representative sample of 120 students in chemistry from different secondary institutions that were randomly chosen from a wide array of secondary educational institutions in the study zone. A verified achievement exam and an interest scale-equipped questionnaire were employed to collect information. The study's results implied that learners' interest in and achievement in chemistry were influenced by their employment schedule. (Oyiga, Agah, Orakwe, and Okorie 2019). The above study highlights the value of professional records and how they impact students' academic achievement. It also concentrated on a single progress record, that is the work scheme, but the current study examined the impact of principals' monitoring of several professional records kept by teachers and how it influences students' academic achievement.

An investigation was conducted to determine whether academic accomplishment in Kandara Sub-County is impacted in any way by the supervisory function of head teachers in monitoring classroom progress. The study employed a descriptive research design. Information was gathered via a sequence of thorough interviews, document analysis, and questionnaires. A straightforward stratified random sampling was applied. Within the context of the study, a sample of 263 teachers, 24 head teachers, and 1 curriculum support officer took part. The mean of 1.53 suggested that head teachers do not keep an eye on classroom improvement, which was the most important finding. Thus, monitoring student development in the classroom and academic accomplishment were positively correlated. Therefore, the alternative was accepted and the null hypothesis was rejected (Maithya 2017). Although this study majorly focused on head teachers monitoring classroom progress, the current study focused on head teacher' monitoring teacher professional records and how it affects students' academic performance.

To discover more about the effect of principals' class visits on learners' KCSE academic performance in government high institutions in Mashuru region, more research was done. The study found that because principals did not visit classes frequently enough, the practice did not have the desired full impact on students' academic performance. Due to other administrative responsibilities, the principals did not have a set schedule for visiting classes, which adversely affected the KCSE academic performance of the learners in the government high institutions in the Mashuru sub-county. Thirteen principals were chosen through the use of purposeful sampling, and fifty-six instructors and sixty-six student leaders were chosen through simple random sampling. Data were gathered using teacher questionnaires and principal interview schedules. (Muasa, Ogola & Nzioki 2021).

This current study explores the impact of overseeing teachers' progress records on their professional growth and how this, in turn, influences students' academic results. Though prior research has largely examined teacher development and student performance separately, fewer studies have explored the connection between progress record management and its combined effect on both teacher improvement and student achievement. By filling this gap, the research aims to offer a better understanding of how systematic supervision of teachers can lead to improved educational performance.

2.4 Teaching and learning resources and students' academic performance

In the ever-changing domain of education, educators are crucial in forming the brains of the next generation. They rely on an extensive toolset of resources, which includes lesson plans, worksheets, exams, and other instructional materials, to successfully carry out this duty. In this endeavor, Teaching Curriculum Resources (TCR) prove to be invaluable allies, offering a wealth

of superior resources that assist educators in their pursuit of greatness. Lawrenz, Dede, Eisenkraft, McCoy, Fischer, Foster, Eisenkraft, and Levy (2020). Lack of resources hinders education and degrades student performance, according to the OECD Program for International Student Assessment (PISA) (OECD, 2007). Moreover, discrepancies in the resources provided to schools are also reflected in differences in student academic performance (OECD, 2008).

An investigation was conducted to find out how teaching aids, or educational resources, affected the academic performance of learners in Cross River State. To oversee the research, one hypothesis and one study query were developed. Using basic random sampling and stratified sampling approaches, a sample of 100 senior secondary learners were chosen from 5 schools in Cross River State. Instructional resources were used with 50 students (intervening group) and not with forty other students (comparison group). According to the study, pupils who received training using instructional materials outperformed those who did not receive it (Adalikwu & Iorkpilgh 2013). Using hypergeometric formulas, it was decided on the study's sample size. A total of 428 respondents, comprising 76 principals and 352 instructors, were chosen. Data was gathered through document analysis, principal interview schedules, and teacher questionnaires. The study found no statistically significant correlation (p-value=0.001<0.00) between teaching/learning assets and teacher's performance. The research additionally recommended that the principal of the school should balance the heavy workload of teachers and work closely with them as well as provide enough instructional materials and electronic tools for usage by both instructors and students (Mang'uui, Paul & Kimani 2021).

The impact of teaching-learning assets on student achievements in public primary institutions in Laikipia West region was also examined in further research. Descriptive survey method was implemented in the investigation. 490 educators were the target population. A deliberate selection

process was employed to select an appropriate number of participants of 220 teachers. Ten head instructors were also sampled by the researcher. Primary information was gathered using interview guides and semi-structured questionnaires. Correlation analysis was implemented to establish the connection between instructional materials and learners' academic performance. The data revealed that the academic accomplishments of learners in government primary institutions was greatly and favorably impacted by educational resource. In order to guarantee better academic performance, the Ministry of Education must supply public primary schools with enough teaching-learning resources in addition to an adequate number of teachers (Huranira, Ikiara, & Thuba 2022).

This current study aimed to scrutinize the impacts of textbook, instruction, and library assets availability on learners' academic achievement in public secondary institutions. Although the significance of instructional and learning assets for academic success cannot be overstated, it's crucial to recognize any possible discrepancies by realizing that the mere availability of these tools does not ensure their effectiveness. Teachers need to incorporate the resources into their lessons in the most effective way possible in order to attain good academic performance.

2.5 Teacher-student ratio and students' academic performance

Student-teacher ratio was cited by Kezar (2006) as a metric for assessing how well the educational system is working. According to research by Taft, Perkowski, and Martin (2011), student achievement and class size have a direct and significant correlation. Additionally, in smaller classes, pupils learnt more. They proceeded to say that the main advantage of smaller classes was in the areas where there were not nearly twenty students in the class. Ultimately, they concluded that small classrooms improved student responses, teacher morale, and the overall standard of the learning environment. Smaller classrooms, according to Walker (2011), result in reduced

disruptions in the classroom, additional time dedicated to teaching, and eventually better academic performance. This finding supported the findings of Akinsolu (2010), who concluded that the teacher-to-student ratio is a strong prognosticator of academic accomplishment in secondary institutions in Nigeria after finding a positive association between the ratio and students' academic performance.

In the Nigerian city of Port Harcourt, a study was executed to look into the impact of the learner-teacher ratio on the academic performance of a chosen group of secondary school pupils. Three senior secondary schools in the Port Harcourt State were randomly chosen, with 40 students drawn from the three schools, utilizing the method of random selection. The main tools utilized to gather the data were an Achievement Test in Mathematics and a questionnaire created by the researcher. The findings indicated a strong correlation between students' perceptions of the teacher-learner ratio and their academic performance. The findings also imply a substantial positive association between the duration of experience and certificates of teachers and the academic achievement of the students. 2014; Ajani & Akinyele.

Additional research looked into how the teacher-learner ratio affected the educational achievement of the elementary learners in Ogun State. For this study, 118 randomly chosen primary school teachers were used. The research tools included secondary data on the academic performance of the pupils as well as a structured questionnaire that addressed sociodemographic information. The ratio of students to teachers has a considerable influence on scholarly success, according to the results (Bello, Aderanti, Rosemary & Bankole 2019).

Additional research examined the impact of teacher-learner ratios on educational outcomes and academic performance in state universities. In Cameroonian public institutions, the effects of three

constructs related to student-teacher ratios—class size, teaching methodology, and teachers' workload—on students' performance and learning were examined. A survey was the method used for the investigation. Data were only provided by 101 University of Buea students and 39 educators using closed- and open-ended questionnaires. The findings showed that, as components of the student-teacher ratio, class size, the workload of teachers, and the approach to teaching all impact students' learning and academic performance in government universities in Cameroon. The findings led to a recommendation that the university administration expand educational facilities to reduce the total count of learners in overcrowded classes. Additionally, educational planners should make sure that the number of students increases in line with the need for more qualified teachers and infrastructure (Etomes & Lyonga 2020).

While existing research has examined the link between teacher-student ratios and educational outcomes, there is a lack of focus on how class sizes can overwhelm educators, hindering their effectiveness. This challenge often limits teachers' ability to cater to the unique needs of each student, which can negatively affect academic results. This study aims to address this gap by exploring the effects of class sizes on teachers' instructional capabilities and the subsequent impact on student performance.

2.6 Theoretical framework

The Education Production Function (EPF) theory, introduced by Bowles in 1970, draws from economic principles and asserts that various inputs lead to specific outcomes. In the realm of education, this theory illustrates how school inputs, commonly referred to as instructional dynamics, relate to student academic performance, which is the desired output.In this research, the inputs involved in the educational production framework are recognized as institutional dynamics.

These dynamics include several essential components: the availability of physical facilities, the oversight of teachers' professional records by head teachers, the presence of teaching and learning resources, and the ratio of teachers to students.

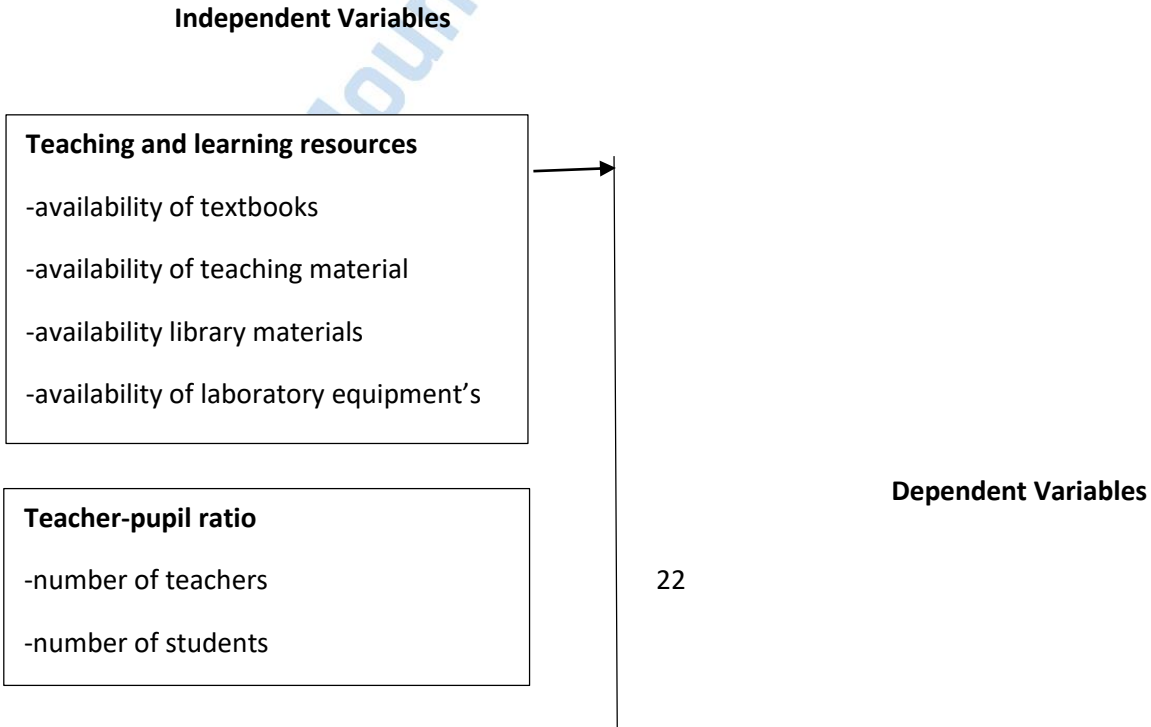
Availability of Physical Facilities refers to the quality and adequacy of critical infrastructures, such as classrooms, laboratories, and libraries. The EPF suggests that having adequate physical facilities plays a significant role in enhancing students' academic performance, as they create an environment conducive to effective learning. Monitoring of Teachers' Professional Records by Head Teachers is vital for ensuring high teaching standards. The active involvement of head teachers in reviewing teachers' professional documentation helps maintain quality in the classroom. According to the EPF, this consistent monitoring directly impacts the teaching and learning processes, subsequently benefiting student performance.

