THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

FORM TWO LEARNING EVALUATION (FTLE) REPORT

Prepared by:
The National Examinations Council of Tanzania
P.O. Box 2624
Dar es Salaam

March, 2026

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ACKNOWLEDGEMENTS

This Form Two Learning Evaluation (FTLE) 2025 was made possible through the support of various institutions and individuals. The National Examinations Council of Tanzania (NECTA) expresses its profound gratitude to the Ministry of Education, Science and Technology (MoEST), the Tanzania Institute of Education (TIE), the Prime Minister's Office – Regional Administration and Local Government (PMO-RALG), public universities, and the World Bank for their guidance and contributions throughout the project and the preparation of this report.

The Council also thanks all regional and district education officers for their cooperation in appointing supervisors and assessors and preparing training venues nationwide. Special recognition goes to the heads of schools for their effective supervision and coordination. The Council is also grateful to subject teachers, parents and guardians, school board members, and students from the sampled schools for their active participation and diligent completion of the questionnaires.

Furthermore, sincere thanks go to the Council's technical teams for their dedicated and thorough work in designing and piloting assessment tools, administering the assessment, coordinating scoring, analysing questionnaire and performance data, and preparing this report.

Finally, the Council acknowledges the management team for their guidance and oversight, which ensured the smooth and efficient implementation of all activities.

Prof. Said Ally Mohamed
EXECUTIVE SECRETARY

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LIST OF ABBREVIATIONS AND ACRONYMS

ACSEE	Advanced Certificate of Secondary Education Examination
CAL	Collective Attendance List
CPD	Continuous Professional Development
CSEE	Certificate of Secondary Education Examination
DLI	Disbursement Linked Indicator
DLR	Disbursement Linked Result
DPP	Director of Printing and Publications
DSEE	Diploma in Secondary Education Examination
ES	Executive Secretary
FTLE	Form Two Learning Evaluation
FTNA	Form Two National Assessment
ICT	Information and Communication Technology
ISAL	Individual Student Attendance List
ISQA	Internal School Quality Assurance
ISQAT	Internal School Quality Assurance Team
IT	Information Technology
LGA	Local Government Authority
LMS	Learning Management System
MoEST	Ministry of Education, Science and Technology
MS Excel	Microsoft Excel
NECTA	National Examinations Council of Tanzania
NGOs	Non-Government Organisations
NSR	Number of Students Registered for Form Two Evaluation
NSS	Number of Students who Sat for Form Two Evaluation
OSRR	Overall Schools Response Rate
PMO-RALG	Prime Minister’s Office - Regional Administration and Local Government

PReMS	Primary Record Manager for Secondary Education
R	R Statistical Software
RAS	Regional Administrative Secretary
SEQUIP	Secondary Education Quality Improvement Project
SLRR	School-Level Response Rate
SPSS	Statistical Package for Social Sciences
SQA	School Quality Assurer
SQL	Structured Query Language
SRR	School Response Rate
TIE	Tanzania Institute of Education
TCs	Teacher Colleges
TRCs	Teacher Resource Centres
PReMS	Primary Record Manager for Secondary Education

EXECUTIVE SUMMARY

Introduction

The Form Two Learning Evaluation (FTLE) phase II is an extension of the FTLE phase I. The evaluation seeks to establish the reasons for students' low performance in various core subjects in Form Two. These persistent low performance results compelled the Ministry of Education, Science and Technology (MoEST), through the Secondary Education Quality Improvement Programme (SEQUIP), to establish the **Form Two Learning Evaluation (FTLE)**. This initiative is implemented in both government and non-government secondary schools on mainland Tanzania to diagnose learning difficulties, monitor students' progress, and inform targeted interventions to improve learning outcomes. The evaluation focuses on Form Two students by examining their learning processes, environments, and overall performance in key subjects.

The importance of collecting reliable data on students' learning serves as a foundation for shaping education policies, guiding management decisions, and improving teaching practices. Education in Tanzania aligns with national development documents such as the Tanzania Vision 2050, the Tanzania Development Vision 2025, the Education and Training Policy of 2014 as revised in 2023, the Sustainable Development Goals (SDGs), and the Five-Year National Development Plan (2021/22–2025/26). These frameworks prioritise industrialisation, improved efficiency, and enhanced productivity. As a result, the education sector plays a central role in preparing human capital capable of driving socioeconomic development.

Students' Learning as a Basis for Policy and Management Decisions

Tanzania's educational structure comprises two years of pre-primary education, six years of primary education, four years of lower secondary education, two years of upper secondary education, and at least three years of tertiary education. Secondary education is crucial as it equips learners with competencies in science, technology, and vocational fields and promotes self-directed learning and confidence.

Under the Secondary Education Quality Improvement Project (SEQUIP), MoEST introduced FTLE to generate evidence-based recommendations for

improving learning at the secondary level. By focusing on Form Two students, the evaluation provides critical information for research, policy formulation, education management, and decision-making among government and non-government stakeholders. Quality data on students' learning indicates what they know, what they struggle with, and what they are expected to achieve, enabling policymakers to plan appropriate interventions.

Contextual Variables Assessed

The FTLE phase II expanded to nine subjects, adding Civics, History, Geography, Kiswahili, and Chemistry. The evaluation investigates learning outcomes in relation to the following contextual variables:

(i) Teachers' characteristics – including residence, experience, and qualifications, and how these influence learning outcomes.

(ii) Classroom environment **–** such as class size and safety.

(iii) Teaching and learning resources – including availability of textbooks, electricity, and teaching aids.

(iv) Competency coverage – assessing how the number of competencies taught before the evaluation affects student performance.

(v) Home environment – availability of study materials and supportive conditions.

(vi) Teaching and learning processes – including language of instruction, teacher competency, use of instructional methods, and Learning Management Systems (LMS).

(vii) School environment – focusing on safety and overall conduciveness to learning.

(viii) Teacher motivation – exploring how job satisfaction and staffing levels shape the quality of teaching.

Data were collected from five groups: Form Two students, subject teachers, school heads, parents/guardians, and school board members.

Objectives of the Evaluation

The overall aim of the FTLE Phase II is to assess learning among Form Two students and provide insights to inform education policy and practice. Specific objectives include:

(a) Identifying differences in students' learning in terms of gender, locality, and school ownership;
(a) Establishing teacher qualifications, experience and grades attained in their teaching subjects;
(b) Exploring curriculum coverage in terms of topics/competencies;
(c) Identifying learning and teaching gaps which hinder students from acquiring appropriate skills as per the curriculum; and
(d) Recommending policy and programme actions for consideration by the Government to improve learning outcomes at the secondary education level in Tanzania.

Organisation of the Report

This report is organised into six chapters: Chapter One introduces the study, explains the importance of learning data, outlines contextual variables, and states the objectives. Chapter Two presents the FTLE evaluation framework, including what was assessed, the evaluation tools developed, the participants involved in the assessment, and the reporting criteria. Chapter Three discusses the methodology, including sampling, piloting the tools, administering assessments, and marking. Chapter Four presents findings and analysis by subject, focusing on proficiency, performance patterns, and influencing factors, with comparisons by gender, location, language, and school ownership. Chapter Five compares findings from Phase I (2023) and Phase II (2025) and outlines their implications, and Chapter Six provides conclusions and recommendations based on the evaluation results.

Framework for the Form Two Learning Evaluation

The Form Two Learning Evaluation (FTLE) phase II framework outlines a structured approach for assessing the knowledge and skills students acquire from Form One through the middle of Form Two. It provides guidance on the design, development, and implementation of the assessment tools, including tests, questionnaires, and administration manuals. The chapter further describes the target population, criteria for interpreting results, and methods for reporting and disseminating findings to stakeholders.

Methodology

Introduction

This chapter outlines the study's methodology, including the evaluation design, target population, sampling procedures, replacement criteria, and overall sampling framework. It also describes the development and pilot testing of data collection instruments, the data collection process, and the methods used for data analysis.

Evaluation Design

As in Phase I, a survey design was also adopted in Phase II during the Form Two Learning Evaluation. Data collection utilised subject assessment papers to obtain students' scores, reflecting their knowledge and skills in relation to the targeted learning outcomes and competencies and questionnaires to gather information from students, teachers, school heads, parents or guardians, and school board members.

Population

The study population Form Two students drawn from both government and non-government secondary schools across mainland Tanzania in the year 2025. The Primary Record Manager for Secondary Education (PReMS)[1] was used to generate a comprehensive list of secondary schools with Form Two students. Within the PReMS database, schools were categorised by School Code, School Name, Address, Region, Council, and Ownership (Government or Non-Government). Each school locality was determined based on the classification of its respective council. Schools within councils designated as rural were considered rural, and those within urban councils were considered urban.

Sample Size and Sampling Procedures

Sampling Design

The Form Two Learning Evaluation (FTLE) employed a two-stage stratified sampling approach. In the first stage, the study applied Taro Yamane's formula to determine the regional sample size for the evaluation. The selection of schools considered only those with at least 25 students per

[1] A computer system which keeps all students' biodata studying at secondary education level.

class. The regional sample size established the total number of schools to be included from each region by using the desired cluster size of 30 students. The formula for calculating the number of students to be sampled within each region is expressed as $S = \frac{N}{1 + Ne^2}$.

In total, 10,919 students were sampled from a population of 891,214 Form Two students enrolled in 2025 from 365 schools out of 6,241, representing an average of 14 schools per region.

Distribution of Sampled Schools Based on School Ownership and Locality

Proportionate stratified sampling was employed based on school ownership and locality. Accordingly, each region was divided into four strata: government urban schools, government rural schools, non-government urban schools, and non-government rural schools. Systematic random sampling was then applied in each of these four strata. The schools in each stratum were first arranged by student enrolment, then by alphabetical order of school names. For each sampled school, a neighbouring school was identified to serve as a replacement if necessary.

In the second stage, systematic random sampling was employed to select Form Two students from each sampled school. The registered students were first arranged by gender, then alphabetically by name. For every selected student, an adjacent student on the list was designated as a replacement to account for potential non-participation or absence.

Sampling Subject Teachers, Heads of Schools, Parents/Guardians and School Board Members

From each sampled school, one teacher per subject included in the evaluation and the head of school were purposively selected to participate, each completing a questionnaire. Additionally, one member of the school board and one parent or guardian of a student were randomly chosen from each school, and each respondent completed the corresponding questionnaire.

Replacement Students

In this study, 1,151 students (10.54%) from the 10,919 sampled students were replaced. However, 156 students (1.43%) were not replaced because of truancy.

Exclusion Criteria

To guarantee the relevance and homogeneity of the sampled schools and students, the researchers established specific exclusion criteria for both schools and students as follows:

School Exclusion Criteria

Schools with fewer than 25 students were excluded to prevent the disproportionate influence of very small schools on the overall national performance estimates. Accordingly, from the 6,241 schools listed in the PReMS database, 359 schools (5.75%) with Form Two enrolments below 25 students were excluded. A final sample of 365 schools was then drawn from the remaining 5,882 schools (94.25%) in the sampling frame.

Student Exclusion Criteria

Exclusion criteria for students were applied during data analysis. Students who were unable to participate in the evaluation due to their conditions and foreign, non-English-speaking students who had used English as the medium of instruction for less than one year were excluded. Nevertheless, all selected schools met the established criteria, and consequently, no students were excluded from the study.

Exclusion Rates

The study permitted the exclusion of up to 5% of the FTLE target population. However, as noted in the previous section, no sampled schools or students were excluded during the data analysis.

Response Rate Criteria

The following response rate criteria were considered:

(a) The School Level Response Rates (SLRR) were calculated as follows:

All 365 sampled schools participated fully in the evaluation, resulting in a reasonable School-Level Response Rates (SLRRs) across 9 subjects. The high response rates were primarily attributed to NECTA's provision of clear information to regional and district educational authorities regarding the purpose and significance of the FTLE. These high SLRR values indicate that the study accurately reflected the conditions and characteristics of the sampled institutions.

(b) The target response rate for schools was set at 85 per cent, with a minimum of 65 per cent considered sufficient for comparison, given that the overall response rate target for schools was 100%. Additionally, the response rates achieved enable meaningful comparisons with other studies, as they exceed the minimum threshold required for such comparisons.

Data Collection

Data collection utilised two primary tools. First, subject assessment papers measured students' knowledge and skills in line with the expected learning outcomes for the covered competencies. Second, questionnaires were administered to gather information on various factors that could explain differences in students' performance on the assessment tests.

Developing Evaluation Tools

The Form Two Learning Evaluation tests and questionnaires were developed in line with NECTA's established standards. Before full implementation, the instruments were piloted to verify their accuracy and consistency in capturing the required information.

Marking the Scripts, Analysing the Questionnaires, and Capturing the Data

The marking process followed NECTA's established procedures for national assessments. A total of 270 markers, all subject teachers from secondary schools, participated in marking the subject scripts. Each marker held at least a diploma in the respective subject and had at least three years of secondary-level teaching experience. Additionally, 63 participants scored the questionnaires: 27 were NECTA staff, and 36 were secondary

school teachers. All of whom were experienced in using computers to mark national examinations. The teachers responsible for marking scripts and entering questionnaire responses into SPSS were selected from NECTA's official inventory of markers. During the marking and data entry process, the following measures were implemented:

Data Entry from Questionnaires

Data collected through the questionnaire was entered into the computer by selected NECTA officers and secondary school teachers experienced in computer applications and national examinations marking.

Data Cleaning, Weighting and Analysis

Data Cleaning

The relationship between the initial (first-entry) and cleaned data for secondary school scores and questionnaires was examined. The null hypothesis typically posits that no actual difference or effect exists between the first and the second data entry. To double-check the accuracy of score entry, 10% of the students' scores from every subject were randomly selected and re-entered from the original scripts. Then, the first entry was compared with the second using a paired-samples t-test. In four subjects, Civics, Chemistry, Geography, and Kiswahili, zero discrepancies across all re-entered scripts between the first entry and the second were found. This outstanding level of accuracy is not accidental. It is the direct result of NECTA's conveyor-belt marking system, where a qualified examiner double-checks every single score before being entered. This verification exercise demonstrates that the quality control process is effective. In the other five subjects, Biology, English, History, Basic Mathematics, and Physics, there were slight differences between the two entries. The tiny differences were not systematic errors, and they do not affect students' grades in any meaningful way, which concludes that the differences were statistically indistinguishable from zero (all $p > 0.10$).

Questionnaires were validated by assigning 0 to correct entries and 1 to incorrect entries. Both hard copies and 10 per cent of the computer-generated records were used for comparison. Following data capture, probabilities were calculated to assess the relationship between the initial

(uncleaned) and subsequent (cleaned) entries for questionnaires completed by parents/guardians, members of the school board, heads of schools, subject teachers, and students. The margin of error (*e*) was set at less than 0.05.

The probability of incorrect entries was 0.00 for the Parents/Guardians questionnaire, 0.00 for Members of the School Board, 0.00 for Heads of Schools, 0.03 for Subject Teachers, and 0.04 for Students. These results indicate that all questionnaires met the criteria for further analysis, as the margin of error for each was below 0.05. Consequently, the data were deemed clean and suitable for analysis.

Data Weighting

For data analysis, weights were calculated as the inverse of the selection probability for each student within each stratum to ensure the sample was representative of the national population. A single-stage weighting was applied at the school level to ensure that student scores accurately reflected overall national performance. To correct for any disproportionate sampling, all reported scores in this study were computed using the student weights.

At the national level, overall performance in each subject was calculated using the students' weights at the school level within each stratum. Additionally, all cases were weighted in SPSS to ensure accurate representation.

Data Analysis

The FTLE dataset was analysed using SPSS and MS Excel. The weighted scores for all students in the corresponding subjects were computed. Moreover, unanswered items on a student's paper were treated as incorrect responses.

(i) Data analysis was done by considering the factors of gender (male and female), school location (urban and rural), and ownership (non-government and government).

(ii) The performance indicators for each competency underassessment were categorised into bands: green for Excellent and Very Good

performance, yellow for Good performance and red for Satisfactory and Unsatisfactory performance.

(iii) FTLE clean data files were merged using a unique identifier (code) to run specific analyses such as school-level estimations. Descriptive and subjective judgments were conducted based on the students' scripts and background questionnaires.

Presentation, Analysis and Discussion of Findings

This section presents the FTLE assessment results for nine subjects: Civics, History, Geography, Kiswahili, English Language, Physics, Chemistry, Biology, and Basic Mathematics. Students' performance is analysed using descriptive statistics, with tables and figures showing overall results by gender, locality, and school ownership. Individual subject performance is then discussed, highlighting variations in learning based on responses to different competency-based items. The chapter also includes findings from the questionnaires that school board members, school heads, teachers, students, and parents/guardians completed to generate insights into the learning environment.

Findings

Differences in Students' Learning Based on Gender, Locality and Ownership

This section presents an analysis of students' performance in the Form Two Level Evaluation (FTLE) 2025, focusing on overall performance and differences by gender, school ownership, and school locality. The analysis uses descriptive statistics-mean scores, standard deviations, standard errors, and confidence intervals to examine performance patterns across nine assessed subjects: Civics, History, Geography, Kiswahili, English Language, Physics, Chemistry, Biology, and Basic Mathematics.

Overall, the results indicate that students' performance in the FTLE 2025 is low, with mean scores below 50 in almost all subjects. Basic Mathematics, Civics, and Physics recorded the lowest performance with mean scores of 12.16, 18.2, and 18.9, respectively, while Kiswahili showed comparatively better results with a mean score of 48.64. When grouped into Arts and Science clusters, students performed better in Arts subjects (mean score 31.87) than in Science subjects (mean score 21.44). Low standard errors across subjects suggest stable and reliable mean estimates.

When performance was analysed by gender, male students consistently outperformed their female counterparts across all subjects. For example, in Basic Mathematics, males scored a mean of 16.25 compared to 9.72 for females, while in Kiswahili, males scored 50.71 compared to 47.40 for females. Independent t-tests confirmed that these gender differences were statistically significant across all subjects ($p < .001$). The most crucial gender gaps were observed in Geography, History, and Chemistry, with narrow confidence intervals indicating highly stable, precise estimates. These patterns reveal substantial, systematic gender-based performance disparities.

Teachers' Qualifications, Experience and Grades Attained in Teaching Subjects

Data were collected to assess how teachers' qualifications, teaching experience, and grades in their teaching subjects relate to students' academic performance. The analysis is grounded in the belief that teacher quality is central to educational standards and student achievement. Well-trained teachers are expected to create a supportive learning environment, facilitate more profound understanding, and foster higher-order thinking skills. Furthermore, teachers with strong academic backgrounds and specialised training are likely to demonstrate higher professional competence, contributing to improved student outcomes.

Teachers' Qualifications

The data show that a large proportion of teachers (61.0%) hold bachelor's degrees, the current standard for secondary school teaching according to the Education and Training Policy (2014), 2023 edition. Diploma holders account for 37 per cent. Only a small minority hold master's degrees (1.6%) or other postgraduate qualifications (0.4%). This outcome suggests that, although most teachers meet minimum qualification standards, advanced professional preparation remains limited.

Qualifications by Locality

Urban schools are generally better staffed in terms of qualifications. About 67.2 per cent of teachers in urban schools hold bachelor's degrees compared to 57.6 per cent in rural schools. Conversely, rural schools have a higher percentage of diploma-level teachers (40.7%) than urban schools (30.5%). Only minor differences exist in the number of teachers holding

master's degrees across the two contexts. The data suggest that urban schools attract and retain more qualified teachers, likely due to better working conditions, professional opportunities, and living standards.

Qualifications by School Ownership

A notable pattern emerges when comparing government and non-government schools. Non-government schools have a much higher proportion of Bachelor's degree-holding teachers (79.9%) than government schools (56.5%). Government schools, on the other hand, have more diploma-level teachers (41.5%) than non-government schools (18.2%). Both school types have very few Master's level teachers. These trends may reflect stricter recruitment criteria in non-government schools and a larger pool of unemployed graduates from which private institutions can select. Public schools still carry many diploma-trained teachers hired before policy review that mandated degree-level qualifications.

Qualifications by Gender

Male teachers dominate the profession, accounting for 75.1% of the sample. Despite this imbalance, female teachers are slightly better qualified. A higher proportion of female teachers hold Bachelor's degrees (64.8%) than males (59.7%), and fewer female teachers hold diploma qualifications. Master's degree attainment remains low in both genders. This pattern may reflect gender-sensitive higher education policies that have expanded access to university education for women in Tanzania. Nevertheless, both genders show a need for increased postgraduate professional development.

Teachers' Teaching Experience

Experience plays a crucial role in shaping instructional quality and student outcomes. Teachers with more experience typically possess stronger pedagogical skills, more profound content knowledge, and better classroom management.

Overall Experience Levels

The teaching workforce is predominantly early-career, with 72.7 per cent of teachers having 10 years of experience or less, 25.3 per cent with 11–20 years, 1.9 per cent with 21–30 years, and 0.2 per cent with 31–40 years of service. This suggests that experienced teachers are retiring or leaving the profession, leaving largely early-career staff. While young teachers bring energy and innovation, the shortage of seasoned teachers may limit mentorship, continuity, and institutional memory in schools.

Experience by Locality

Experience distribution is similar across rural and urban schools. In rural areas, 72.8 per cent of teachers have 0–10 years of experience, almost similar to 72.4 per cent in urban areas. Urban schools have a slightly higher proportion of teachers with over 20 years of experience (2.8%) than rural schools (1.6%), suggesting better retention of experienced teachers, possibly due to better working conditions. Nonetheless, both school types face a shortage of veteran teachers, reinforcing the need for strategies to retain experienced staff.

Experience by School Ownership

Both government and non-government schools rely heavily on early-career teachers. However, the pattern is more pronounced in non-government schools, where 86.1 per cent of teachers have 0–10 years of experience, than in government schools, where 69.5 per cent do. Government schools have a more balanced spread, with 28.8 per cent of teachers having 11–20 years of experience, compared with 10.6 per cent in non-government schools. This may indicate better job security and career progression pathways in public schools, while private schools may face higher turnover.

Teachers' Attained Grades

The study also explored the grades teachers achieved in the CSEE, ACSEE and DSEE examinations for the subjects they then taught. Research shows that teachers with stronger academic backgrounds often demonstrate higher teaching competency.

Grades by Locality

Urban teachers achieved higher grades in both the CSEE, ACSEE and DSEE. In the CSEE, 39.7 per cent of urban teachers achieved good grades (A, B+, B) compared to 36.1 per cent of rural teachers. ACSEE results show similar trends:18.6 per cent of urban teachers received strong grades, compared with 16.5 per cent of rural teachers. Similarly, in DSEE 41.6 per cent in urban achieved good grades compared to 33.8 per cent in rural. Although most teachers in both locations scored between B and D, urban teachers consistently performed slightly better.