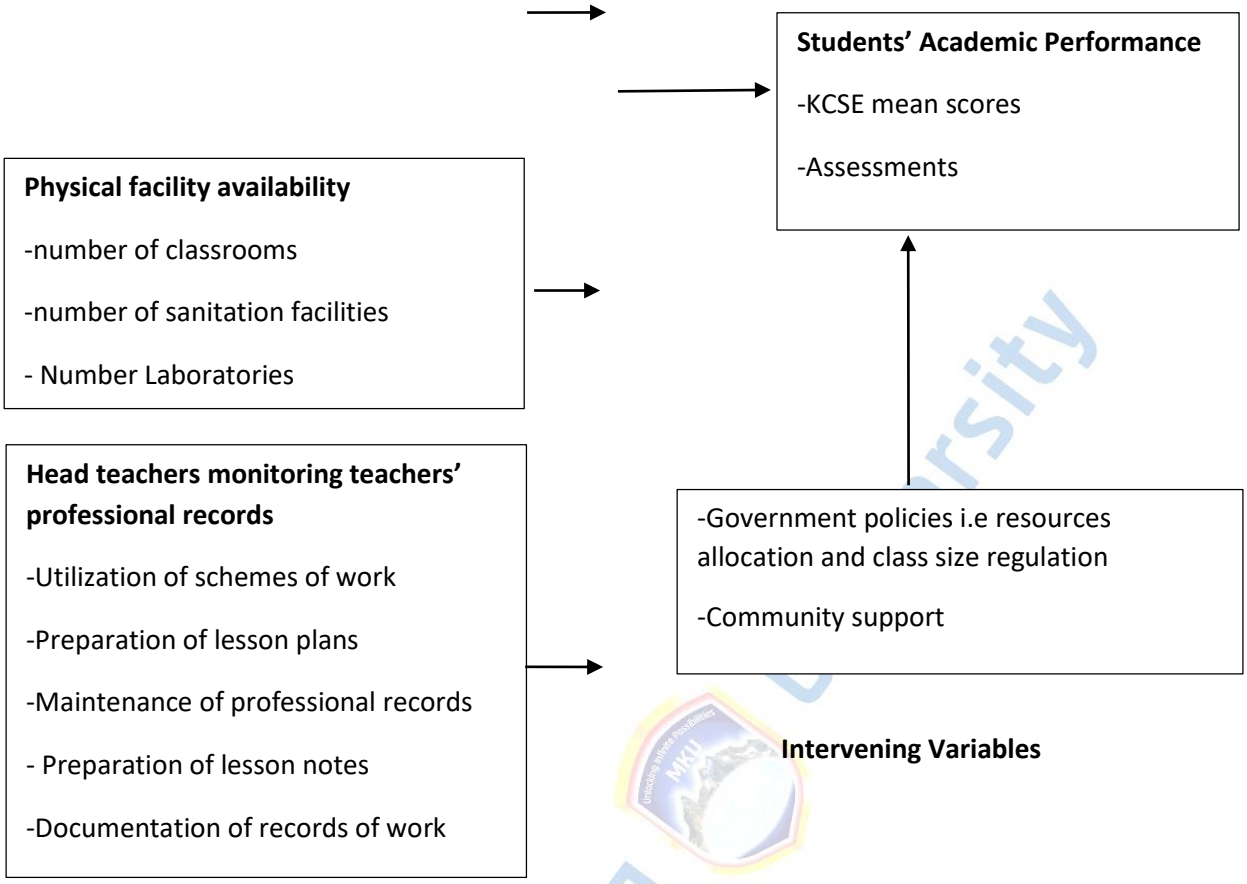
Teaching and Learning Resources, often labeled as learning aids, are essential tools that educators use to help students achieve the learning objectives set out in the curriculum. The EPF emphasizes that the adequacy and appropriateness of these resources significantly influence students' academic success.Lastly, the Teacher-to-Student Ratio refers to the number of students assigned to each teacher within a classroom. The EPF indicates that maintaining an optimal teacher-to-student ratio fosters better learning outcomes, positively affecting academic achievements.

Within this framework, the performance metrics of the Kenya Certificate of Secondary Education (KCSE) are utilized as a key indicator of educational outcomes, serving as a benchmark for evaluating the overall effectiveness of the school system. By analyzing these institutional dynamics through the perspective of the EPF, this study aims to clarify their combined influence on student academic achievement.

2.7 Conceptual framework

The conceptual model demonstrates the interactions between the variables under investigation and how institutional dynamics affect students' academic performance. According to Ordho (2009), independent variables are the elements that account for variations in the dependent variable. The availability of physical facilities, head teachers keeping an eye on teachers' professional reports, instructional and educational resources, and finally the teacher-to-learner ratio are the independent factors in the proposed research. Since these are independent variables, they have an impact on students' academic performance. For instance, if pupils and teachers have library materials, this will affect their achievement. The government policies, which are rules and initiatives put into effect by governmental entities in the field of education, are one of the example of the intervening variable. The dependent variable is the academic performance of the pupils, which includes their KCSE mean scores. Understanding recurring patterns in past performances enables tailored interventions to address particular gaps or obstacles in education that would later improve academic performance.





2.7 Research gaps

Previous studies have consistently highlighted how institutional factors influence students' academic outcomes. However, these investigations often varied in their methodologies, leaving certain factors unaddressed. For instance, Ojuok, Gogo, and Olel (2020) explored the relationship between physical resources and academic achievement in CDF-funded high schools. This study relied exclusively on data from principals, potentially omitting the valuable perspectives of teachers and students, which the current study aims to incorporate. Relying solely on principals may not fully represent student experiences or insights into institutional impacts on academic performance.

Etomes and Lyonga (2020) examined the influence of the student-teacher ratio on academic

success within Cameroonian public universities, focusing on instructional methods and teacher workload. Although insightful, this study did not consider other relevant factors, such as the implications of class size on teachers' performance, a factor explored in this research, which may indirectly shape student achievement.

Similarly, Maithya (2017) investigated whether the supervisory role of head teachers in monitoring classroom progress influences academic performance. While the oversight of teachers' professional records by head teachers contributes to academic outcomes, this study extends beyond this by exploring how regular monitoring of professional records may foster teachers' professional growth, thus enhancing their classroom effectiveness and, ultimately, students' academic success.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This section entails the sample size, sampling techniques, location of the study, study population, and research design. It also covers the research instruments validity, reliability, and piloting. The final part concludes with a review of data gathering techniques, data analysis methodologies, and ethical considerations.

3.1 Research Methodology

In order to better understand how institutional dynamics, affect learners' academic performance in public secondary schools in Trans Nzoia East Sub-County, Kenya, a mixed method approach was used in this study. According to Johnson, Onwuegbuzie, and Turner (2007), a researcher or team of researchers integrates elements from both qualitative and quantitative methodologies tools in mixed methods research. Understanding underlying causes, viewpoints, and motivations is the main goal of qualitative research (Orodho, Khatele, & Mugiraneza, 2016). Conversely, data that is numerical or that may be transformed into helpful statistics include the means by which quantitative research attempts to quantify the issue based on Orodho, Nzabalirwa, Odundo, Waweru, & Ndayambaje (2016). In this study, the perspectives of the school's stakeholders and quantifiable institutional dynamics were described through qualitative data, while unquantifiable institutional dynamics were described by quantitative data.

3.2 Research Design

For its implementation, the study made use of a descriptive research design. Orodho (2005) argues that because educational activities take place in a social context, it is beneficial to evaluate educational programs using a descriptive research approach. Krishnaswami (2001) states that this architecture makes it easier to observe, describe, and investigate occurrences as they naturally occur by gathering information directly from a population at a specific moment. This methodology is great for data collecting because the study would include obtaining firsthand responses from surveyed individuals while simultaneously examining existing concerns, all without altering the factors under investigation.

3.3 Location of the Study

The research was conducted in Trans Nzoia East Sub-County, which is located in the eastern section of Kenya's Rift Valley region. Trans Nzoia East Sub-County, situated at an elevation of 6117.42 feet above sea level, has an annual temperature of 20.47℃ and receives approximately 127.7 millimeters of precipitation (Trans Nzoia climate summary). Because of its good soils and suitable climate, agriculture is the primary socioeconomic activity. This particular site was selected for the study because it offers an extensive variety of educational institutions, from urban to rural, offering an extensive context for examining the influence of institutional dynamics on students' academic performance.Trans Nzoia East has seen significant development in educational infrastructure in recent years, driven by both government initiatives and private sector support. These advancements have led to the construction of new schools and upgrades to existing facilities, providing an ideal setting for studying how varying resource levels across institutions affect student performance

Academic outcomes across Trans Nzoia's sub-counties are likely shaped by variations in resource availability, including essential facilities like science and computer labs, libraries, and proper sanitation. Sub-counties that benefit from enhanced infrastructure and consistent educational support tend to show stronger academic performance, a pattern consistent with findings from other comparable regions. In contrast, areas with limited access to such resources may encounter challenges that could impact student outcomes. This pattern underscores the critical role of resource distribution in fostering equitable educational success within Trans Nzoia.

3.4 Target Population

The study's target group included 4574 persons consisting of 3221 form four students, 1280 teachers, and 73 principals from public secondary schools in Trans Nzoia East Sub-County, Kenya.

Table 2 : Target population

Target	**N**
Principals	73
Teachers	1280
Form four students	3221
Total	**4574**

Source: Trans-Nzoia East Sub-county county directorate of education office(2024)

3.5 Sample Size and the Sampling Procedures

The size of the sample and how it was selected are essential elements of the research project, and are examined in the part that follows.

3.5.1 Size of the Sample

A sample, according to Orodho (2009), represents a tiny sample of the intended audience. The Krejcie and Morgan (1970) table was utilized in this study as a reference to establish the suitable sample size. The data shows that a sample of 354 people, including 6 principals, 99 teachers, and 249 students, matched the target population size of 4574.

Table 3 : Sample frame

Respondents	**N**	**i = (N i X n)/N**	**n**
Principals	73	(73×354)/4574	6
Teachers	1280	(1280×354)4574	99
Form four students	3221	(3221×354)/4574	249
Total	**4574**		**354**

3.5.2 Sampling Procedures

Sampling, according to Orodho and Kombo (2002), is the process of selecting a subset of people or things from a population while making sure that the chosen subset accurately reflects the characteristics of the entire group. Stratified sampling, which divides the population into segments or strata according to particular criteria, was used in this study. Seven wards in the Trans Nzoia East Sub-County served as the boundaries of the zones, and the population was made up of form four pupils, teachers, and principals. Following the stratification of the population based on zones and roles, the researcher drew samples at random from each stratum, making sure that the total number of samples drawn is commensurate with the stratum's population size.

3.6 Data Collection Instruments

The following sections provides a brief summary of the instruments used for data collection.

i. Questionnaires for teachers and students

Questionnaires were utilized to collect information from both teachers and students in public secondary schools in Trans Nzoia East Sub-County, Kenya. Mugenda and Mugenda (1999) explains questionnaires to be a set of questions with a predetermined format that researchers use to collect data in order to analyze it.

ii. Interview guides for Principals

An interview is the oral delivery of an interview schedule, according to Mugenda & Mugenda (1999). Six principals in public secondary schools in Trans Nzoia East Sub-County were interviewed by the researcher.

iii. Document analysis

The past five years' average academic success in the KCSE were gathered. According to Mugenda & Mugenda (1999), documentation analysis entails a critical assessment of recorded information, both public and private, pertaining to the topic of study.

iv. Observation

The comprehensive characterization of incidents, actions, and artifacts in the societal setting chosen for study" is how Marshall and Rossman (1989) describe observation. The condition of the physical facilities, the ease of access to instructional materials, and the overall vibe of the learning environment were observed.