Grades by School Ownership

Teachers in non-government schools achieved significantly better grades. About 45.6 per cent of teachers in non-government schools attained Grade A B+ or B, in CSEE compared to 35.4 per cent in government schools. Similarly in ACSEE 27.8 per cent in non-government and 14.9 in government schools; and in DSEE the percentage is 49.8 in non-government schools and 34.9 in government schools. This aligns with earlier patterns showing higher academic qualifications and greater recruitment selectivity in non-government institutions.

Teaching and Learning Gaps

The fifth objective of the Form Two Learning Evaluation (FTLE) was to identify teaching and learning gaps that hinder students' achievement of curriculum competencies. Learning gaps arise when students fail to acquire expected skills due to factors such as inadequate prior knowledge, language barriers, environmental challenges, poor motivation, and ineffective teaching methods. Teaching gaps occur when instructional practices do not align with curriculum requirements, often influenced by limited teacher competence and insufficient resources.

Language of Instruction in Teaching and Learning

The FTLE used assessment items and questionnaires to examine challenges across nine subjects. The key issues identified include low mastery of English, the primary language of instruction. This challenge has affected both teaching and learning. Although 60.3 per cent of teachers use English, many reported that students struggle with comprehension.

Teaching and Learning Environment

Teaching and learning environments also contribute to gaps; while schools have improved infrastructure, limited counselling, parental involvement, and insufficient home-learning resources, especially textbooks, remain serious concerns.

Internal School Quality Assurance Teams and Other Factors

Internal School Quality Assurance Teams provide moderate support, but gaps persist in monitoring and feedback. Teaching methods are teacher-centred mainly in government and rural schools, while learner-centred approaches are more common in non-government and urban schools. Additional problems include limited use of teaching aids, inadequate laboratory facilities, low LMS utilisation due to inadequate ICT access, and varying levels of teacher job satisfaction. Students also face challenges, including absenteeism due to illness, family responsibilities, long distances to school, and negative attitudes toward Science and Mathematics subjects. Collectively, these factors create significant learning gaps that affect students' academic progress.

Participants' Recommendations

The FTLE questionnaires invited teachers, students, parents, and school board members to provide open-ended recommendations for improving education. Their responses, summarised using case-based percentages, highlight key areas requiring attention to strengthen learning outcomes and ensure equitable access to quality education across Tanzania. Major recommendations across all respondent groups include the following:

Enhancement of Educational Infrastructure

This was recommended by the majority of participants across all categories, with students (49.8%) and parents (34%) emphasising the urgent need for improved classrooms, laboratories, libraries, toilets, offices, furniture, and other facilities, especially in government-owned schools. Participants highlighted that better infrastructure promotes a conducive learning environment, reduces overcrowding, and enhances both student and teacher morale.

Strengthening Teacher Recruitment, Training, and Continuous Professional Development

Another strong recommendation concerns strengthening teacher recruitment, with support from school board members (58%), students (43.6%), and heads of schools (36.5%). These stakeholders expressed concern about understaffing, particularly in rural schools. Participants called for adequate staffing, regular in-service training, workshops, and professional development programmes to improve teacher competence and promote learner-centred teaching approaches essential for effective curriculum implementation.

Provision and Improvement of Teaching and Learning Resources

The provision and improvement of teaching and learning resources were also widely emphasised, particularly by students (55.7%). Respondents stressed the need for sufficient textbooks, laboratory equipment, teaching aids, and other materials, especially in government schools where shortages are more pronounced. Improving resource availability would reduce disparities across schools and support equitable access to quality learning experiences.

Promoting Parental and Community Engagement in Education

Some participants highlighted the importance of promoting parental and community engagement in education. Heads of schools (12.3%), board members (10.1%), and parents (10%), mainly from urban schools, recommended stronger collaboration frameworks among schools, parents, and communities. Suggested actions include sensitisation programmes, training for school committees, and better communication channels to strengthen joint responsibility for student performance and school improvement.

Student Welfare and Support Services

Enhancing student welfare and support services was recommended by 24.3 per cent of students, particularly in urban areas. They called for improved counselling, mentorship, and psychosocial support to help students manage academic, social, and emotional challenges that affect attendance, engagement, and performance. Strengthening guidance services was considered essential to nurturing student well-being and academic success.

Greater ICT Integration in Teaching and Learning

Participants also emphasised the need for greater ICT integration in education to bridge the digital divide. Heads of schools in rural government (15.4%) and non-government (16.7%) schools recommended investments in ICT infrastructure, internet access, digital learning materials, and teacher training to enhance digital literacy and support teaching technology-enhanced learning.

Strengthening Motivation and Incentive Systems for Teachers and Students

Heads of schools (11.2%) and board members (14%) recommended strengthening motivation and incentive systems for teachers. They suggested both financial and non-financial incentives, including recognition programmes, bonuses, awards, and professional development opportunities to raise morale and encourage a culture of excellence, accountability, and achievement.

COMPARATIVE ANALYSIS OF FTLE PHASES I AND II FINDINGS

Comparisons of the key findings between FTLE I and II: Differences in student learning outcomes

The FTLE I assessment evaluated students in four subjects: Basic Mathematics, Biology, English Language, and Physics. In contrast, FTLE II expanded the scope to nine core subjects, adding Chemistry, Kiswahili, Geography, History, and Civics to the original four subjects. Hence, the comparison is based only on the four subjects which were assessed in both phases.

Generally, performance across all subjects is skewed towards the right-hand side, as more than 50 per cent performed unsatisfactorily. Poor performance among students is observed in Basic Mathematics, with unsatisfactory performance of 88.7 per cent and 87.5 per cent for FTLE I and II, respectively. Students' performance in Physics is unsatisfactory at 71.3 per cent and 80.7 per cent on both FTLE I and II, respectively. English Language recorded the highest performance among the four subjects, with 40.1 per cent and 40.3 per cent of students performing from Excellent to Satisfactory levels in FTLE I and II, respectively. Additionally, the percentage performance has increased slightly in FTLE II compared to FTLE I in Biology, English Language, and Basic Mathematics.

Basic Mathematics

Comparisons of students' performance based on gender, school locality and school ownership are presented as follows:

(a) Gender

Performance in Basic Mathematics by gender in the FTLE I revealed higher performance among male than female students, as shown by slightly higher percentages of unsatisfactory performance at 91.0 and 85.5 for female and male, respectively. Likewise, in the FTLE II, 91.9 per cent of female students and 80.5 per cent of male students performed unsatisfactorily. Additionally, male students' performance has increased compared to that of female students.

(b) School Locality

Based on school locality, the FTLE I results indicate marginally better performance in Basic Mathematics for students from urban schools than from rural schools, with 86.3 per cent of them recording unsatisfactory scores, compared to 89.9 per cent. In FTLE II, the percentages of students in the same category are 84.0 per cent and 89.6 per cent, respectively.

(c) School Ownership

Regarding school ownership, the data show that students from government schools account for a large proportion of those in the unsatisfactory performance category (91.9%), compared with students from non-government schools (55.8 %). A similar pattern is seen in FTLE II, with government school students accounting for 90.6 per cent of those in the unsatisfactory category, compared with 53.5 per cent from non-government schools. Additionally, there is a slight improvement in student performance across both school categories in FTLE II compared to FTLE I.

Biology

Comparisons of students' performance based on gender, school locality and school ownership in this subject are as follows:

(a) Gender

The data indicated that in both FTLE I and II, male students performed better than female students, with female students accounting for a larger

proportion of those in the unsatisfactory category at 68.0 per cent in FTLE I compared to 67.6 per cent in FTLE II, and 55.8 per cent and 49.8 per cent of males in the same category, respectively. It was further noted that there was a slight improvement in performance for both female and male students.

(b) School Locality

A comparison by school locality indicates that, in FTLE I, students in urban schools performed marginally better in Biology than those in rural schools. Specifically, 42.1 per cent of urban students and 35.1 per cent of rural students scored from Excellent to Satisfactory in FTLE I. Similar pattern was observed in FTLE II, with 43.9 per cent of students from urban schools and 34.9 per cent from rural scoring in the same band.

(c) School Ownership

Analysis by school ownership showed that 81.8 per cent of students from non-government schools scored in the Excellent-to-Satisfactory range, compared with 33.1 per cent of students from government schools in FTLE I. Likewise, in FTLE II, 84.1 per cent of students from non-government schools scored in the same range, compared with 34.9 per cent of students from government schools.

English Language

Comparisons of students' performance based on gender, school locality and school ownership in this subject are presented as follows:

(a) Gender

An analysis of student performance in both FTLE I and II in the English Language subject reveals that male students generally performed better than female students, as indicated by lower proportions of males in the unsatisfactory category. Specifically, 64.1 per cent of female students and 54.6 per cent of male students scored in the Unsatisfactory category in FTLE I. Likewise, in FTLE II, 65.1 per cent of female students and 50.7 per cent of male students scored in this category. The remaining proportions, 35.9 per cent females and 45.4 per cent males in FTLE I, and 34.9 per cent of females and 49.3 per cent of the males in FTLE II, achieved scores in the Excellent to Satisfactory categories. Overall, the results indicate a

widening performance gap in favour of male students across the two assessments.

(b) School Locality

As regards school locality, the analysis indicates that 49.4 per cent of students from urban schools scored in the Excellent-to-Satisfactory categories, compared to 35.4 per cent of students from rural schools in FTLE I. In the FTLE II, 47.4 per cent of students from urban schools scored in the Excellent-to-Satisfactory categories, compared to 36.0 per cent of the students from rural schools. This indicates that students in urban schools performed better than those in rural schools. However, there was a decrease in students' performance in urban schools, while there was a slight increase in students' performance in rural schools in FTLE II as compared to FTLE I.

(c) School Ownership

Regarding school ownership, a comparative analysis of students' performance in FTLE I and FTLE II indicates that students from non-government schools performed better than those from government schools. In FTLE I, 84.9 per cent of students from non-government schools scored in the Excellent-to-Satisfactory categories, compared with 35.7 per cent of students from government schools in FTLE I; corresponding figures in FTLE II were 85.9 per cent and 36.1 per cent, respectively. Additionally, students' performance in FTLE II increased slightly compared to FTLE I in both non-government and government schools.

Physics

Comparisons of students' performance in the Physics subject based on gender, school locality and school ownership are as follows:

(a) Gender

According to the gender analysis, the data show that male students generally performed better than female students in FTLE I and FTLE II. In FTLE I, 36.0 per cent of male students and 22.9 per cent of female students scored from Excellent-to-Satisfactory categories. Similarly, in FTLE II, 28.5 per cent of male students and 13.7 per cent of female students scored in the same bands. However, performance in this subject

declined in FTLE II, with decreases of 9.2 per cent for female students and 7.5 per cent for male students.

(b) School Locality

Further analysis by school locality indicates that students' overall performance in Physics was higher in urban schools than in rural schools in both FTLE I and FTLE II. In FTLE I, 34.1 per cent of students from urban schools and 25.9 per cent of students from rural schools scored in the Excellent-to-Satisfactory categories; corresponding figures for FTLE II were 23.8 per cent and 16.5 per cent, respectively.

(c) School Ownership

Regarding school ownership, the data show that students from non-government schools performed better than those from government schools in both FTLE I and FTLE II. The analysis indicates that 73.5 per cent of students from non-government schools and 24.3 per cent of students from government schools scored in the excellent-to-satisfactory categories in FTLE I. Similarly, 61.7 per cent of students from non-government schools and 15.3 per cent of students from government schools scored in the same bands in FTLE II.

Evaluation on the Recommendations from FTLE I and FTLE II

This section compares recommendations from FTLE I and FTLE II, focusing on challenges in the teaching and learning environment and the suggested actions to address them. Several key recommendations were shared across both studies.

Enhancement of Educational Infrastructure

FTLE I showed that only a small proportion of teachers reported limited or no access to laboratory services. Additionally, schools were found to have supportive learning environments, including safety measures, dropout prevention programmes, complaint systems, and strong community engagement, with ratings ranging from 84.5 per cent to 97.2 per cent. However, FTLE II highlighted continued concerns from students (49.8%) and parents (34.0%) calling for improved classrooms, laboratories, libraries, furniture, and sanitation facilities. This contrast suggests that although government efforts have improved infrastructure, greater investment is still required to ensure adequate facilities for all schools.

Strengthening Teacher Recruitment, Training, and Professional Development

FTLE I emphasised improving classroom practices through learner-centred methods, varied teaching strategies, and addressing shortages of subject-specific teachers. On the other hand, FTLE II focused more on systemic issues such as teacher recruitment, qualifications, and continuous professional development. The shift in emphasis illustrates a move from solving immediate instructional challenges to building long-term systemic capacity in the education sector.

Enhancing Student Welfare and Support Services

Both studies underscored the importance of student guidance and counselling. While FTLE I stressed the need to sustain career guidance programmes that foster self-awareness, academic motivation, and future planning, FTLE II called for stronger welfare and support services to address students' social, emotional, and academic needs. Survey results from FTLE II showed that 24.3 per cent of students, especially in urban schools, called for improved welfare and counselling programmes.

Integration of ICT in Education

FTLE I viewed ICT resources as part of essential school infrastructure, while FTLE II emphasised ICT integration as a transformative tool for bridging digital divices and promoting interactive, competency-based learning. Whereas FTLE I focused on physical learning conditions, FTLE II moved toward embedding technology in teaching, learning, and administration.

Overall, both studies highlight the need for continued government and stakeholder collaboration to enhance infrastructure, strengthen teacher capacity, support student welfare, and integrate ICT, which ultimately fosters a more equitable and effective education system.

Conclusions

The study highlights persistent inequities in student achievement across subjects and school contexts, pointing to factors beyond curriculum delivery that influence learning outcomes. Although curriculum coverage

appears adequate in all school types, the marked variation in performance suggests the influence of broader structural and contextual conditions.

Differences associated with gender, school ownership, and locality indicate that learning outcomes are shaped by unequal access to supportive learning environments and teacher capacities. The stronger performance observed in non-government and urban schools aligns with their comparatively higher levels of teacher qualification, underscoring the central role of teacher quality in promoting student success.

Overall, the findings reinforce the need for comprehensive strategies that address the conditions under which teaching and learning take place. Enhancing teachers' competence, ensuring the equitable deployment of qualified staff, and mitigating contextual disadvantages, particularly in rural and government schools, are essential to improving the consistency and equity of student performance nationwide.

Recommendations

Despite various performance differences and continued educational investments, however, based on the findings of this study, the following recommendations are provided to improve performance:

(i) Performance in Basic Mathematics and Physics was notably low. It is, therefore, recommended that SQA enhance monitoring and evaluation to promote activity-based, interactive teaching and improve learning outcomes and student performance.

(ii) To improve the performance of Basic Mathematics and science subjects, it is also recommended that the Ministry of Education, Science and Technology should put in place policies which provide incentives to science and Mathematics teachers to attract the best achievers in these subjects to join the teaching profession.

(iii) Most of the students identified the use of English language in learning as a challenge. Heads of schools, in collaboration with English Language teachers, should make intervention programmes to ensure students improve their communication abilities. This will enable students to use English effectively in their learning. Additionally, the Form One English Course Orientation Programme should be

reinforced in all schools, especially in government schools, where English is a challenge.

(iv) Parental involvement in students' learning should be encouraged to enable early intervention when students face challenges at school.

(v) Responsible authorities for teacher recruitment should ensure equitable distribution of teachers across rural and urban schools to reduce disparities in student performance.

(vi) Students also suggested improvements in the provision of teaching and learning resources. It is recommended that Heads of Schools and Ward Education Officers ensure that resources are available to students and supervise their use.

(vii) Continuous professional development for teachers should be strengthened to ensure regular updating of teaching skills, particularly for teachers in government schools, where teacher-centred methods are more common compared with the student-centred methods in non-government schools.

(viii) In some schools, laboratories are available but not effectively used. It is therefore, recommended that science teaching include more practical laboratory activities to improve learning outcomes.

CHAPTER ONE

CONTEXT OF THE FORM TWO LEARNING EVALUATION

1.1 Introduction

For several years, national assessments and examinations have revealed unsatisfactory academic performance among secondary school students in Basic Mathematics, English Language, and Physics subjects. Additionally, the quality of performance in Civics, History, Geography, Kiswahili, Chemistry, and Biology, which are core subjects, is low because most students are clustered in lower (four) divisions, except Kiswahili, where students are fairly distributed across good performance categories. This situation highlights the difficulties learners face throughout the learning process. Such challenges negatively affect their academic achievement, leading to insufficient acquisition of the expected competencies, knowledge, skills, and attitudes. In response, the Ministry of Education, Science and Technology (MoEST) began conducting the Form Two Learning Evaluation (FTLE) to identify learning challenges and implement appropriate interventions. The evaluation focuses explicitly on Form Two students from both government and non-government secondary schools across mainland Tanzania, examining their learning processes and environments. Additionally, it seeks to track students' progress in these subjects.

This chapter emphasises the significance of collecting information about students' learning as a foundation for policy formulation and management decisions. It further outlines the key variables assessed and presents both the specific and overall objectives of the study. The chapter concludes by outlining the report's structure and content.

1.2 Students' Learning as a Basis for Policy and Management Decisions

The Tanzanian education system operates in line with the nation's key priorities, as outlined in the *Tanzania Development Vision 2025*, the *Education and Training Policy of 2014 (2023 edition)*, the *Sustainable Development Goals (SDGs)*, and the *Five-Year National Development Plan (2021/22–2025/26)*. These policy frameworks emphasise the country's aspiration to achieve industrialisation and competitiveness as a means of

promoting human development, enhancing efficiency, and boosting productivity in manufacturing by utilising the nation's abundant resources. Consequently, the education sector plays a crucial role in developing human capital to drive Tanzania's socio-economic progress.

The Tanzanian education system (at the time of this study) comprises two years of pre-primary education, seven years of primary education, four years of ordinary secondary education, two years of advanced secondary education, and three or more years of tertiary education. Specifically, secondary education serves as the post-primary stage for students who have completed primary school. One of its key objectives is to foster self-directed learning, confidence, and the capacity for independent advancement in science, technology, academics, and vocational skills.

In this context, the Ministry of Education, Science and Technology (MoEST), through the *Secondary Education Quality Improvement Project (SEQUIP)*, initiated the *Form Two Learning Evaluation (FTLE)* project. Among its goals, the project seeks to provide policy and programmatic recommendations to the Government to enhance learning outcomes at the secondary school level. The data collected from students' learning experiences form the foundation for evidence-based decision-making. As Form Two students are the primary focus of this initiative, information about their learning processes is vital for research, policy formulation, educational management, and informed decision-making by both the Government and other stakeholders.

1.3 Contextual Variables Assessed

The initial phase of the FTLE focused on investigating how Form Two students acquire knowledge in four subjects: English Language, Physics, Biology, and Basic Mathematics. The second phase of the FTLE project aims to explore how Form Two students learn across nine subjects: Civics, History, Geography, Kiswahili, English Language, Physics, Chemistry, Biology, and Basic Mathematics. The study assesses students' learning outcomes in relation to several contextual factors:

(a) **Teachers' personal characteristics:** These include examining whether aspects such as teachers' residential status, teaching

experience, and educational qualifications have a significant impact on students' academic performance.

(b) **Classroom environment:** This environment looks at how elements such as class size and classroom safety influence students' learning.

(c) **Availability and accessibility of teaching and learning resources:** The study investigates whether access to teaching aids, electricity, and adequate textbooks contributes meaningfully to students' academic achievement.

(d) **Topic coverage:** The study considers whether the number of topics taught before the learning assessment affects students' performance levels.

(e) **Home environment:** The project also considers whether the presence of study materials (such as desks, books, and lighting) and a supportive home learning atmosphere affect students' achievement.

(f) **Teaching and learning process:** This includes exploring how factors such as the language of instruction, teachers' subject competency, instructional methods, and the use of Learning Management Systems (LMS) influence learning outcomes.

(g) **School environment:** The study assesses whether aspects such as the overall safety and conduciveness of the school environment significantly affect students' learning.

(h) **Teacher motivation:** Finally, the project investigates whether teachers' job satisfaction and adequacy in schools play a role in shaping the quality of teaching and learning.

Data related to these variables were collected through questionnaires targeting five groups of respondents: Form Two students, subject teachers, school heads, parents or guardians, and members of school boards.

1.4 Objectives of Evaluation

The primary goal of the Form Two Learning Evaluation was to assess students' learning and provide policymakers and stakeholders with valuable insights into students' knowledge and abilities. This would help

inform improvements in policy and education practices. Specifically, the study set out to achieve the following objectives:

(a) Identifying disparities in student learning based on gender, locality, and school ownership
(b) Assessing teachers' qualifications, experience, and performance in the subjects they teach
(c) Examining the extent of curriculum coverage, including the topics taught
(d) Identifying gaps in teaching and learning that prevent students from acquiring the skills outlined in the curriculum
(e) Offering recommendations for policy and programme actions that the government could consider to improve learning outcomes in secondary education

1.5 Report Organisation

This report has six chapters. Chapter One introduces the study and emphasises the importance of gathering information on students' learning as a foundation for policy-making and management decisions. It also outlines the contextual variables considered and specifies the evaluation's primary and secondary objectives.

Chapter Two outlines the evaluation framework for the FTLE, detailing what was assessed, the tools developed for the evaluation, the participants, the criteria for interpreting and reporting the results, and how the findings would be disseminated.

Chapter Three explains the methodology, including the sampling process, the pilot assessment tools, the administration of the assessments, the marking and scoring methods, and the item scaling.

Chapter Four presents the findings, analysis, and discussion for each specific objective of the FTLE. It includes a statistical summary of the results by subject, focusing on proficiency levels, and examines patterns in performance and the factors influencing student outcomes. The chapter also provides data by gender, location (urban/rural), language use, and school ownership (government/non-government). Furthermore, it explores how various stakeholders (such as students, teachers, school heads,

parents/guardians, and school boards) are connected to students' achievements and to the technical aspects of the analysis.

Chapter Five compares the key findings of Phases I and II of the Form Two Learning Evaluation (FTLE) in 2023 and 2025, respectively, in relation to their objectives. The chapter ends with the implications of those findings. Chapter Six presents conclusions and recommendations based on the evaluation’s findings.

CHAPTER TWO

FORM TWO LEARNING EVALUATION FRAMEWORK

2.1 Introduction

The framework for Form Two Learning Evaluation (FTLE) presents a comprehensive plan outlining the knowledge and skills students acquire from Form One through the mid-point of Form Two. It provides an overview of the FTLE's design and implementation. This chapter elaborates on the procedures used to develop the assessment tests, questionnaires, and administration manuals. It further specifies the target population, the criteria used for interpreting the results, and the approaches for reporting and disseminating the findings to various stakeholders.

2.2 Form Two Learning Evaluation (FTLE)

The FTLE was developed to evaluate students' learning outcomes as outlined in the 2005 subject syllabi. In addition, it sought to examine students' performance in relation to their background characteristics and to assess teachers' proficiency within their respective areas of specialisation.