3.7 Piloting of the Instruments

A pilot study was conducted in two public secondary schools Trans Nzoia West Sub-County. The ultimate objective of the study, according to Mugenda & Mugenda (2003), is to guarantee the validity and reliability of the research equipment.

3.7.1 Validity of the tools

According to Orodho (2009), a test's validity is determined by how well it assesses the intended subject. The researcher enlisted the aid of specialists in the field who are knowledgeable in several facets of validity, including construct, criteria, and content validity.

3.7.2 Reliability of tools

To achieve reliability, a test-retest protocol was employed. This entails repeating the same test twice over time in order to show consistent results. The Cronbach Alpha Coefficient was used by the researcher to evaluate dependability, and a Cronbach alpha of 0.7 or higher was regarded as dependable.

3.7.3 Data collection procedures.

The investigator obtained a confirmation note from Mount Kenya University's School of Post Graduate Studies after the project received approval by the Department of Education. This letter

was used by the researcher to ask Kenya's National Council of Science, Technology, and Innovation (NACOSTI) for authorization to conduct research. The surveys were personally hand delivered to school stakeholders by the researcher and an employed research assistant. To help respondents feel prepared, the researcher provided guidance before distributing the questionnaires to both teachers and students. Furthermore, appointments were scheduled for interviews with the principals

3.8 Data analysis techniques

Quantitative data was analyzed, summarized and interpreted using frequency tables, standard deviation, percentages and central measures. To assess the quantitative data, SPSS version 26, a statistical tool for social scientists, was used. Large data sets can be handled with SPSS, which is also very efficient and time-saving (Orodho, Ampofo, Bazimana, and Ndayambaje 2016). The analysis encompassed the calculation of frequencies and percentages, using Pearson correlation to evaluate the relationships between the variables. Moreover, one-way ANOVA was applied to compare means among different groups, as it is effective for examining variations within a single factor. The findings were subsequently displayed in table format. In contrast, the qualitative data gathered from the interviews were sorted into themes that emerged from the research questions. The findings were then showcased through selected quotations.

Table 4 outlines the connections between various independent variables—such as the availability of physical facilities, teacher monitoring practices, teaching and learning resources, and teacher-student ratios—and their influence on student academic outcomes. The data is based on responses collected from questionnaires given to both students and teachers. The table specifies the types of data for each variable and the statistical methods applied (including Pearson Correlation and ANOVA) to analyze these relationships.

Table 4:Analysis of Research Variables and Student Academic Performance.

Objectives	**Independent variable**	**Indicators/Type of data of IV**	**Dependent variable**	**Indicators/Type of data of DV**	**Tool of analysis**
1)To determine the Impact of physical Facilities availability on students' academic performance in government high schools in Trans Nzoia East region , Kenya.	Physical facilities availability	Number of physical facilities i.e. classrooms - continuous data	Academic performance	Mean scores -continuous data	Pearson correlation analysis
2)To determine the impact of head teachers monitoring teachers' professional records on students' academic performance in government high schools in Trans Nzoia East region, Kenya.	Head teachers monitoring teachers' professional records	Frequency of record monitoring - continuous data	Academic performance	Mean scores -continuous data	Pearson correlation analysis
3) To determine the impact of teaching and learning resources on		Number of teaching and	Academic performance	Mean scores	

students' academic performance in government high schools in Trans Nzoia East region, Kenya.	Teaching and learning resources	learning resources - continuous data		-continuous data	Pearson correlation analysis
4) To determine the impact of teacher-pupil ratio on students' academic performance in government high schools in Trans Nzoia East Sub-county, Kenya	Teacher-pupil ratio	Number of teachers to students - categorical data	Academic performance	Mean scores -continuous data	ANOVA one way analysis

3.9 Ethical consideration

This research prioritized ethical standards to ensure the protection and respect of all participants involved, it:

i. Ensured a high standard of privacy protection for all participants to safeguard their information.

ii. Maintained strict confidentiality of all research data collected throughout the study.

iii. Obtained informed consent from participants before data collection and acquired parental consent for participants who were minors.

iv. Sought official authorization from the Ministry of Education to access public secondary schools in Trans Nzoia East Sub-County.

v. Verified that all communications related to the research were accurate and transparent.

vi. Preserved participant and institutional anonymity by not disclosing any identifying details or sensitive personal information.

vii. Complied with ethical guidelines to ensure that participant well-being was prioritized and that their involvement was entirely voluntary.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.0 Introduction

This chapter presents the results of the data analysis, presentation, interpretation, and discussion. The study looked at how institutional dynamics affected public secondary schools in Tran Nzoia East Sub-County, Kenya. The chapter is divided into several subsections, which consist of the response rate, the respondent demographics, and the primary goals of the study, which are;

1) To investigate the influence of physical facilities availability on students' academic performance in public secondary schools in Trans Nzoia East Sub-County.
2) To determine the influence of school head teachers monitoring teachers' professional records on students' academic performance in public secondary schools in Trans Nzoia East Sub-County.
3) To determine the influence of teaching and learning resources on students' academic

performance in public secondary schools in Trans Nzoia East Sub-County.

4) To investigate the influence of teacher-pupil ratio on students' academic performance in public secondary schools in Trans Nzoia East Sub-County.

4.1 Response Rate

A response rate of 75.1% was obtained from the 357 questionnaires that were sent out to respondents, of which 268 were returned. The low response rate was primarily due to a shortage of both teachers and form four students across the six schools. This shortage limited the number of potential respondents, ultimately affecting the overall participation in the study. In addition to the questionnaires administered to teachers and students, interviews were conducted with 6 principals, all of whom participated, resulting in a 100% response rate for the interviews. According to guidelines provided by Mugenda and Mugenda (1999), a response rate of 70% or more is generally regarded as adequate for research. In this case, the 75.1% return rate surpasses this benchmark, ensuring that the data is sufficient for thorough analysis. This level of participation enhances the credibility of the results and reduces potential issues related to non-response bias.

Table 5: Response rate

Category	**Administered**	**Returned**	**Response Rate (%)**
Teachers	99	51	51.5
Students	249	217	87.1
Total	357	268	75.1

4.2 Demographic characteristic of the respondents

The collected demographic information included both academic performance and gender. These elements were considered essential for understanding the relationship between academic success and institutional dynamics within Trans Nzoia East Sub-county, Kenya.

4.2.1. Gender of the respondents

As part of collecting demographic data, respondents were requested to indicate their gender. The survey results provide a detailed overview of participant distribution by gender. Analyzing these gender-based trends or patterns allows us to evaluate if gender has a notable impact on the research variables and outcomes.

Table 6: Gender of the respondents

Category	Frequency	Percentage
Male	128	46.72%
Female	146	53.28%
Total	274	100%

As illustrated in Table 6, the overall majority of the respondents were female, totaling 146 individuals, which represents 53.28% of the sample. In contrast, the male respondents accounted for 128 individuals, comprising 46.72% of the total. This group included a diverse mix of both students and teachers. Specifically, within the teaching staff, there were 19 female teachers and 38 male teachers, a group that also included school principals. Among the student respondents, 127 were female and 90 were male. These gender demographics provide a clearer understanding of the composition of the sample, offering insight into the representation of both genders across the student and teacher populations in the study.

Table 7:Category of gender of the respondents

Category	Principal	Teachers	students	Percentage
Male	5	33	90	46.72%
Female	1	18	127	53.28%
Total	6	51	217	100%

4.2.2.Respondents' Level of Education

The respondents were asked to specify their highest level of education as part of the demographic information collected for the study. These details are critical in understanding the educational background of the participants, which may influence their perspectives and responses to the study's questions. The results, as presented in Table 8, provide a comprehensive breakdown of the various education levels achieved by the respondents. By analyzing this data, we can identify patterns or trends related to education, which may be relevant to the research findings and interpretation.

Table 8: Respondents' level of education

Category	Frequency	Percentage
Diploma	9	17.6%
Graduate	40	78.4%
Postgraduate	2	3.9%
Total	51	100%

The majority of the respondents, specifically 9 teachers (17.6%), reported having a diploma in education, while a larger portion, 40 teachers (78.4%), indicated they hold an undergraduate degree in education. A smaller group of 2 teachers (3.9%) possessed postgraduate qualifications in education. This distribution reflects a well-qualified sample of professional educators, with the vast majority having attained at least an undergraduate level of training, which is generally considered the foundational qualification for teaching in secondary schools.

The presence of teachers with postgraduate qualifications further highlights the advanced expertise within the group. This suggests that the respondents have a strong educational background and are well-equipped to provide informed perspectives on the study's focus, particularly concerning the influence of institutional dynamics, such as physical facilities on academic performance. The high level of qualification among these teachers implies that their insights into the factors affecting student achievement are grounded in professional experience and academic knowledge. Therefore, their responses are likely to provide valuable data for understanding the relationship between institutional dynamics and educational outcomes.

4.3 Influence of physical facilities availability on students' academic performance

The study utilized both descriptive and inferential statistical analysis to assess the impact of the availability of physical facilities on academic performance in public secondary schools within Trans Nzoia East Sub-County, Kenya. Descriptive statistics were employed to summarize and present the general trends and distributions of responses, offering a clear view of how both teachers and students perceive the state of physical facilities in their schools. Inferential statistics, on the other hand, were applied to draw conclusions and make predictions about the influence of these facilities on academic outcomes, allowing the research to establish potential relationships between facility availability and performance.

Table 9 provides a detailed breakdown of the analysis, capturing responses from both teachers and students regarding the presence and functionality of various physical facilities in these schools. Participants were asked to respond to a combination of Yes/No questions and Likert scale items. The Yes/No questions focused on whether certain essential physical facilities, such as classrooms, libraries, laboratories, and sports fields, were available and operational in the schools. The Likert

scale questions allowed respondents to express their level of satisfaction or dissatisfaction with the quality and adequacy of these facilities, using a scale ranging from "Strongly Agree" to "Strongly Disagree."

By integrating both types of questions, the analysis offers a nuanced perspective on the condition and accessibility of physical resources in the public secondary schools of Trans Nzoia East Sub-County. This approach not only highlights the availability of these facilities but also captures the participants' perceptions of their functionality and effectiveness in supporting the learning environment. The data collected from these responses forms the basis for understanding how the presence or absence of key physical resources may contribute to differences in academic performance across the region.

Table 9: Response for the availability of physical facilities

Questions	**Yes**	**No**
Does your school have science labs?	176	94
Does your school have computer labs?	154	116
Does your school have a library?	184	86
Does your school have dormitories?	98	174
Does your school have sanitation facilities?	267	3
Does your school have open fields for games?	262	6

From the responses gathered, it appears that while a majority of respondents believe that the overall physical facilities in the schools are adequate, there are notable concerns regarding the availability and adequacy of specific key facilities. In particular, dissatisfaction was expressed toward the library and computer labs, which were identified as areas lacking in resources or infrastructure. It's important to note that dormitories were excluded from this analysis, as the data was also collected from day schools where such facilities are not applicable. This contrast suggests that, despite the generally positive perception of physical facilities, there remain critical gaps in essential academic resources that could affect student performance and overall school experience.

To gain a clearer understanding of the respondents' perceptions of the availability of physical facilities, descriptive statistics such as frequency, percentage, and mean distribution were employed. These statistics were used to analyze responses to a five-point Likert scale measuring levels of agreement with statements regarding physical facility availability. The summarized findings, including these statistical measures, are presented in Table 10, offering a comprehensive overview of the consensus among respondents.