2.3 Evaluation Tools

The evaluation instruments created included assessment tests and guidelines for nine subjects: Civics, History, Geography, Kiswahili, English Language, Physics, Chemistry, Biology, and Basic Mathematics. Additional instruments comprised five types of background questionnaires targeting students, subject teachers, school heads, parents/guardians, and school board members, as well as an administration manual for the tools. These instruments were piloted in the first evaluation phase to ensure their validity and reliability before full implementation.

2.3.1 Assessment Test Development

Professional secondary school teachers with expertise in the respective subjects, each with at least five years of teaching experience, developed assessment items. The subject-matter experts recruited from higher-learning institutions then moderated the drafted items. NECTA subject coordinators, who acted as supervisors to ensure quality and compliance, oversaw the entire process of item setting and moderation.

During the item-setting process, the following key activities were undertaken:

(a) Items were designed based on topics covered by students up to the mid-point of Form Two, in accordance with PMO-RALG guidelines for the curriculum implementation calendar.

(b) For each subject, items equivalent to three sets of assessment papers of equal weight were prepared.

(c) English was used as the medium of instruction in the assessment, consistent with its use in teaching the subjects.

(d) Assessment items were also prepared to accommodate students with special educational needs.

(e) The security of assessment materials was strictly maintained following NECTA's guidelines.

NECTA subject coordinators carried out typesetting of the assessment papers and their corresponding marking guides. Senior NECTA examination officers conducted the final proofreading.

2.3.2 Questionnaire Development

NECTA experts in educational assessment designed five types of questionnaires, corresponding to the targeted respondents: Students, teachers, school heads, parents/guardians, and members of school boards. The development process also involved collaboration with stakeholders from the Ministry of Education, Science and Technology (MoEST), the President's Office – Regional Administration and Local Governments (PO-RALG), and the School Quality Assurance (SQA) department.

The questionnaires comprised both closed-ended and open-ended items. Closed-ended questions were used to collect quantitative data, while open-ended questions were used to gather qualitative insights. English was employed in the questionnaires for students, teachers, and school heads, reflecting its status as the language of instruction in secondary schools. Conversely, Kiswahili was used for parents/guardians and school board members to accommodate respondents who were not fully proficient in English.

2.3.3 Pretesting and Selecting Final Assessment Tools

A pilot test of the developed assessment instruments was conducted to ensure their validity and reliability. Additionally, the training manual, supervision guidelines, and questionnaires for students, teachers, school heads, and school board members were piloted. Any challenges or issues identified during the process were addressed to enhance the overall design of the tools, ensuring that the subsequent implementation would yield accurate and reliable evaluation results.

2.3.4 Target Population and Exclusion Criteria

(a) Target Population

The target population consisted of Form Two students across mainland Tanzania. This group was selected because identifying learning gaps at this stage would allow for timely remedial interventions to address challenges before students sat for the Form Two National Assessment (FTNA) and subsequently the Certificate of Secondary Education Examination (CSEE).

(b) Exclusion Criteria

Exclusion criteria are the conditions or specific characteristics deliberately used to exclude certain students or schools to ensure homogeneous data for the study, ultimately enabling meaningful conclusions from the evaluation. In this study, the following criteria were applied to determine which schools and students would be excluded:

(i) School Exclusion Criteria

Schools with fewer than 25 students were excluded to prevent disproportionate influence of very small schools on the overall national performance estimates.

(ii) Student Exclusion Criteria

Students who could not respond to the evaluation questions due to their conditions, as well as international students who had used English as the medium of instruction for less than one year, were excluded from the assessment. Overall, the exclusion accounted for less than five per cent of the FTLE target population.

2.3.5 Basis for Interpreting and Reporting Results

The FTLE results were reported in terms of proficiency levels for the assessment tests, and selected key variables were analysed in relation to student performance outcomes.

(a) Key Variables Associated with the Test Scores

The key variables analysed in relation to students' test scores and overall achievement included gender, locality, and school ownership; teachers' qualifications and teaching experience; the grades teachers obtained in teaching subjects at the CSEE, ACSEE, or DSEE; and the extent of curriculum coverage in terms of competencies.

(b) Proficiency Levels Used to Report Test Scores

Students' performance in the assessment tests was classified into three bands, comprising five performance levels: 75–100 per cent (green), representing excellent; 65–74 per cent (light green), representing very good; 45–64 per cent (yellow), representing good; 30–44 per cent (light red), representing satisfactory; and 0–29 per cent (red), representing unsatisfactory. These performance categories are summarised in Table 1:

Table 1: **Categorisation of Students' Performance**

S/N	Band	Scores (%)	Grade	Category of Performance
1.	Green	75—100	A	Excellent
		65—74	B	Very good
2.	Yellow	45—64	C	Good
3.	Red	30—44	D	Satisfactory
		0—29	F	Unsatisfactory

Each assessment question targeted a specific competency and comprised three items, classified across three cognitive levels: Level 1 items assessed students' ability to remember and understand; Level 2 items evaluated application and analytical skills; and Level 3 items measured evaluating and creating abilities. The total marks allocated were three for Levels 1 and 2 and four for Level 3. Performance at each cognitive level was further divided into five bands. Students' performance for each competency in each subject is summarised in Table 2:

Table 2: **Categorisation of Performance for Competencies**

Cognitive Level	Designated Level	Marks/Scores	Proficiency Level	Band Colour
Understanding and Remembering	1	2.5 - 3	Excellent	Green
		2	Very Good	Light green
		1.5	Good	Yellow
		1	Satisfactory	Light red
		0 - 0.5	Unsatisfactory	Dark red
Applying and Analysing	2	2.5 - 3	Excellent	Green
		2	Very Good	Light green
		1.5	Good	Yellow
		1	Satisfactory	Light red
		0 - 0.5	Unsatisfactory	Dark red
Evaluating and Creating	3	3 - 4	Excellent	Green
		2.5	Very Good	Light green
		2	Good	Yellow
		1.5	Satisfactory	Light red
		0 - 1	Unsatisfactory	Dark red

2.3.6 Reporting and Disseminating the FTLE Results

The FTLE results are communicated through this Main Evaluation Report, which includes all the technical aspects of the assessment. Additionally, the FTLE findings and report will be published in at least two national newspapers and made available on the MoEST and PMO-RALG websites.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines the study's methodology and provides the reader with an understanding of the evaluation design, target population, sampling procedures, replacement criteria, and overall sampling framework. Moreover, it describes the development and pilot testing of data collection instruments, the data collection process, and the methods used for data analysis.

3.2 Evaluation Design

A survey design was adopted for conducting the Form Two Learning Evaluation. Two data collection methods were employed. The first utilised subject assessment papers to obtain students' scores, reflecting their knowledge and skills in relation to the targeted learning outcomes and competencies. The second method involved the use of questionnaires to gather information from students, teachers, school heads, parents or guardians, and school board members.

3.3 Population

The study population comprised Form Two students from both government and non-government secondary schools across mainland Tanzania. The Primary Record Manager for Secondary Education (PReMS) system was utilised to generate a comprehensive list of secondary schools with Form Two students, forming the target population for the Form Two Learning Evaluation (FTLE). Within the PReMS database, schools were categorised by School Code, School Name, Address, Region, Council, and Ownership (Government or Non-Government). Each school locality was determined based on the classification of its respective council. Schools within councils designated as rural were considered rural, and those within urban councils were considered urban. The database also contained detailed student information up to Form Four, including name, gender, date of birth, and disability status.

3.4 Sample Size and Sampling Procedures

3.4.1 Sampling design

The Form Two Learning Evaluation (FTLE) employed a two-stage stratified sampling approach. In the first stage, the Taro Yamane formula was applied to determine the regional sample size for the evaluation. The selection of schools considered only those with at least 25 students per class. The regional sample size established the total number of schools to be included from each region by using the desired cluster size of 30 students. The formula for calculating the number of students to be sampled within each region is expressed as follows:

$$S = \frac{N}{1 + Ne^2}$$

where *S* represents the regional sample size, *N* is the total number of Form Two students in the region, *e* denotes the level of precision or margin of error (5%), and the confidence level is set at 95 per cent.

This computation was performed for each region using data from the 2025 PReMS database for Form Two students. Overall, 10,919 students were sampled from a population of 891,214 enrolled Form Two students. The target class size was 30 students per school; hence, the number of schools per region was determined accordingly. All students were assessed in schools with an enrolment of between 25 and 30 students. For schools with more than 30 students, only 30 were considered for assessment. Overall, 365 schools were sampled out of 6,241, representing 13 to 15 schools per region. Table 3 presents the distribution of students and sampled schools across regions:

Table 3: Sampled Students and Schools per Region

Region Enrolment	Form II Students Enrolment in PReMS	Sampled Students	Sampled Schools
Arusha	44,252	420	14
Dar es Salaam	83,366	450	15
Dodoma	36,767	420	14
Geita	40,152	420	14
Iringa	25,487	419	14
Kagera	50,346	448	15
Katavi	10,346	390	13
Kigoma	33,716	420	14
Kilimanjaro	38,264	411	14

Region Enrolment	Form II Students Enrolment in PReMS	Sampled Students	Sampled Schools
Lindi	13,818	387	13
Manyara	24,158	420	14
Mara	48,042	420	14
Mbeya	39,179	420	14
Morogoro	50,620	417	14
Mtwara	18,950	420	14
Mwanza	65,024	420	14
Njombe	15,909	418	14
Pwani	42,475	416	14
Rukwa	16,646	420	14
Ruvuma	22,688	420	14
Shinyanga	29,447	445	15
Simiyu	24,780	420	14
Singida	27,483	420	14
Songwe	16,873	418	14
Tabora	30,692	420	14
Tanga	41,734	420	14
Total	**891,214**	**10,919**	**365**

Note: Data generated from PReMS, September, 2025

3.4.2 Distribution of Sampled Schools Based on School Ownership and Locality

Proportionate stratified sampling was employed based on school ownership and locality. Accordingly, each region was divided into four strata: government urban schools, government rural schools, non-government urban schools, and non-government rural schools. Systematic random sampling was then applied within each of these four strata. The schools in each stratum were first arranged by student enrolment, then by alphabetical order of school names. For each sampled school, a neighbouring school was identified to serve as a replacement if necessary. Table 4 summarises the sampled schools by region, based on the 2025 PReMS data for Form Two students:

Table 4: Distribution of Sampled Schools in Regions Based on Ownership and Locality

Region	Actual Number of Schools				Selected Number of Schools			
	Government		Non-Government		Government		Non-Government	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Arusha	45	146	26	66	2	7	2	3
Dar es Salaam	188	0	164	0	8	0	7	0
Dodoma	81	159	23	12	4	8	1	1

Region	Actual Number of Schools				Selected Number of Schools			
	Government		Non-Government		Government		Non-Government	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Geita	49	166	12	12	3	10	1	0
Iringa	41	97	29	42	3	7	2	2
Kagera	40	205	22	53	2	10	1	2
Katavi	31	41	3	2	5	7	1	0
Kigoma	64	122	24	29	4	7	1	2
Kilimanjaro	31	213	14	107	1	8	1	4
Lindi	46	106	1	5	4	9	0	0
Manyara	43	129	10	9	3	9	1	1
Mara	79	179	14	24	4	8	1	1
Mbeya	55	158	24	50	3	8	1	2
Morogoro	78	167	47	24	4	7	2	1
Mtwara	59	120	10	3	4	9	1	0
Mwanza	95	177	54	32	4	7	2	1
Njombe	40	70	19	25	4	6	2	2
Pwani	53	127	33	58	3	7	2	2
Rukwa	28	58	14	12	4	7	2	1
Ruvuma	62	121	22	35	4	7	1	2
Shinyanga	56	104	26	4	4	9	2	0
Simiyu	37	141	2	11	3	10	0	1
Singida	32	135	11	16	2	10	1	1
Songwe	29	92	7	23	3	8	1	2
Tabora	63	156	19	12	4	9	1	0
Tanga	77	206	27	22	3	9	1	1
Total	**1501**	**3,395**	**657**	**688**	**92**	**203**	**38**	**32**

In the second stage, systematic random sampling was employed to select Form Two students from each sampled school. The student registers were first arranged by gender, then alphabetically by name. For every student chosen, an adjacent student on the list was designated as a replacement to account for potential non-participation or absence.

3.4.3 Sampling Subject Teachers, Heads of Schools, Parents/Guardians and School Board Members

From each sampled school, one teacher for each subject included in the evaluation and the head of school were purposively selected to participate, each completing a questionnaire. One member of the school board and one parent or guardian of a student were also randomly selected from each school, and each respondent completed the corresponding questionnaire.

3.4.4 Replacement Students

In this study, 1,151 students (10.54%) out of the 10,919 initially selected students were replaced. However, 156 students (1.43%) of the 10,919 chosen initially were truants. They were not replaced due to failure to meet sampling criteria; hence, they did not sit for the FTLE assessment papers.

3.4.5 Exclusion Criteria

To guarantee the relevance and homogeneity of the sampled schools and students, the researchers established specific exclusion criteria for both schools and students as follows:

(a) School Exclusion Criteria

Schools with fewer than 25 students were excluded to prevent the disproportionate influence of very small schools on the overall national performance estimates. Accordingly, from the 6,241 schools listed in the PReMS database, 359 schools (5.75%) with Form Two enrolments below 25 students were excluded. A final sample of 365 schools was then drawn from the remaining 5,882 schools (94.25%) in the sampling frame.

(b) Student Exclusion Criteria

Exclusion criteria for students were applied during data analysis. Students who were unable to participate in the evaluation due to their conditions, as well as foreign, non-English-speaking students who had used English as the medium of instruction for less than 1 year, were excluded. Nevertheless, all selected schools met the established criteria, and consequently, no students were excluded from the study.

3.4.6 Exclusion Rates

The study permitted the exclusion of up to five (05) per cent of the FTLE target population. However, as noted in Section 3.4.5 (b), no sampled schools or students were excluded during the data analysis.

3.4.7 Response Rates Criteria

The following response rate criteria were considered:

(a) The School Level Response Rates (SLRR) were calculated as follows:

$$SLRR = \frac{Number\ of\ \ participated\ schools}{Total\ number\ of\ \ sampled\ schools} \times 100\%$$

All sampled schools participated fully in the evaluation, resulting in suitable School-Level Response Rates (SLRRs) across 9 subjects in 365 schools. The high response rates were primarily attributed to NECTA's provision of clear information to regional and district educational authorities regarding the purpose and significance of the FTLE, coupled with regular reminders to schools about the evaluation. These high SLRR values indicate that the study accurately reflected the conditions and characteristics of the sampled institutions.

The target response rate for schools was set at 85 per cent, with a minimum of 65 per cent considered sufficient for comparison, given that the overall response rate target for schools was 100 per cent. Additionally, the response rates achieved enable meaningful comparisons with other studies, as they exceed the minimum threshold required for such comparisons.

(b) The minimum target for the Aggregate Participation Rate (APR) for all students was set at 80 per cent. The actual APR for both groups was computed as follows:

$$\text{APR (All Students)} = \frac{\sum \text{NSS}}{\sum \text{NSR}} \times 100$$

$$98.57 = \frac{10{,}763}{10{,}919} \times 100$$

The Aggregate Participation Rate (APR) was 98.57 per cent, exceeding the minimum target of 80 per cent. This demonstrates a high level of cooperation from students during the study. It also indicates that communications with regional and district educational authorities, as well as with participants, were effective in facilitating engagement.

3.5 Data Collection

Data collection utilised two primary tools. First, subject assessment papers measured students' knowledge and skills in line with the expected learning outcomes for the covered competencies. Second, questionnaires were administered to gather information on various factors that could explain differences in students' performance on the assessment tests.

3.5.1 Developing Evaluation Tools

The Form Two Learning Evaluation tests and questionnaires were developed in line with NECTA's established standards. Before actual implementation, the instruments were piloted to verify their accuracy and consistency in capturing the required information.

(a) Setting Assessment Items

(i) Assessment items were developed for nine subjects: Civics, History, Geography, Kiswahili, English Language, Physics, Chemistry, Biology, and Basic Mathematics. The items for Basic Mathematics, Biology, Civics, English Language History, Geography, and Kiswahili, were aligned with learning outcomes from the 2005 syllabi, while those for Chemistry and Physics followed the 2007 syllabi. Separate assessment tools were also prepared for students with special needs, particularly those with physical and visual impairments, as per the students' registration records. All items covered the complete Form One content and the Form Two content by June 2025, in accordance with PMO-RALG's curriculum implementation schedule.

(ii) In FTLE Phase II, each subject consisted of two papers with equal weighting, including adapted versions for learners with special educational needs.

(iii) Item development was carried out through a workshop involving experienced secondary school teachers, each with a minimum of five years of teaching experience in their subject area. The items were reviewed by subject specialists from higher learning institutions. Both item setters and moderators received training

from NECTA assessment experts, and NECTA subject coordinators oversaw the development and review processes.

(iv) NECTA subject coordinators typeset the assessment papers and marking guides. These documents were then proofread and refined by senior NECTA officials before printing.

(v) The time allocated for each paper was three hours for ordinary candidates and three hours and thirty minutes for candidates with special educational needs.

(b) Developing Questionnaires

Educational assessment research specialists from the National Examinations Council of Tanzania oversaw the development of the questionnaires. Separate questionnaires were prepared for students, teachers, heads of schools, and parents/guardians/school board members to gather information on factors that may explain differences in students' FTLE performance. In designing the instruments, the following considerations were made:

(i) The use of both closed-ended and open-ended items in the questionnaires, where the closed-ended questions were for collecting quantitative data and the open-ended questions for collecting qualitative data;

(ii) Using English when designing questionnaires for students, teachers, and heads of schools, as it is the medium of instruction in secondary education; and

(iii) Using Kiswahili for the questionnaires administered to parents/guardians and school board members, acknowledging that some may not be fluent in English.

(c) Developing Manuals for Tools' Administration

Administration manuals were prepared to ensure that the evaluation tools were administered in accordance with FTLE requirements and to facilitate the collection of valid and reliable data. These manuals and associated tools included a training manual, administration guidelines, a supervisor's checklist outlining key requirements for administering the instruments, an

invigilator's checklist detailing essential procedural steps, and reporting guidelines for administration activities. Their development was undertaken concurrently with the construction of the evaluation tools at NECTA's Mbezi Wani marking centre, and each manual adhered to the provisions of the 2016 NECTA examination regulations.

The training manual clearly defined the responsibilities of regional and district coordinators, as well as supervisors and invigilators at the school level. The administration guidelines elaborated on the duties of supervisors and invigilators before, during, and after the administration process. Checklists were created to highlight specific tasks and ensure that all procedures were executed appropriately at each stage and location.

Reporting guidelines were also developed to support supervisors in documenting the required information related to FTLE supervision within their designated centres.

All tools were piloted to assess their validity and reliability. The training manual, supervision guidelines, test items, and questionnaires for students, teachers, heads of schools, school board members, and parents/guardians underwent pre-testing. Challenges identified during and after the pilot phase were reviewed, and the evaluation instruments were refined accordingly before the full implementation of the FTLE to ensure the accuracy and credibility of the results.

3.5.2 Sampling Students and Schools for Pre-testing

The selection of schools and students was carried out in June, followed by the pre-testing of the evaluation instruments conducted in March 2025.

(a) Sampling of Schools

A total of 10 schools were sampled, based on school ownership. The government-to-non-government school ratio was 3:1; therefore, eight government schools and two non-government schools participated in the pre-test. Furthermore, systematic random sampling was applied to obtain nine schools. In addition, one school in Dar es Salaam that enrolled students with special educational needs was deliberately included. In total, ten schools from nine regions took part in the pre-testing exercise.

(b) Sampling of Students

In each selected school, 40 students were chosen through systematic random sampling. An exception occurred at Imamu Ali Secondary School in Arusha, where 60 students were included because the sampled proportion exceeded 50 per cent of the school's Form Two enrolment, resulting in all 60 students participating in the pre-test. Additionally, 04 students with special educational needs were purposively selected from Jangwani Secondary School. In total, 420 students were sampled from the 10 schools, which collectively had 1,795 registered Form Two students. Details of the sampled regions and schools are presented in Tables 5, 6, and 7:

Table 5: Government Schools

Region	Council	Centre No.	Centre Name	Registered	Piloted
Arusha	Arusha	S3728	Ngiresi	81	40
Dodoma	Dodoma CC	S7402	Nkulabi	101	40
Kagera	Biharamulo	S0612	Kagango	243	40
Manyara	Babati	S1984	Ayatsea	179	40
Morogoro	Gairo	S3843	A.M. Shabiby	257	40
Pwani	Kibiti	S7380	Dr Samia-Lumyozi	89	40
Simiyu	Busega	S1704	Kabita	235	40

Table 6: Non-Government Schools

Region	Council	Centre No.	Centre Name	Registered	Piloted
Arusha	Arusha CC	S6695	Imamu Ali	60	60
Kilimanjaro	Moshi	S0357	Uru	143	40

Table 7: Government Special Needs School

Region	Council	Centre No.	Centre Name	Registered	Piloted
Dar es Salaam	Dar es Salaam CC	S0204	Jangwani	407	40

3.5.3 Training of the Council's Coordinators and Invigilators

The training for Council coordinators and invigilators/supervisors was conducted in two stages. The first stage took place at NECTA headquarters in Dar es Salaam and involved NECTA examination officers who served as pilot coordinators. The second stage occurred at the school level and included the training of school-based supervisors and invigilators. During the first stage, district coordinators were trained in:

(a) Receiving and securely storing evaluation instruments and related documents in line with the checklist;

(b) Administering the tools according to the established timetable;

(c) Leading students in signing the Collective Attendance List (CAL) and Individual Subject Attendance List (ISAL); and

(d) Collecting examination scripts and ensuring they correspond to the number of students present.

At the school level, district coordinators trained supervisors and invigilators in administrative procedures and subsequently assessed their understanding of the requirements. A minimum score of 85 out of 100 was required to qualify, and all trainees successfully met the standard.

3.5.4 Pre-testing Assessment Tests, Questionnaires and Administration Manuals

The assessment instruments were administered to 420 Form Two students drawn from 10 secondary schools across nine regions of mainland Tanzania. Each student completed two sets of assessment tests in the five subjects. All procedures followed the established administration manuals. Upon completion of the assessment tests, all participating students, subject teachers, heads of schools, and a parent/guardian or school board representative completed questionnaires. The students were given one hour to complete their questionnaires, while the remaining respondents completed theirs at their convenience, but within the scheduled time for administering the tools.

The administration period for each set of test papers was three hours for regular education students and three and a half hours for students with special educational needs.

3.5.5 Analysis for Each Subject Set and Equating the Papers

Item analysis was conducted on all sets of assessment instruments for each subject to determine the item difficulty index, item discrimination index, point-biserial correlation, and overall reliability. These analyses provided key indicators for identifying which items were suitable and which required revision. Additionally, psychometric analyses were performed to

equate student scores across the different sets of each subject, ensuring results were measured on a consistent proficiency scale.