Table 10: Descriptive statistic for the influence of physical facilities availability on academic performance in public secondary schools

Variable	Respondent	0	Strongly disagree	disagree	neutral	agree	Strongly agree	mean	Std.Dev
Impact of science labs on academic performance	Teacher	4	1	-	7	18	21	3.90	1.418
	%	7.8	2.0	-	13.7	35.3	41.2		
	Student	-	7	8	17	52	133	4.36	1.001
	%	-	3.2	3.7	7.8	24.0	61.3		
Impact of computer labs on academic performance	Teacher	24	4	1	5	9	8	1.90	2.062
	%	47.1	7.8	2.0	9.8	17.6	15.7		
	Student	29	58	22	29	33	46	3.09	1.896
	%	13.4	26.7	10.1	13.4	15.2	21.2		
Impact of libraries on academic performance	Teacher	17	-	2	6	11	15	2.7	2.136
	%	33.3	-	3.9	11.8	21.6	29.4		
	Student	29	37	15	19	38	79	3.09	1.896
	%	13.4	17.1	6.9	8.8	17.5	36.4		
Impact of dormitories on academic performance	Teacher	17	2	-	6	11	15	2.73	2.136
	%	33.3	3.9	-	11.8	21.6	29.4		
	Student	29	42	16	28	39	63	2.90	1.843

	%	13.4	19.4	7.4	12.9	18.0	29.0		
Impact of sanitation facilities on academic performance	Teacher	1	-	1	9	16	24	4.18	1.014
	%	2.0	-	2.0	17.6	31.4	47.1		
	Student	-	16	12	21	41	127	4.16,	1.245
	%	-	7.4	5.5	9.7	18.9	58.5		
Impact of open fields on academic performance	Teacher	3	-	1	9	14	24	4.02	1.304
	%	5.9	-	2.0	17.6	27.5	47.1		
	Student	-	16	23	22	60	96	3.91	1.277
	%	-	7.4	10.6	10.1	27.6	44.2		

This section presents findings on the influence of physical facilities on academic performance in government high schools in the Trans Nzoia East Region. The analysis incorporates responses from both teachers and students, evaluated through various statistical measures including frequencies, percentages, means, and standard deviations.

The data reveal a generally positive perception of science labs among respondents. A significant majority of teachers, 76.5%, either agreed or strongly agreed that science labs positively impact academic performance, with a mean score of 3.90 and a standard deviation of 1.418. Similarly, 85.3% of students shared this sentiment, with a mean score of 4.36 and a standard deviation of 1.001. This high level of agreement underscores a broad consensus on the beneficial role of science labs in enhancing educational outcomes. This observation was further corroborated by one of the interviewees who stated that;

> *The availability of adequate school facilities significantly impacts students' academic outcomes. In particular, well-equipped science laboratories contribute greatly to performance, as they provide students with hands-on learning experiences that reinforce theoretical knowledge*

and improve understanding, especially in subjects like Chemistry, Physics, and Biology…Male interviewee,49 years. Head teacher

This suggests that the presence of quality physical facilities is vital for boosting academic performance, as these resources greatly influence the learning environment and student involvement. Adequate amenities improve students' study conditions and enrich their educational journey. Mohammed (2019) highlights that such facilities are a significant factor in achieving academic excellence within the educational system.

In contrast, the perceived impact of computer labs on academic performance was notably lower. Only 33.3% of teachers believed that computer labs positively influence performance, reflected in a mean score of 1.90 and a high standard deviation of 2.062. Students expressed a slightly more favorable view, with 36.4% agreeing on their positive impact, resulting in a mean score of 2.54 and a standard deviation of 1.782. These findings suggest that computer labs may be underutilized or ineffective in their current state, highlighting an area that may require attention and improvement. This was backed up by a participant who stated that;

"The problem isn't just having a computer lab; it's how outdated and inaccessible it is. Half of the time, the lab is closed due to technical issues, and when it's open, the equipment is old and unreliable. Even if students want to learn or work on assignments, they often face problems just getting a computer to function properly. In this situation, it's hard to say the computer lab plays any significant role in boosting performance. We need better resources and consistent access for it to actually make a difference." Male interviewee,52 years male Head teacher

The perception of libraries as a factor influencing academic performance was mixed. Only 27.5% of teachers viewed libraries as impactful, with a mean score of 1.47 and a standard deviation of 2.082. In contrast, a more substantial proportion of students, 53.9%, recognized their positive role, reflected in a mean score of 3.09 and a standard deviation of 1.896. This disparity indicates that

libraries might not be fully utilized or valued by teachers, which could be a factor affecting their overall effectiveness in supporting academic achievement. This was supported by a respondent who shared the following perspective;

> *"The libraries in our schools are insufficient to cater to the needs of the entire student population. In fact, I am not even sure if my school has a functional library or bookstore. However, I believe that simply having a library does not directly influence student performance. The key factor is how effectively students utilize these facilities. It's not just about the availability of resources but rather the extent to which students take advantage of them to enhance their learning."— 46-year-old female head teacher*

The current situation suggests that school facilities, such as libraries, are not given significant importance due to their limited availability. This observation is supported by Ali (2023), who reported that secondary school students often lack essential educational facilities. This deficiency adversely affects their interest and commitment to their educational pursuits, illustrating a critical gap in the resources necessary for effective learning.

The impact of dormitories on academic performance received moderate endorsement from both teachers and students. 51% of teachers agreed that dormitories contribute to academic performance, with a mean score of 2.73 and a standard deviation of 2.136. Similarly, 47% of students shared this view, with a mean score of 2.90 and a standard deviation of 1.843. This indicates a general acknowledgment of the role of dormitories in supporting academic activities, though the level of agreement was not as high as for some other facilities.

Sanitation facilities were highly rated by both groups. A substantial 78.5% of teachers affirmed their positive influence on academic success, with a mean score of 4.18 and a standard deviation of 1.014. Likewise, 77.4% of students agreed, reflected in a mean score of 4.16 and a standard

deviation of 1.245. This strong positive response highlights the critical role of sanitation facilities in promoting a conducive learning environment.

Open fields, utilized for extracurricular activities, were also positively rated. 74.6% of teachers and 71.8% of students recognized their contribution to better academic performance, with mean scores of 4.02 and 3.91 respectively, and standard deviations of 1.304 and 1.277. This indicates that open fields are valued for their role in supporting both academic and extracurricular development. This was supported by a respondent who shared the following perspective;

> *Open fields help boost academic performance by giving students a space to relax and recharge. They support physical activity and sports, which improve motivation and concentration. — 56-year-old male head teacher*

This suggests that the quality of physical facilities plays a crucial role in enhancing the effectiveness of teaching and learning, which in turn impacts academic performance. Man (2019) asserts that having access to well-maintained educational facilities, like open spaces and modern classrooms, makes the learning process more engaging and effective. These resources support interactive and hands-on learning, helping students better grasp and retain the material. For instance, outdoor areas provide opportunities for physical activities and practical exercises.

Overall, the data demonstrates a strong consensus on the importance of certain facilities, such as science labs, sanitation facilities, and open fields, in supporting academic performance. However, the lower ratings for computer labs and libraries, particularly from teachers, suggest that these areas may require enhancements to better serve their educational purposes and improve academic outcomes.

The Pearson correlation analysis at a significance level of $p \leq 0.05$ revealed a statistically significant relationship between physical facilities and academic performance of learners in public secondary schools in Trans Nzoia Sub-County, Kenya. This is summarized in Table 11. The analysis aimed to test the following hypothesis:

H01: There is no significant association between physical facilities and academic performance of learners in public secondary schools in Trans Nzoia Sub-County, Kenya

Table 11**:** Pearson correlation analysis

		Physical facility availability	**Academic performance**
Physical facility availability	Pearson Correlation	1	
Academic performance	Pearson Correlation	.968**	1

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

The Pearson correlation coefficient between physical facility availability and academic performance is r=0.968. The analysis shows a very strong and statistically significant positive correlation between physical facility availability and academic performance. This suggests that improvements in the availability of physical facilities are strongly associated with enhancements in academic performance. The high correlation coefficient (0.968) and the significance level (0.00)

underscore the robustness of this relationship, indicating that better physical facilities are likely to have a substantial positive impact on academic outcomes.

4.4 Influence of Principals monitoring teacher' progress record on students' academic performance

An essential aspect of school administration involves the oversight of teachers' instructional progress. Principals play a critical role in this process by regularly reviewing teachers' professional records, which helps ensure that educational objectives are being met. This section examines how such monitoring practices influence student performance outcomes in the context of government high institutions. To gain a clearer understanding of the respondents' perceptions of the influence of principals monitoring teachers' professional records, descriptive statistics such as frequency, percentage, and mean distribution were employed. These statistics were used to analyze responses to a five-point Likert scale measuring levels of agreement with statements regarding physical facility availability. The summarized findings, including these statistical measures, are presented in the table below, offering a comprehensive overview of the consensus among respondents.

For analysis, frequency, percentages, mean and standard deviation of each item were examined and summarized the table 12.

Table 12: Descriptive analysis for Influence of Principals monitoring teacher' progress record on learners' scholastic accomplishment.

Variable	Label	Mean	Std. Dev.	Strongly Disagree	Disagree	Neutral (N)	Agree	Strongly Agree
Principal reviews records	Teachers	3.70	0.83	1 (2.0%)	1 (2.0%)		12 (23.5%)	37 (72.5%)

Variable	Label	Mean	Std. Dev.	Strongly Disagree	Disagree	Neutral (N)	Agree	Strongly Agree
Records impact motivation	Teachers	3.63	1.12	1 (2.0%)		4 (7.8%)	17 (33.3%)	29 (56.9%)
Monitoring records impacts students	Teachers	3.71	1.21	1 (2.0%)	1 (2.0%)	4 (7.8%)	22 (43.1%)	23 (45.1%)
Monitoring improves teaching quality	Students	4.33	0.89	6 (2.8%)	4 (1.8%)	23 (10.6%)	64 (29.5%)	120 (55.3%)
Teachers perform better when monitored	Students	4.19	0.99	12 (5.5%)	12 (5.5%)	31 (14.3%)	67 (30.9%)	95 (43.8%)

The data reveals a generally positive perception among teachers and students regarding the monitoring of professional records and its impact on performance.

A significant majority of teachers, 72.5%, agreed or strongly agreed that regular reviews of their professional records are beneficial, with a mean score of 3.70 and a standard deviation of 0.834. This suggests that teachers view these reviews favorably as an essential aspect of their professional development. This was backed by a respondent who stated that;

> *I've seen firsthand how regular reviews of professional records benefit our teachers. It keeps them accountable, helps track their growth, and ensures they're meeting their goals. The fact that most of our teachers see the value in this process is a strong indicator of its effectiveness in improving both their teaching practices and student outcomes — 49-year-old male head teacher*

This suggests that tracking teachers' progress directly influences their performance. Sule, Ameh, & Egbai (2015) found that observing classroom activities plays a key role in improving teacher effectiveness. By regularly reviewing and providing feedback on teaching methods, administrators can pinpoint areas for growth, offer specific support, and ensure accountability.

Additionally, 56.9% of teachers believe that such reviews positively impact their motivation and performance, with a mean score of 3.63 and a standard deviation of 1.118. This indicates that teachers recognize the role these reviews play in enhancing their work performance. Furthermore, teachers feel that monitoring their professional records has a positive effect on student performance, as reflected in a mean score of 3.71 and a standard deviation of 1.208, suggesting a perceived direct link between their professional monitoring and students' academic outcomes.