(a) Item Difficulty and Item Discrimination

Item difficulty and discrimination analyses were carried out for all five subjects (Civics, History, Geography, Kiswahili, Chemistry,) to evaluate the quality of the test items. Each assessment tool comprised 30 items, with three items per targeted competency. The analyses determined the difficulty level of individual items and assessed their ability to differentiate between higher- and lower-performing students. This was achieved by calculating the item difficulty index, item discrimination index, point-biserial correlation, and instrument reliability. The classification of item difficulty and discrimination scores is presented in Tables 8 and 9.

Table 8: Classification of the Difficulty Index Values

S/N	Difficulty Index	Classification of Difficulty Level	Interpretation
1.	P < 0.3	Too hard	Modify
2.	0.3 < P < 0.8	Moderate	Accept
3.	P ≥ 0.8	Too easy	Modify

Table 9: Classification of Discrimination Index Values

S/N	Discrimination Index	Description	Interpretation
1.	D = Negative	Defective Item	Rejected or improved
2.	D between 0 - 0.19	Weak discrimination	Weak items to be rejected
3.	D between 0.2-0.29	Acceptable discrimination	Marginal items usually need or are subject to improvement
4.	D between 0.3-0.39	Good discrimination	Reasonably good but subject to improvement
5.	D = 0.4	Very good discrimination	Very good item: accept
6.	D > 0.4	Excellent discrimination	Very good item: accept

(b) Item Analysis of Each Paper Set for Each Subject

The general statistics from item analysis for each paper set are presented in Table 10.

Table 10: General Statistics of Item Analysis in Civics, History, Geography, Kiswahili, and Chemistry

Subjects	Set	Descriptive Statistics							Cronbach's Alpha
		N	Mean	SD	Min. Score	Max. Score	95% Confidence Interval		
							LCL	UCL	
Civics	A	420	16.85	12.67	3	67	15.64	18.07	0.94
	B	420	15.81	11.4	2.5	58.5	14.72	16.91	0.94
History	A	420	32.83	17.25	9	94	31.17	34.48	0.95
	B	420	31.86	14.46	9	81	30.47	33.25	0.93
Geography	A	420	25.7	15.82	4	72	24.18	27.21	0.92
	B	420	26.2	15.42	4	73	24.72	27.68	0.91
Kiswahili	A	420	40.16	13.29	9	75	38.83	41.43	0.91
	B	420	43.26	13.78	8.5	78	41.94	44.58	0.91
Chemistry	A	419	26.43	16.86	4	81	24.81	28.05	0.96
	B	419	27.66	16.24	4	88	26.10	29.22	0.94

Source: NECTA FTLE Pilot Study, 2025

The questions from sets A and B for Civics, History, Geography, Kiswahili and Chemistry were merged to create the best paper for each subject.

Reliability analysis was done during FTLE Phase I, involving four subjects, namely Basic Mathematics, Biology, English Language and Physics. The analysis was maintained in FTLE Phase II.

(c) Psychometric Analyses

Psychometric analyses were conducted to place student scores on a standard proficiency scale across all sets of each subject. In this study, two sets of papers per subject were administered to the same group of students, using a repeated-measures design. The means of the two sets of assessment instruments were compared using an independent sample t-test. The internal consistency of the papers was assessed using Cronbach's coefficient alpha, following the criterion presented in Table 11.

Table 11: The Internal Consistency Value

S/N	Cronbach's coefficient, α	Interpretation of Internal Consistency/Reliability Test
1.	$\alpha \geq 0.9$	Excellent (High-Stakes testing)
2.	$0.7 \leq \alpha < 0.9$	Good (low-stakes testing)
3.	$0.6 \leq \alpha < 0.7$	Acceptable
4.	$0.5 \leq \alpha < 0.6$	Weak
5.	$\alpha < 0.5$	Unacceptable

Cronbach's coefficient for internal consistency reliability exceeded 0.70 for all assessment sets, indicating that the tests demonstrated acceptable internal consistency. The comparability study was conducted across the subjects of English Language, Physics, Biology and Basic Mathematics in 2023 during Phase I, and the questions were used in both studies, 2023 and 2025.

The questionnaires used in the FTLE Phase I had been statistically validated for quality. Therefore, they were also deemed suitable for use in the FTLE Phase II without the need for piloting.

3.5.6 Regional and District Coordinators for Tools Administration

NECTA appointed 78 coordinators. These included 26 regional coordinators and 52 district coordinators both selected from NECTA staff.

3.5.7 Supervisors and Invigilators for Tools Administration

Regional education officers appointed supervisors and invigilators in accordance with the guidance and selection criteria provided by NECTA. The selection criteria required invigilators and supervisors to have at least 3 years of secondary school teaching experience, the ability to follow instructions and maintain focus, perform tasks efficiently, and be from a nearby school. Based on these criteria, a total of 730 teachers were selected to serve as supervisors and invigilators for the 365 sampled schools.

3.5.8 Training of the Regional and District Coordinators, Supervisors and Invigilators in Tools Administration

Before administering the evaluation tools, coordinators, supervisors, and invigilators underwent training in two phases. In the first phase, on 16/09/2025, the FTLE Secretariat trained 78 coordinators at NECTA. The second phase, conducted on 19/09/2025, involved training 730 invigilators at one of the sampled schools in each district, facilitated by the regional and district coordinators. The training followed the prescribed manual and emphasised the following key activities:

(i) Receiving, transporting, and securely storing evaluation tools and related documents in accordance with the provided checklist;
(ii) Administering the tools according to the prescribed timetable;
(iii) Guiding students in completing the Collective Attendance List (CAL) and Individual Subject Attendance List (ISAL);
(iv) Collecting and verifying that the number of scripts matched the number of students in attendance;
(v) Adhering to the roles and responsibilities of supervisors and invigilators as specified in the administration guidelines;
(vi) Sealing security envelopes containing completed scripts and related documents;
(vii) Leading the students in accurately completing all items in the questionnaires; and
(viii) Reporting on the administration process of the evaluation tools.

3.5.9 Quality Control Measures During and After the Administration of Evaluation Tools

Quality assurance in the administration of the evaluation tools was maintained through several measures:

(i) Students were checked for unauthorised materials, including smartwatches, books, and notes, before entering the assessment rooms.

(ii) Supervisors and invigilators were prohibited from taking assessment papers outside of the assessment rooms during administration.

(iii) Necessary pieces of equipment, such as pens, pencils, rulers, tables, chairs, and security envelopes, were provided in advance.

(iv) Invigilators collected, counted, verified, and enclosed completed scripts and related documents in security envelopes.

(v) Coordinators monitored their respective assessment centres to detect any irregularities and provided clarifications as needed.

(vi) At the conclusion of each assessment session, invigilators and supervisors completed a checklist to confirm that the tools were received and administered in accordance with the guidelines; these checklists were then enclosed with the students' scripts.

(vii) Assessment tools were secured in envelopes both before and after administration.

(viii) Coordinators ensured that the tools were stored in the school's strong room or security cabinets, with keys retained by the supervisors.

(ix) A checklist was used when handing the evaluation tools to district coordinators, who subsequently used it to submit the tools to the FTLE Secretariat at NECTA headquarters.

3.5.10 Marking Scripts, Scoring Questionnaires, and Data Capture

The marking process followed NECTA's established procedures for national assessments. A total of 270 markers, all of them subject teachers from secondary schools, participated in marking students' subject scripts. Each marker held at least a diploma in the respective subject and had at least 3 years of secondary-level teaching experience. Additionally, 63 participants entered the questionnaires' data in the computer: 27 were NECTA staff members, and 36 were secondary school teachers, all of whom were experienced in using computers to mark national examinations. The teachers responsible for marking scripts and entering questionnaire responses into SPSS were selected from NECTA's official inventory of markers. During the marking and data entry process, the following measures were implemented:

(a) Student Assessment Scripts

(i) Scripts were marked using a conveyor-belt system. A team of checkers reviewed the scripts to ensure fair marking for each question and the accurate entry of total marks into the computer system.

(ii) Scores were entered at the marking station, followed by further validation by comparing printouts for each school with the original student scripts.

(b) Questionnaire Codebook

NECTA's statisticians designed and coded the codebook (data dictionary) to facilitate data analysis. Each questionnaire was assigned a unique identification number, and responses were systematically captured.

(c) Data Entry from Questionnaires

Data entry from questionnaires was conducted by selected NECTA officers and secondary school teachers experienced in computer applications and national examinations marking.

3.5.11 Data Cleaning, Weighting and Analysis

(a) Data Cleaning

The relationship between the initial (first-entry) and cleaned data for secondary school scores and questionnaires is presented in Table 12.

Table 12: Relationship between First Entry Data and Cleaned Data for Secondary Schools' Scores

Subject	Mean	SD	SEM	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
History	0.0012	0.0478	0.0014	-0.0015	0.0039	0.90	1203	0.366
English Language	0.0012	0.0432	0.0012	-0.0012	0.0037	1.00	1206	0.318
Biology	0.0004	0.0144	0.0004	-0.0004	0.0012	1.00	1206	0.318
Physics	0.0017	0.0352	0.0010	-0.0003	0.0036	1.63	1207	0.102
Mathematics	0.0004	0.0144	0.0004	-0.0004	0.0012	1.00	1205	0.318

Null Hypothesis (H_0): The null hypothesis typically posits that no actual difference or effect exists between the first and the second data entry. To double-check the accuracy of score entry, 10% of students' scores from

every subject were randomly selected and re-entered from the original scripts. Then, the first entry was compared with the second using a paired-samples t-test. In four subjects, Civics, Chemistry, Geography, and Kiswahili, zero discrepancies across all re-entered scripts between the first entry and the second were found. This outstanding level of accuracy is not accidental. It is the direct result of NECTA's conveyor-belt marking system, where a qualified examiner double-checks every single score before being entered. This verification exercise demonstrates that the quality control process is effective. In the other five subjects, Biology, English, History, Basic Mathematics, and Physics, there were slight differences between the two entries. The tiny differences presented in Table 13 are nothing more than random keystroke variations, exactly what is expected when humans retype thousands of numbers. They are not systematic errors, and they do not affect students' grades in any meaningful way, which concludes that the differences were statistically indistinguishable from zero (all $p > 0.10$).

Table 13: Relationship between First Entry Data and Cleaned Data for Secondary Schools Questionnaires

Type of Questionnaire	Total Entry	Error Entry	Probability of Error	Margin of Error
Parents/Guardian	36	0	0.00	<0.05
Member of the School Board	36	0	0.00	<0.05
Head of School	36	2	0.03	<0.05
Subject Teacher	329	14	0.04	<0.05
Students	1076	42	0.04	<0.05

Questionnaires were validated by assigning 0 to correct entries and 1 to incorrect entries. Both hard copies and 10 per cent of computer-generated records were used for comparison. Following data capture, probabilities were calculated to assess the relationship between the initial (uncleaned) and subsequent (cleaned) entries for questionnaires completed by parents/guardians, members of the school board, heads of schools, subject teachers, and students. The margin of error (*e*) was set at less than 0.05.