Students also see value in the monitoring of teachers. They believe that monitoring contributes significantly to improving teaching quality, with a mean score of 3.74 and a standard deviation of 1.233. This reflects the students' recognition of the positive impact of teacher oversight. Moreover, students perceive that teachers perform better when monitored, as indicated by a mean score of 3.89 and a standard deviation of 1.322. This suggests that students see a connection between monitoring and enhanced teaching performance. This was backed by a respondent who stated that;

> *The more involved I am as a head teacher, the better the academic performance of the school. When I lead by example, it motivates my teachers to give their best, and that directly benefits the students. 46-year-old female head teacher*

Principals' active monitoring of teachers positively influences their performance, which boosts academic results. By regularly reviewing lesson plans, schemes of work, and attendance registers, principals create accountability and encourage better teaching practices. Musungu

(2008) found that in high-performing schools, 8% of principals checked key documents like lesson books and attendance records, ensuring that teachers stayed organized and focused. This type of oversight fosters discipline and high standards, which ultimately leads to improved academic performance.

In terms of specific perceptions from teachers regarding the monitoring process, they generally believe that principals frequently review their professional records, as evidenced by a high mean score of 4.67 for the question on regular reviews. Teachers also feel somewhat informed before their records are reviewed, with a mean score of 4.35. Feedback on reviewed records is positively received, with a mean score of 4.57, indicating that teachers value the feedback they receive. The impact of record reviews on motivation and performance is acknowledged with a mean of 4.43, and teachers also recognize that monitoring their records affects student performance, with a mean of 4.27.

For students, there is a perception that principals regularly monitor teachers, with a mean score of 4.40. They also agree that monitoring improves teaching quality, with a mean score of 4.33. However, there is slightly more variability in their responses about whether teacher performance improves with monitoring, as indicated by a mean score of 4.02. This was backed by a respondent who stated that;

> *We consistently monitor the performance and effectiveness of our teachers through regular evaluations. Additionally, we actively seek frequent feedback from students, particularly through various forms of assessments such as quizzes and tests. These assessments help us gauge not only academic progress but also the students' perspectives on teaching methods, class engagement, and the overall learning environment. By combining both teacher evaluations and student feedback, we aim to ensure continuous improvement in the quality of education delivered.54-year-old male head teacher*

Monitoring teachers has a direct impact on improving their performance. Bunijevac (2017), in a study on the effects of clinical supervision on secondary school teachers in Malaysia, found that formal observations significantly enhanced various aspects of teaching. These observations helped teachers better prepare lessons, develop more effective teaching strategies, and improve learner assessment. Supervised teachers were also more skilled in maintaining classroom discipline and managing student behavior, creating a more productive learning environment. Ultimately, the study showed that consistent supervision leads to better teaching outcomes.

The Pearson correlation analysis at a significance level of $p \leq 0.05$ revealed a statistically significant relationship between principals monitoring teachers' professional records and academic performance of learners in public secondary schools in Trans Nzoia Sub-County, Kenya. This is summarized in Table 8. The analysis aimed to test the following hypothesis:

H01: There is no significant association between principals monitoring teachers' professional records and academic performance of learners in public secondary schools in Trans Nzoia Sub-County, Kenya.

Table 13: Pearson correlation analysis (Principal monitoring teachers' professional records)

	Principals monitoring teachers	Academic performance
Principals monitoring teachers	1	
Academic performance	. 942**	1

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

The table presents the results of a Pearson correlation analysis between principals monitoring teachers and academic performance. The Pearson correlation coefficient between these two

variables is r=0.942. This indicates a very strong positive correlation, suggesting that as the extent to which principals monitor teachers' increases, academic performance tends to improve significantly.

The significance level (Sig. (2-tailed)) is 0., which is much lower than the common alpha level of 0.01. This confirms that the correlation is statistically significant and that the observed correlation is highly unlikely to have occurred by chance, reinforcing the robustness of the relationship.With a sample size of 268 for both variables, the analysis benefits from a substantial sample, providing a reliable basis for the correlation and supporting the validity of the findings.

Overall, the data reveals a very strong and statistically significant positive correlation between principals monitoring teachers and academic performance. The high correlation coefficient suggests that effective monitoring of teachers by principals is closely associated with better academic performance. The significance level further supports that this correlation is not due to random chance, indicating a robust relationship between the extent of principal monitoring and improvements in academic outcomes.

4.5 Influence of teaching and learning resources on students' academic performance

Effective teaching and learning processes heavily rely on the availability and quality of resources within the educational environment. These resources, both material and human, play a significant role in shaping students' academic outcomes. This section examines how the presence or lack of essential resources can impact overall performance in academic settings.

The study utilized both descriptive and inferential statistical analysis to assess the impact of teaching and learning resources on academic performance in public secondary schools within

Trans Nzoia East Sub-County, Kenya. Descriptive statistics were employed to summarize and present the general trends and distributions of responses, offering a clear view of how both teachers and students perceive the state of teaching and learning resources in their schools. Inferential statistics, on the other hand, were applied to draw conclusions and make predictions about the influence of these resources on academic outcomes, allowing the research to establish potential relationships between teaching and learning resources and performance.

For analysis, frequency, percentages, mean and standard deviation of responses for each item were examined and summarized in table 14.

Table 14 : Descriptive analysis for the influence of teaching and learning resources on scholastic achievement

Variable	**Group**	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**Mean**	**Standard Deviation**
There is enough textbooks to support academic success	Teachers	1 (2.0%)	1 (2.0%)	16 (31.4%)	0	33 (64.7%)	4.55	0.783
There is adequate learning resources to support academic success	Teachers	0	4 (7.8%)	10 (19.6%)	13 (25.5%)	12 (23.5%)	3.20	1.414
There is adequate teaching resources to support academic success	Teachers	2 (3.9%)	7 (13.7%)	11 (21.6%)	21 (41.2%)	10 (19.6%)	3.59	1.080
There are enough textbooks for good academic performance	Students	29 (10.8%)	24 (9%)	31 (11.6%)	38 (14.2%)	95 (35.4%)	3.67	1.459

Variable	Group	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation
Teaching aids help me perform well	Students	31 (11.6%)	17 (6.3%)	40 (14.9%)	44 (16.4%)	85 (31.7%)	3.62	1.429
There are enough revision books to impact my academic performance	Students	59 (22%)	25 (9.3%)	29 (10.8%)	29 (10.8%)	75 (28%)	3.17	1.644

The table presents data on the availability and adequacy of learning resources as perceived by both teachers and students. A majority of the teachers (64.7%) strongly agreed that there are enough textbooks to support academic success, while 31.4% remained neutral. Only a small percentage (2% each) strongly disagreed and disagreed with this statement. The mean score of 4.55, with a standard deviation of 0.783, indicates that teachers largely agree with the availability of textbooks, showing a relatively small variation in responses. This was supported by a respondent who shared the following perspective;

> *Our school is well-equipped with a wide variety of teaching and learning resources, which greatly enhance the educational experience for both students and teachers. The government has played a key role by providing textbooks for all students, ensuring that they have access to necessary learning materials. In addition, our dedicated teachers actively use visual aids like charts and other interactive tools to reinforce lessons and make learning more engaging. These resources not only help in explaining complex concepts but also cater to different learning styles, which ultimately contributes to better academic performance." 56-year-old male head teacher*

Academic success is strongly linked to the availability of teaching and learning resources. Students perform better when they have access to materials like textbooks, digital content, well-equipped

labs, and various technologies. According to Simonson et al. (2019), these resources are essential for effective teaching and richer learning experiences, blending both physical and digital tools.

However, when it comes to the adequacy of learning resources, teachers' responses were more varied. While 25.5% agreed and 23.5% strongly agreed, a notable proportion remained neutral (19.6%), and 7.8% disagreed. The mean score of 3.20, accompanied by a standard deviation of 1.414, suggests mixed perceptions with higher variability in responses compared to other statements, reflecting uncertainty or differences in the adequacy of learning resources across different contexts.

Teachers also had varied opinions on the adequacy of teaching resources. A significant proportion (41.2%) agreed that teaching resources were adequate, and 19.6% strongly agreed. However, 21.6% remained neutral, while a combined 17.6% disagreed or strongly disagreed. With a mean score of 3.59 and a standard deviation of 1.080, most teachers feel that teaching resources are adequate, but the responses also show moderate variability, indicating that there is room for improvement in resource provision.

On the students' side, perceptions about the sufficiency of textbooks for good academic performance were mixed. While 35.4% strongly agreed and 14.2% agreed, a notable portion remained neutral (11.6%), disagreed (9%), or strongly disagreed (10.8%). The mean score of 3.67, with a standard deviation of 1.459, highlights that although many students feel textbooks are sufficient, there is significant variation, with a considerable portion expressing dissatisfaction.

Students generally responded positively to the impact of teaching aids on their performance. A combined 48.1% either agreed or strongly agreed that teaching aids help them perform well, while

14.9% remained neutral. A smaller proportion disagreed (6.3%) or strongly disagreed (11.6%). The mean score of 3.62 and a standard deviation of 1.429 suggest that students generally view teaching aids as beneficial, but moderate variability in perceptions still exists. This was backed up by a respondent who stated that;

> *'I believe that teaching and learning resources have a significant impact on academic performance. These resources, which include textbooks and other instructional materials, play a crucial role in facilitating effective learning. They provide students with the necessary information and skills to grasp complex concepts and engage deeply with the curriculum'.54- year male head teacher*

This suggests that students generally have a positive response to educational resources. Adeoye and Nwadiani (2019) highlight that resources like textbooks and multimedia tools enhance learning by allowing students to work at their own pace. This self-paced learning promotes independence, helping students take control of their education, build confidence, and improve performance. Furthermore, these resources enable teachers to accommodate various learning styles, making education more effective and engaging.

However, students were more critical when it came to the adequacy of revision books. While 28% strongly agreed and 10.8% agreed, a significant 22% strongly disagreed, with 9.3% disagreeing and another 10.8% remaining neutral. The mean score of 3.17, accompanied by a standard deviation of 1.644, indicates a wide range of opinions on the availability of revision books. A considerable portion of students feels that there are not enough revision books available to support their academic success. This was supported by a respondent who stated that;

> *"While we do have revision books available, I wouldn't say they are sufficient to meet the needs of every individual student. The current supply is limited, and students often have to share these resources. This sharing arrangement can be challenging, especially when multiple students need*

access to the same material at the same time, potentially hindering their ability to study effectively."46-year female head teacher.

While having educational resources like textbooks and teaching aids is crucial for academic success, their mere presence isn't enough to guarantee improved performance. Students need a strong intrinsic motivation to engage with these materials effectively. As Agung and Djukri (2015) highlight, students who are genuinely motivated tend to be more diligent and committed, using resources purposefully to reach their learning goals. Thus, creating an environment that fosters intrinsic motivation is essential for making the most of educational resources. This was backed up by an interviewee who stated that;

Simply having access to educational resources does not automatically lead to academic success. To truly benefit from these materials, students need to show significant interest and motivation. Active engagement and enthusiasm in using these resources are crucial for their effectiveness. Without a genuine commitment to utilizing what is available, the potential benefits of these resources can be reduced. 56-year male head teacher

In conclusion, teachers generally have a more positive perception of textbook availability compared to students. Both groups show variability in their views on the adequacy of other learning and teaching resources, indicating a need for further attention to ensure equitable resource distribution, especially concerning revision books, which students perceive as insufficient. The standard deviations across several items suggest significant variation in responses, possibly pointing to disparities in resource availability across different schools or classes.

The Pearson correlation analysis at a significance level of $p \leq 0.05$ revealed a statistically significant relationship between teaching and learning resources and academic performance of learners in public secondary schools in Trans Nzoia Sub-County, Kenya. This is summarized in Table 8. The analysis aimed to test the following hypothesis:

H01: There is no significant association between teaching and learning resources and academic performance of learners in public secondary schools in Trans Nzoia Sub-County, Kenya.

Table 15:The Pearson correlation analysis for teaching and learning resources

	Teaching and learning resources	Academic performance
Teaching and learning resources	1	
Academic performance	. 975**	1

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

Table 15 presents the results of a Pearson correlation analysis between teaching and learning resources and academic performance. Here's a detailed interpretation:

The Pearson correlation coefficient between teaching and learning resources and academic performance is r=0.975. This indicates an exceptionally strong positive correlation between these two variables. In other words, improvements in the availability and quality of teaching and learning resources are strongly associated with enhancements in academic performance. The high correlation coefficient suggests that as teaching and learning resources become more adequate or effective, academic performance tends to improve significantly.

The significance level (Sig. (2-tailed)) is 0. 00, which is well below the commonly used alpha level of 0.01. This confirms that the correlation is statistically significant, meaning the observed

relationship between teaching and learning resources and academic performance is highly unlikely to have occurred by chance. The very low p-value reinforces the reliability of the correlation, indicating a robust and meaningful connection between the two variables.

The sample size for this analysis is 268 for both variables, which provides a solid foundation for the correlation analysis. A large sample size enhances the validity of the findings and helps ensure that the results are not influenced by outliers or anomalies.

Overall, the data reveals a very strong and statistically significant positive correlation between teaching and learning resources and academic performance. This suggests that the availability and quality of teaching and learning resources play a crucial role in influencing academic success. Improved resources are likely to contribute significantly to better academic outcomes, emphasizing the importance of investing in and enhancing these resources for educational improvement.

4.6 Influence of teacher-student ratio on students' academic performance

The study utilized both descriptive and inferential statistical analysis to assess the impact of teacher-student ratio on academic performance in public secondary schools within Trans Nzoia East Sub-County, Kenya. Descriptive statistics were employed to summarize and present the general trends and distributions of responses, offering a clear view of how both teachers and students perceive the state of teacher-student ratio in their schools. Inferential statistics, on the other hand, were applied to draw conclusions and make predictions about the influence of teacher-student ratio on academic outcomes, allowing the research to establish potential relationships between teacher-student ratio and performance.

For analysis, frequency, percentages, mean and standard deviation of responses for each item were examined and summarized on the table 16

Table 16: Descriptive analysis for the Influence of teacher-student ratio on scholastic achievement.

Question	**Frequency (Yes)**	**Frequency (No)**	**Mean**	**Std. Deviation**
Teachers				
Does class size Affect your teaching performance	26(51%)	24(47.1%)	1.55	1.70
Do you find it difficult to meet individual needs due to a large class size	22(43.1%)	29(56.9%)	1.57	1.50
Do you feel overwhelmed because of too many students' in the classroom	26(51%)	25(49%)	1.85	0.53
Students				
Does the number of pupils in your class affect performance?	43(19.8)	169(77.9%)	1.85	0.54
Do you struggle getting assistance from your teacher due to a large class size?	68(31.3%)	148(68.2%)	1.69	0.47
Do you feel	44(20.3%)	169(77.9%)	1.82	0.45

overwhelmed in class due to a large class size				

Teachers and students have differing perspectives on the impact of class size and resources on academic performance.

Teachers have mixed views on how class size affects their teaching. The mean response to whether class size impacts teaching performance is 1.55, indicating a moderate perception that class size has an effect. The standard deviation of 0.702 shows some variability in responses, suggesting that while many teachers acknowledge the challenge of large classes, others may not experience significant difficulties.

When it comes to meeting individual needs, the mean score is 1.57, reflecting that teachers experience some difficulty in addressing these needs due to large class sizes. The lower standard deviation of 0.500 indicates a relatively consistent perception among teachers about the challenges posed by large classes in meeting individual student needs. This was backed up by an interviewee who stated that;

> *"Meeting the individual needs of a class with approximately 50 students presents a significant challenge for any teacher. With such a large group, it becomes increasingly difficult to provide personalized attention to each student. The high number of students often limits the teacher's ability to effectively manage the classroom, as well as to tailor instruction to individual learning styles and needs. In smaller classes, teachers can more easily monitor student progress, offer one-on-one support, and address specific concerns or difficulties that arise. However, in a classroom with many students, time constraints and the sheer volume of learners make it harder for the teacher to ensure that everyone receives adequate guidance." 52-year male principal*

Smaller class sizes significantly improve classroom management and academic performance. Kudari (2016) highlights that a well-organized and disciplined environment is crucial for effective teaching. With fewer students, teachers can offer more individualized attention, cater more easily to individual needs, and manage classroom behavior more effectively, all of which contribute to a focused learning atmosphere. Therefore, it's essential to regularly assess and adjust class sizes, implement robust classroom management strategies, and continually monitor and enhance the learning environment to support better student outcomes.

Regarding feelings of being overwhelmed by too many students, the mean score is 1.49, indicating that while teachers generally feel less overwhelmed compared to other issues related to class size, there is still a noticeable impact. The standard deviation of 0.505 shows moderate consistency in this perception, suggesting that most teachers share similar feelings about the stress caused by large class sizes. This was backed up by a participant who stated that;

> *When students are overcrowded in a classroom, it has a significant negative impact on their learning experience. At my school, we're facing a shortage of around 4 to 5 teachers. This shortage means that the teachers we do have are overwhelmed with an increased workload. As a result, they struggle to give each student the attention they need, which adversely affects the quality of education. This situation not only makes it challenging for teachers to manage their classes effectively but also hinders students' academic progress and overall learning environment. 46-year female head teacher*

This implies that The ratio of students to teachers plays a crucial role in academic success. Studies, such as those by Akinsolu (2010), highlight a positive link between smaller ratios and better student performance. When there are fewer students per teacher, it allows for more personalized instruction, improved classroom management, and greater teacher job satisfaction, which all contribute to better educational outcomes. To enhance learning, schools and policymakers should

explore strategies to lower this ratio, such as increasing staff numbers or adjusting class sizes. Ongoing evaluation and specific interventions can further improve classroom conditions and teacher support, leading to a more effective learning environment.

Students believe that the number of pupils in their class significantly affects their performance, with a mean score of 1.85. The high standard deviation of 0.536 indicates considerable variability in students' experiences, with some feeling strongly about the negative impact of large class sizes on their performance.

Students also report difficulties in getting assistance from teachers due to large class sizes, with a mean score of 1.69. The relatively high standard deviation of 0.473 shows a consistent perception among students about the challenges in receiving personalized support in overcrowded classrooms. This was further talked about by a participant who stated that;

> *The ability to provide individualized feedback and instruction diminishes as the number of students increases, creating a more generalized learning environment where some students may struggle to keep up or stay engaged. Consequently, maintaining discipline and ensuring that each student is actively participating becomes a daunting task. Smaller class sizes allow for more meaningful teacher-student interactions, fostering an environment where students can thrive academically and receive the necessary support for their personal development. 54 -year male head teacher*

This implies that When classrooms are excessively large, teachers struggle to meet the individual needs of their students. This difficulty in providing personalized attention often results in some students missing out on key lessons and subsequently underperforming academically. The situation is further complicated by the necessity for teachers to complete the syllabus within a constrained timeframe, as highlighted by Maganga (2016). To manage this pressure, teachers may have to advance to new topics even if certain students haven't fully grasped the material at hand.

Additionally, students feel somewhat overwhelmed by large class sizes, as reflected in a mean score of 1.82. The low standard deviation of 0.451 suggests that this feeling of being overwhelmed is relatively uniform across the student sample.

Overall, both teachers and students report significant concerns related to large class sizes, although the nature and intensity of these concerns differ. Teachers are somewhat concerned about how class size affects their ability to teach effectively and meet individual needs, though they feel less overwhelmed. In contrast, students consistently feel that large class sizes negatively impact their performance, ability to get help, and overall classroom experience.

These insights underscore the need for targeted interventions to address class size issues and improve resource allocation. Addressing these concerns could lead to a more effective learning environment and better academic outcomes. Further research could explore specific areas for improvement and how best to implement changes to support both teachers and students.

Table 17 **:** ANOVA one-way analysis for the Influence of teacher-student ratio on scholastic achievement

	Sum of Squares	**do**	**Mean Square**	**F**	**Sig**
Between Groups	27.565	2	13.782	359.772	.000
Within Groups	10.152	265	.038		
Total	37.716	267			

The ANOVA results reveal a highly significant difference in the outcome related to the student-teacher ratio. The variability between the different student-teacher ratio groups is much greater

than the variability within each group, as indicated by a very high F-value of 359.772 and a p-value of 0.000. This strong significance suggests that variations in the student-teacher ratio have a substantial impact on the outcome being measured. In summary, the differences in student-teacher ratios significantly affect the outcome, emphasizing the importance of this factor in academic performance**.**

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter summarized the findings, gave conclusions and recommendations. It also suggested areas for further research in the following sub themes.

5.1 Summary of the study findings

Based on the data and information analyzed in chapter four. The findings are summarized in this section.

5.1.1 Influence of physical facilities availability on students' academic performance

The study findings indicated that respondents generally leaned towards agreement that public secondary schools in Trans Nzoia East Sub-County had adequate physical facilities. Specifically, there was a tendency among respondents to agree that science laboratories played a significant role in enhancing academic performance, particularly in science-related subjects. Additionally, the findings suggested that respondents recognized the value of sanitation facilities and open fields in fostering a supportive and productive learning environment. However, concerns were raised regarding the state of computer labs and libraries, with respondents noting that these facilities were either insufficient or underutilized, potentially limiting their impact on students' academic success.

Furthermore, the Pearson correlation analysis revealed a strong and statistically significant relationship between the availability of physical facilities and students' academic performance, confirming that better-equipped schools tended to perform better academically. These findings highlight the critical importance of investing in key educational resources to ensure enhanced learning outcomes.

5.1.2 Influence of head teachers monitoring teachers progress record on students' academic performance

The study findings indicated that respondents generally leaned towards agreement that principals' monitoring of teachers' records had a positive impact on performance. Specifically, the data showed that a significant number of teachers agreed that regular reviews of their professional records were beneficial, with most respondents favoring the practice as essential to their development. Similarly, the findings suggested that teachers tended to agree that these reviews played a role in enhancing their motivation and performance. Furthermore, it was observed that the majority of respondents strongly agreed that monitoring records improved student performance, highlighting the perceived link between teacher oversight and academic outcomes.

In addition, the study findings revealed that students largely agreed that principals' monitoring of teachers led to an improvement in teaching quality. Students also tended to agree that teachers performed better when monitored, further supporting the notion that monitoring contributes positively to the educational environment.

The Pearson correlation analysis demonstrated a statistically significant relationship between principals' monitoring of teachers and the academic performance of learners. The strong positive

correlation suggests that increased oversight by principals is closely associated with improved academic outcomes in public secondary schools in Trans Nzoia Sub-County, Kenya.

5.1.3 Influence of teaching and learning materials on students' academic performance

The study findings suggested that respondents tended to agree that there were enough textbooks available to support academic success, particularly among teachers, where a majority expressed strong agreement. Similarly, the findings indicated that respondents generally agreed that teaching resources were adequate to support academic performance, though some expressed neutral or differing views. Moreover, the study revealed that students had a tendency towards agreement that teaching aids helped them perform well, though perceptions on the adequacy of revision books were more varied, with some students expressing dissatisfaction.

Lastly, the Pearson correlation analysis revealed a statistically significant association between teaching and learning resources and academic performance of learners in public secondary schools in Trans Nzoia Sub-County, Kenya. This suggests that the availability and quality of these resources are strongly linked to better academic outcomes.

5.1.4 Influence of student teacher ratio on students' academic performance

The study findings suggested that respondents generally agreed that class size affected both teaching performance and student outcomes. Teachers tended to agree that large class sizes posed challenges to their teaching, with some noting difficulty in meeting individual student needs due to overcrowding. Additionally, the findings revealed that many teachers felt overwhelmed by the sheer number of students in their classrooms, impacting their ability to provide effective instruction. Similarly, students expressed that the number of pupils in their class affected their

ability to perform well academically. They tended to agree that large class sizes made it difficult to receive assistance from teachers, further exacerbating feelings of being overwhelmed.

Moreover, both teachers and students appeared to agree that class size had a direct impact on academic performance. The analysis revealed a statistically significant association between the student-teacher ratio and academic outcomes. ANOVA results showed that variations in the student-teacher ratio significantly influenced academic performance, underscoring the importance of addressing this issue to improve learning outcomes in public schools in Trans Nzoia Sub-County, Kenya.

5.2 Conclusion

The study concluded that physical facilities play a critical role in enhancing academic performance. Adequate facilities, such as science laboratories, were recognized for their significant contribution to improving student outcomes, particularly in science subjects. Sanitation facilities and open fields were also appreciated for creating a conducive learning environment. However, concerns were noted regarding the inadequacy or under-utilization of computer labs and libraries, which potentially hindered their positive impact on student performance. The Pearson correlation analysis confirmed a strong positive relationship between the availability of physical facilities and students' academic achievement, reinforcing the need for investment in educational resources.

Additionally, the monitoring of teachers' professional records by head teachers was found to positively influence student academic performance. Regular oversight of professional records was considered beneficial to teachers' development, enhancing their motivation and effectiveness. The

majority of respondents, including students, agreed that this practice led to improved teaching quality, which in turn boosted student outcomes. The Pearson correlation analysis demonstrated a strong and statistically significant relationship between head teachers' monitoring and student academic success, suggesting that increased principal oversight contributes positively to school performance.

The availability of teaching and learning materials, including textbooks and teaching aids, also had a direct and positive influence on academic success. Teachers generally agreed that resources were sufficient, while students acknowledged that teaching aids contributed to their performance. However, some students expressed dissatisfaction with the adequacy of revision materials. Pearson correlation analysis further highlighted a significant link between the availability of learning resources and improved academic outcomes, underscoring the importance of providing sufficient and high-quality materials in schools.

Lastly, class size was found to have a profound impact on both teaching quality and student performance. Large class sizes were seen as detrimental to effective teaching, with teachers struggling to meet individual student needs. Students reported that overcrowded classrooms hindered their ability to receive personalized assistance from teachers, affecting their academic success. The ANOVA analysis confirmed a statistically significant relationship between the student-teacher ratio and academic performance, highlighting the need to address overcrowding in classrooms to enhance learning outcomes in public secondary schools.

5.3 Recommendations for Practice

The insights gained from this study suggest several key practices to enhance academic performance in public secondary schools in Trans Nzoia East Sub-County:

1. The study emphasizes the importance of having well-maintained physical facilities for improving student performance. Therefore, it is recommended that educational authorities and school leaders focus on upgrading school infrastructure. This includes investing in modern science laboratories, sanitation facilities, and open spaces that support a productive learning environment. Particular attention should be given to improving computer labs and libraries to ensure they are fully equipped and utilized effectively. Schools might consider forming partnerships with community organizations or private sectors to obtain additional resources needed for these enhancements.
2. The positive effect of head teachers' oversight on teachers' professional records underscores the need for regular and constructive evaluations. It is advisable for school administrators to implement systematic monitoring practices that promote professional growth and improve teaching quality. Regular feedback and supportive supervision should be integral to this process. Professional development opportunities for head teachers could also be beneficial in refining their monitoring skills, ensuring that this practice contributes positively to both teacher effectiveness and student achievement.
3. Given the significant link between teaching materials and academic success, it is crucial for schools to ensure they have an adequate supply of textbooks, revision materials, and teaching aids. Schools should regularly assess their resource needs and seek to fill any gaps identified. Collaboration with the Ministry of Education and local community groups can

help in securing necessary materials. Additionally, integrating digital resources could provide valuable support alongside traditional materials.

4. The study highlights the negative impact of large class sizes on educational outcomes. To address this issue, it is recommended that steps be taken to reduce the student-teacher ratio. This can be achieved by hiring more qualified teachers for schools with high student numbers and redistributing teaching staff to alleviate overcrowded classrooms. Constructing additional classrooms could also help manage class sizes more effectively. These measures will ensure that students receive more individualized attention, which can lead to improved academic performance.

Implementing these recommendations can contribute significantly to creating a more effective learning environment in public secondary schools, ultimately enhancing student achievement.

5.4 Suggestions for Future Research

In light of the study's findings, several areas are recommended for further investigation to enrich the understanding of factors affecting academic achievement and to address existing gaps

1.Assess interventions for Class Size Issues: Research could explore the effects of different interventions designed to address class size challenges. Evaluating strategies such as class division, additional teaching support, or alternative instructional methods could provide insights into how these interventions affect teaching quality and student performance. Possible Future Research Topics:

i. The impact of online learning environments on class size dynamics.

ii. Comparative analysis of student performance in small versus large classrooms across different educational systems

2. Conduct Long-Term Studies on Monitoring Practices**:** Longitudinal studies could be beneficial in assessing the extended impact of head teachers' monitoring of teachers' records on academic outcomes. Such research would provide insights into the long-term effectiveness of these monitoring practices and help refine strategies for continuous improvement in teaching quality. Possible Future Research Topics:

i. The relationship between teacher accountability and student performance over time.

ii. Evaluating the effects of feedback frequency on teaching effectiveness and student engagement.

3.Explore Teaching and Learning Materials in Depth: Further studies could investigate the adequacy and effectiveness of different teaching and learning materials. Research could focus on how specific resources impact various subjects or student groups, and assess both student and teacher satisfaction with these materials to improve resource allocation and development. Possible Future Research Topics:

i. The role of digital resources in enhancing student learning outcomes.

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APPENDICES

APPENDIX I: QUESTIONNAIRES FOR LEARNERS

General directives and guiding principles

This questionnaire is a part of a research study looking into the effect of physical facilities on learners' academic performance in government high institutions in Trans Nzoia East Sub-County. It is not an exam, therefore, there is no correct or incorrect responses. Please try your best to complete the entire questionnaire. Please respond honestly in the designated sections and as asked. Simply "CROSS" [] the best relevant response to each question. If there are no options, fill in the blanks with the best explanation of your response.

Section A: Individual information form

1. Age in years

2. Gender Orientation

Male []

Female []

3. Type of school

SECTION B

Part 1: impact of physical resources availability on learners' academic performance

KEY

SA- Strongly agree (5) A-Agree (4) N-Neutral (3) D-Disagree (2) SD-strongly disagree

	SA	A	N	D	SD
1. Your institution has laboratories for science subjects i.e. biology that positively impact your academic performance					
2. Your school has computer labs for computer classes that help your academic performance					
3. Your school has a library which helps you to read more and hence positively affect your academics					
4. Your school has dormitories that impacts your overall well being and improves your academic					
5. Your school has sanitation facilities such as toilets that contribute					

to your overall health and performance
6. Your school has an open field for games that helps you to enhance your overall school experience

Part II: Impact of head teachers monitoring teachers' professional records on learners' academic performance

	SA	A	N	D	SD
7.Your institution principal checks teacher' professional records such As lesson plan					
8 Head teachers monitoring teachers' professional records will Improve the teaching quality					
9.Teachers perform better when they know that their professional Records Are checked by head teachers					

Part III: impact of Teacher-student ratio on learners' academic performance

15. what are the number of learners in the classroom?

(a) Less than ten [] (b) 10 – 20 [] (c) 21- 30 [] (d) 31-40 []

(e) 40-50 [] (f) Above 50[]

16. Does the number of pupils in your class affect your performance? Yes () No ()

17. have you ever experienced difficulty in getting assistance from your teacher due to a large class size? Yes () No ()

18. have you ever felt lost or overwhelmed in class because there is a large number of learners in your class? Yes () No ()

Part IV: Impact of teaching and learning resources on learners' academic performance

	SA	A	N	D	SD
11.My institution has enough textbooks that are sufficient hence helps me to Perform well academically					
12.My school has enough learning resources in the library that helps me Perform well academically					
13.My school has adequate teaching aids such as charts that help me Perform well academically					
14.My school has enough revision books that helps my overall reading hence Perform well academically					

APPENDIX II: QUESTIONNAIRES FOR TEACHERS

General directives and guiding principles

The questionnaire is a component of an investigation.

looking into the influence of physical facilities on learners' academic performance in government high institutions in Trans Nzoia East Sub-County. It is not an exam, therefore, there is no correct or incorrect responses. Please try your best to complete the entire questionnaire. Please respond honestly in the designated sections and as asked. Simply "CROSS" [] the best relevant response to each question. If there are no options, fill in the blanks with the best explanation of your response.

SECTION A: Individual information form

1.Category of secondary institution

2. Gender Orientation:

Male [] Female []

3. Age in years

5. Which official schooling grade is the highest you have ever earned?

6.What is the length of time you have been a teacher at your present school?

SECTION B

Part I: Impact of physical facility availability on student performance

Key:

SA- Strongly agree (5) A-Agree (4) N-Neutral (3) D-Disagree (2) SD-strongly disagree

	SA	A	N	D	SD
1. Your institution has laboratories for science subjects (e.g., Physics, Chemistry, Biology) that positively impact students 'academic performance					
2. Your school has computer labs for computer classes that help students' academic performance					
3. Your school has a library which helps students to read more and hence positively affect your academics					

4. Your school has dormitories that impacts students overall well Being and improves academic performance
5. Your school has sanitation facilities such as toilets that contribute to student's overall health and performance
6. Your school has an open field for games that helps students to enhance your overall school experience

Part II: Impact of head teachers monitoring teachers' professional records on students' academic performance

	SA	A	N	D	SD
1.Your school principal reviews my professional records					
2.Your school principal informs me before reviewing my professional records					
3. Your school principal gives me a feedback of my reviewed records					
4.When the head teachers review my professional records, it impacts my motivation and performance					
5.Monitoring of professional records affect the overall school environment					

Part II: Impact of teaching and learning resources on learner's academic performance

	SA	A	N	D	SD
11.My institution has enough books that are sufficient hence helps students to Perform well academically					
12.My school has enough learning resources in the library that helps students to perform well academically					
13.My school has adequate teaching aids such as charts that help students to perform well in school					
14.My school has enough revision books that helps students overall reading Hence performing well in school					

Part IV: impact of Teacher-student ratio on students' academic performance

15. How many learners are you in your class?

(a) Less than ten [] (b) 10 – 20 [] (c) 21- 30 [] (d) 31-40 [] (e) 40-50 [] (f) Above 50[]

16. Does the number of pupils in your class affect your teaching performance? Yes () No ()

17. have you ever experienced difficulty in meeting individual needs due to a large class size? Yes () No ()

18. have you ever felt lost or overwhelmed in class because there are numerous learners in your class? Yes () No ()

SECTION C

1. In what ways does institutional factors such as teacher- student affect students' academic performance

APPENDIX III: PRINCIPALS' INTERVIEW GUIDE

This interview is a component of an educational study that the institution's researcher is conducting. The data will be handled with the highest secrecy both during and after the research project. For this reason, the researcher is asking for your assistance and support. Your contribution of information will be valuable to this research.

SECTION A: PERSONAL DATA SHEET

1. Category of secondary institution

2. Gender:

Male [] Female []

3.Age in years

SECTION B

1.How would you describe the condition of our school's physical facilities?

2. Do you think having enough school facilities affects how well students do in their studies?
3. Have you done anything to improve our school facilities, and have you seen any changes in how well students are doing?
4. How do you make sure teachers are helping students learn well?
5. Do you think it matters if head teachers keep an eye on teachers' work to help students do better?
6. Have you noticed any differences in how well students do when head teachers are more involved?
7. Do you think having the right number of students for each teacher makes a difference in how well students learn?
8. Do you see any connection between the number of students in a class and how well they do in their studies?
9. Have you seen any trends in how student-teacher ratio affects students' grades?
10. Do you think having enough tools and materials for teaching helps students learn better?
11. Have you seen any improvements in students' grades when we've added more teaching resources?

APPENDIX IV: ERC CERTIFICATE

Mount Kenya University

REF: **MKU/ISERC/4057** Date: 31 July 2024

TO: **NAOMI KHAKAYI MAGWAGA**

REG: **MED/2023/37304**

Dear Sir/Madam,

RE: INFLUENCE OF INSTITUTIONAL DYNAMICS ON STUDENTS' ACADEMIC PERFORMANCE IN PUBLIC SECONDARY SCHOOLS IN TRANS NZOIA EAST SUB-COUNTY, KENYA

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **2957.** The approval period is **31/07/2024 - 30/07/2025.**

This approval is subject to compliance with the following requirements;

i. Only approved documents including informed consents, study instruments, MTA will be used
ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

Dr. Alfred Owino, PhD
Chairman, Mount Kenya University ISERC

MOUNT KENYA UNIVERSITY
ETHICS REVIEW COMMITTEE
P. O. Box 342 - 01000,
THIKA

APPENDIX V: INTRODUCTORY LETTER

Mount Kenya University

DIRECTORATE OF GRADUATE STUDIES

MED/2023/37304

16th August, 2024

National Commission for Science Technology & Innovation (NACOSTI)
Off Waiyaki, Upper Kabete
P.O Box 30623- 00100
NAIROBI, KENYA

Dear Sir/Madam,

RE: NAOMI KHAKAYI MAGWAGA- REGISTRATION NO. MED/2023/37304

The purpose of this letter is to introduce the above named student who is pursuing **Master of Education** in the **Department of Educational Management and Curriculum Studies** in the **School of Education.**

The title of the research is **"Influence of Institutional Dynamics on Students' Academic Performance in Public Secondary Schools in Trans Nzoia East Sub- County, Kenya."** It has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **August, 2024 and October, 2024.**

Any assistance accorded to the student will be highly appreciated.

Thank you.

Dr. Samuel W. Kareenga, PhD
Director, Graduate Studies
Enc.

APPENDIX VI: NACOSTI LICENSE

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 114345

Date of Issue: 22/August/2024

RESEARCH LICENSE

This is to Certify that Miss.. Naomi Khakayi Magwaga of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Trans Nzoia on the topic: Influence of institutional dynamics on students' academic performance in public secondary schools in Trans Nzoia East Sub-county, Kenya for the period ending : 22/August/2025.

License No: NACOSTI/P/24/39343

114345

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

APPENDIX VII: RESEARCH AUTHORIZATION

OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION

COUNTY COMMISSIONER
TRANS NZOIA COUNTY
P.O. BOX 11-30200
KITALE

Ref. No: TNZC/CONF/ED.12/2VOL.V/184 **26th August, 2024**

Deputy County Commissioner
TRANS NZOIA EAST SUB-COUNTY

RE: RESEARCH AUTHORIZATION

This is to inform you that **Naomi Khakayi Magwaga** of **Mt. Kenya University** has been authorized by **National Commission for Science, Technology and Innovation** to carry out research on **"Influence of Institutional dynamics on students' academic performance In Public Secondary schools in Kenya"** in **Trans Nzoia East Sub-county"** for the period ending **22nd August, 2025.**

Kindly accord her the necessary assistance that she may require.

COUNTY COMMISSIONER
TRANS NZOIA COUNTY
P. O. Box 11 - 30200 KITALE

BEATRICE LUKOKO
FOR: COUNTY COMMISSIONER
TRANS NZOIA COUNTY

C.C.

1. County Director of Education
   TRANS NZOIA COUNTY

2. County Secretary
   COUNTY GOVERNMENT OF TRANS NZOIA

COUNTY SECRETARY
COUNTY GOVERNMENT OF TRANS-NZOIA
P. O. Box 42 - 1 - 30200,
KITALE, KENYA

REPUBLIC OF KENYA
Ministry of Education
State Department for Basic Education

Telegrams: .....
Telephone: Kitale 054-31653 – 30200
Fax: 054-31109
Email: transnzoiacde@gmail.com
When replying please quote:

County Director of Education
Trans Nzoia
P.O. Box 2024 – 30200
KITALE.

Ref. No. TNZ/CNT/CDE/R.GEN/1/VOL.III/68 **Date:**26th August, 2024

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION

This office acknowledges receipt of Research License No. **NACOSTI/P/24/389343** dated 22nd August, 2024 from National Commission for Science Technology & Innovation.

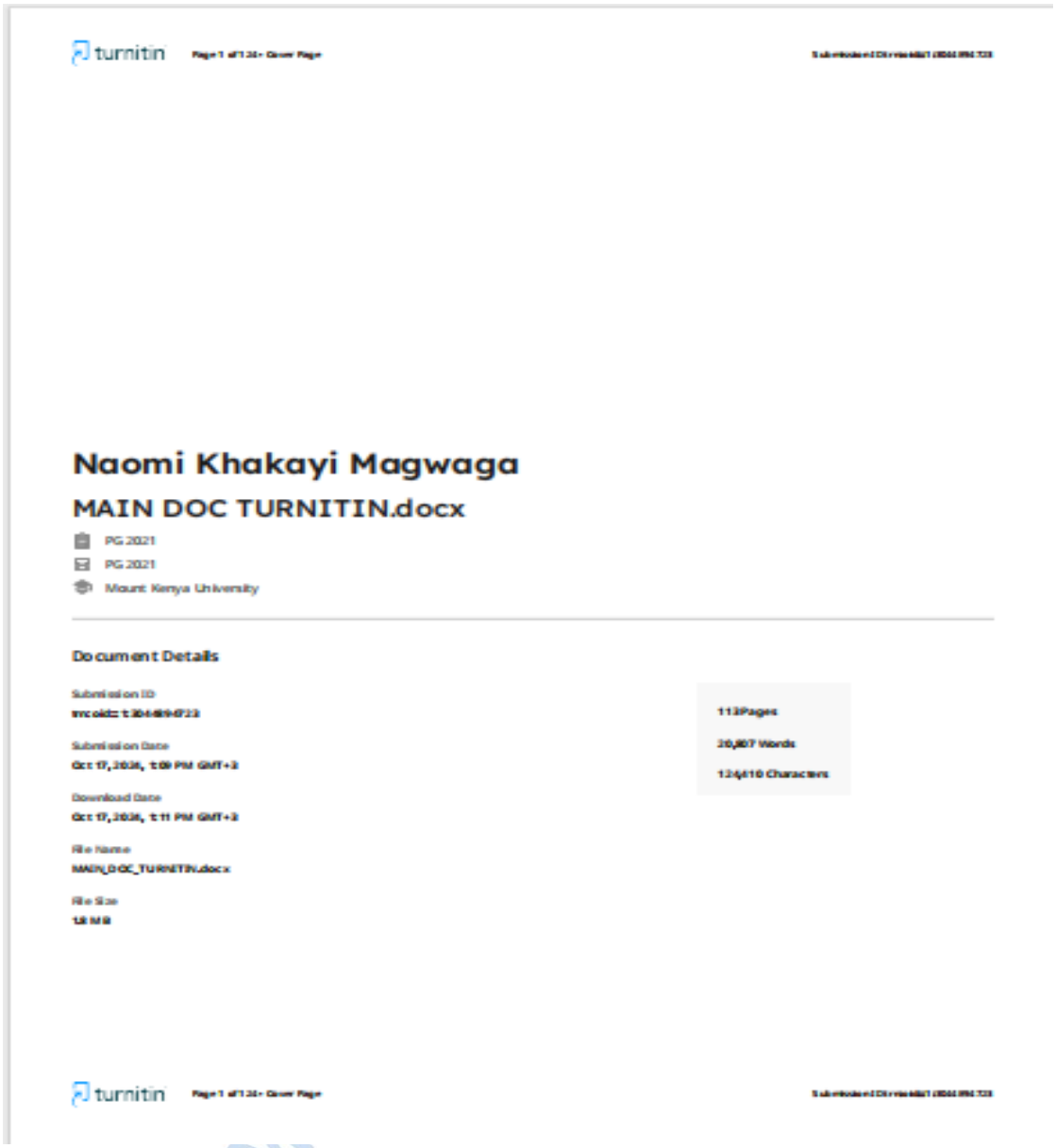
Ms.Naomi Khakayi Magwaga of **Mt.Kenya University** has been authorized to carry out research on **"Influence of Institutional dynamics on students' academic performance in Public Secondary schools in Trans-Nzoia County, Kenya"** for a period ending **22nd August, 2025.**

The purpose of the letter is to request you to accord her the necessary assistance.

COUNTY DIRECTOR OF EDUCATION
TRANS - NZOIA COUNTY
P. O. Box 2024 - 30200,
KITALE.

PP **PAMELA AKELLO, HSC**
COUNTY DIRECTOR OF EDUCATION
TRANS-NZOIA COUNTY

APPENDIX VIII: TURNITIN REPORT



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Naomi Khakayi Magwaga

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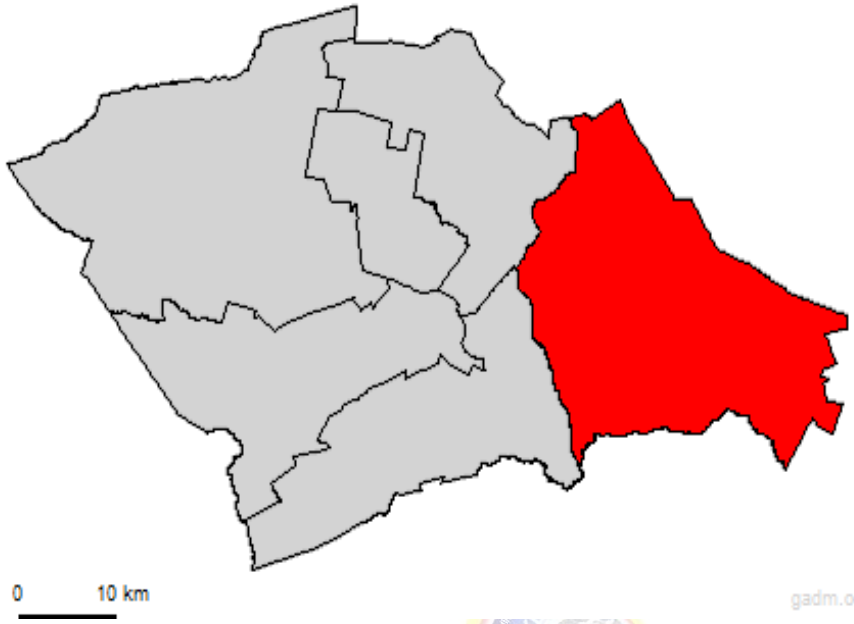
APPENDIX IX: MAP OF TRANS NZOIA EAST SUB-COUNTY



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APPENDIX X: TABLE FOR DETERMINING SAMPLE SIZE BASED ON POPULATION

N	n	N	n	N	n
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1 400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
33	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	331
90	73	460	210	4500	354
95	76	400	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	107	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	360
190	127	950	274	50000	381
200	132	1000	278	50000	382
210	136	1000	285	100000	384

Source: Krejcie and Morgan Table (1970)