The probability of incorrect entries was 0.00 for the Parents/Guardians questionnaire, 0.00 for Members of the School Board, 0.00 for Heads of Schools, 0.03 for Subject Teachers, and 0.04 for Students. These results indicate that all questionnaires met the criteria for further analysis since the

margin of error for each was below 0.05. Consequently, the data were deemed clean and suitable for analysis. The formula used to calculate the probability of errors was:

$$ErrorsP = \frac{Total\ number\ of\ Records\ with\ \ errors}{10\%\ Sample\ Drawn}$$

(b) Data Weighting

For data analysis, weights were calculated as the inverse of the selection probability for each student within each stratum to ensure the sample was representative of the national population. A single-stage weighting was applied at the school level to ensure that student scores accurately reflected overall national performance. To correct for any disproportionate sampling, all reported scores in this study were computed using the student weights. The formula for calculating the student's weight was as follows:

$$\text{Student Weight} = \frac{\text{Number of F2 Students in the Region}}{\text{Number of Sampled Schools in the Region} \times \text{Number of F2 Students in the Selected School}}$$

At the national level, overall performance in each subject was calculated using the students' weights at the school level within each stratum. Additionally, all cases were weighted in SPSS to ensure an accurate representation.

(c) Data Analysis

The FTLE dataset was analysed using SPSS and MS Excel. The weighted scores for all students in the corresponding subjects were computed. Moreover, unanswered items on a student's paper were treated as incorrect responses.

(i) Data analysis was done by considering the factors of gender (male and female), school location (urban and rural), and ownership (non-government and government).

(ii) The performance indicators of each competency to be assessed were categorised into bands: green for Excellent and Very Good performance, yellow for Good performance and red for Satisfactory and Unsatisfactory performance.

(iii) FTLE clean data files were merged using a unique identifier (code) to run specific analyses such as school-level estimations. Descriptive and subjective judgments were conducted based on the students' scripts and background questionnaires.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents assessment results for the FTLE of the nine subjects assessed. These subjects are Civics, History, Geography, Kiswahili, English Language, Physics, Chemistry, Biology, and Basic Mathematics. The analysis of students' performance employed descriptive statistics, with tables and figures to illustrate the results. The overall performance of students across all subjects is presented first, considering gender, locality, and type of school ownership (government or non-government) to give the reader a general picture of students' performance in the assessment. The chapter then presents students' performance in each subject, highlighting differences in their learning as reflected in their responses to various assessment items across competencies within the assessed subjects.

The chapter also presents the results of the data analysed from questionnaires, which were used to collect qualitative data about students' learning environments from school board members, heads of schools, subject teachers, students, and parents/guardians. The analysis addresses the significant objectives of the assessment, which includes identifying the differences in students' learning based on gender, locality and the ownership of the school they attend; establishing qualifications of teachers, experience, and grades they attained in the subjects they teach; establishing curriculum coverage in terms of topics/competencies; and identifying issues that lead to teaching and learning gaps based on locality, ownership, and gender. Finally, the chapter presents policy and programme recommendations for government consideration and improved learning outcomes, as identified by study participants through questionnaire data.

4.2 Differences in Students' Learning

4.2.1 Overall Performance of Students in the FTLE 2025

Table 14 presents mean scores, standard deviations, standard errors, and lower and upper boundaries of overall students' performance data across various subjects assessed during the FTLE 2025.

Table 14: Overall Performance of Students in the FTLE 2025

Subject	Mean Score	SD	SE	95% CI for Mean	
				LB	UB
Civics	18.2	14.27943	0.015	18.17	18.23
History	32.73	15.79592	0.017	32.69	32.76
Geography	28.37	18.31063	0.02	28.33	28.41
Kiswahili	48.64	17.2305	0.018	48.6	48.67
English Language	31.39	19.6351	0.021	31.35	31.43
Physics	18.9	15.61009	0.017	18.87	18.93
Chemistry	24.22	16.79881	0.018	24.18	24.25
Biology	30.49	16.64356	0.018	30.45	30.52
Mathematics	12.16	16.46782	0.018	12.13	12.2
Science Subjects	21.44	15.65957	0.017	21.41	21.47
Arts Subjects	31.87	15.77343	0.017	31.83	31.9

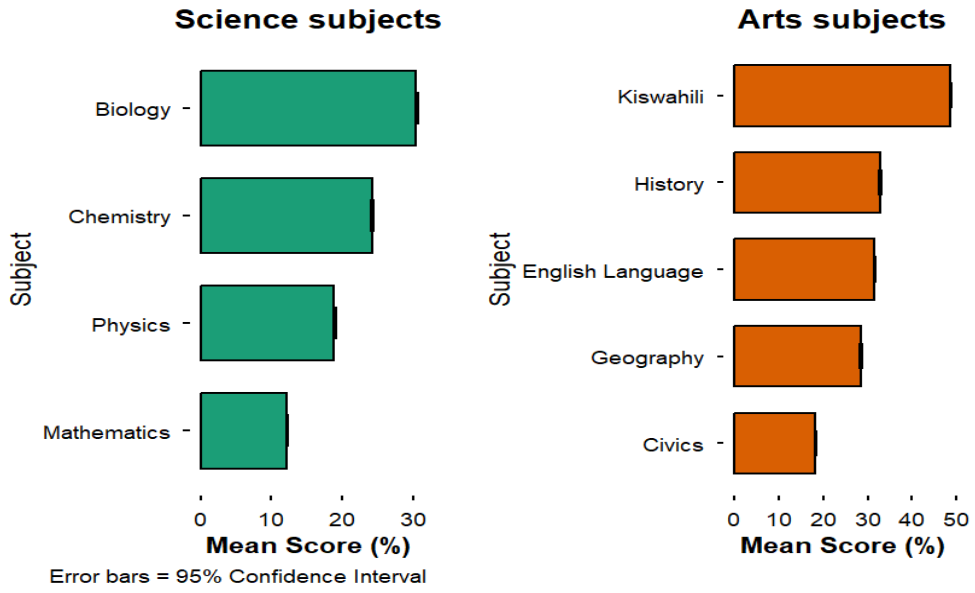

Figure 1: *Overall performance of students in the FTLE 2025*

Figure 1 demonstrates a dramatic disparity favouring language and social-science subjects (especially Kiswahili) over Science, Mathematics and Civics subjects. Basic Mathematics and Physics are critical bottlenecks with national averages below 20%.

Generally, students' performance across all subjects in the FTLE 2025 is low, with mean scores below 50. In particular, the results indicate low performance in Basic Mathematics, Civics, and Physics, as evidenced by

mean scores of 12.16, 18.2, and 18.9, respectively. In contrast, better performance is recorded in Kiswahili, with the mean score of 48.64. The data show low standard error values, indicating stable mean scores that provide a reliable representation of overall scores. Equally, when arts and science subjects are analysed, the results indicate better students' performance in arts subjects, substantiated by the mean score of 31.87 compared to 21.44 in science subjects.

4.2.2 Overall Performance of Students in the FTLE 2025 by Gender

Table 15 presents the mean scores, standard deviations, and standard errors, along with the lower and upper boundaries of students' performance data, by gender, for the nine subjects assessed in the FTLE 2025.

Table 15: Overall Performance of Students in the FTLE 2025 by Gender

							95% CI for Mean			
Subject	**Mean Score**		**SD**		**SE**		**LB**		**UB**	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
Civics	21.38	16.30	15.86	12.87	0.03	0.02	21.33	16.27	21.44	16.34
History	37.32	29.98	17.84	13.72	0.03	0.02	37.26	29.94	37.38	30.02
Geography	33.32	25.41	19.96	16.56	0.04	0.02	33.25	25.36	33.39	25.45
Kiswahili	50.71	47.40	17.71	16.82	0.03	0.02	50.65	47.36	50.77	47.44
English Language	35.24	29.10	21.24	18.23	0.04	0.03	35.16	29.05	35.31	29.14
Physics	23.29	16.27	17.90	13.40	0.03	0.02	23.23	16.24	23.35	16.31
Chemistry	28.80	21.48	18.65	14.93	0.03	0.02	28.74	21.44	28.86	21.52
Biology	34.75	27.93	18.48	14.86	0.03	0.02	34.69	27.89	34.82	27.97
Mathematics	16.25	9.72	19.52	13.77	0.03	0.02	16.18	9.69	16.31	9.76
Science subjects	25.77	18.85	17.82	13.57	0.03	0.02	25.71	18.82	25.83	18.89
Arts Subjects	35.59	29.64	17.23	14.38	0.03	0.02	35.53	29.60	35.65	29.67

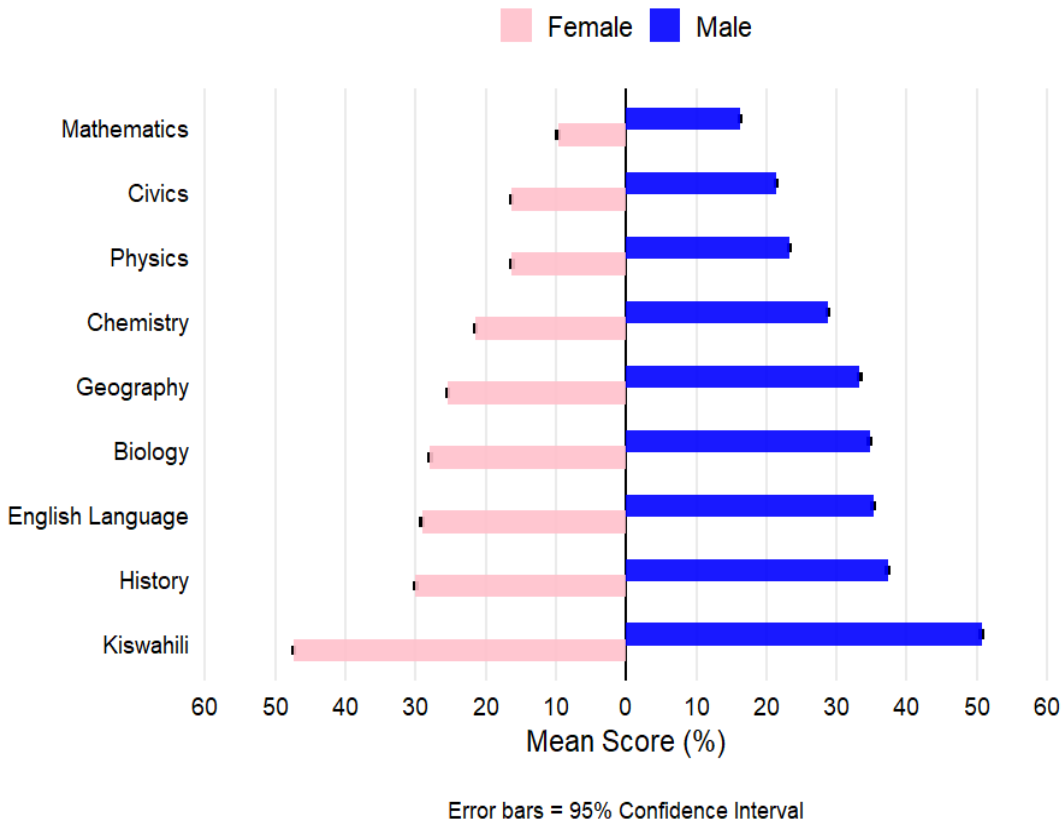

Figure 2: *Overall performance of students in the FTLE 2025 by gender*

In Figure 2, the pyramid plot demonstrates that male students outperformed female students in all nine subjects in the FTLE 2025. The largest gender gaps are observed in Basic Mathematics, Physics, History, and Chemistry, where males score 6 to 8 points higher than their counterparts. The smallest difference is in Kiswahili, where males still lead by about 3.3 points. Across all subjects, male averages range from 16 to 51 points, while female averages range from 9 to 47 points. The extremely narrow 95 per cent confidence intervals confirm that these gender differences are fundamental and highly statistically significant at the national level.

When data were analysed according to this criterion, a general trend was observed: male students performed better in all subjects, as evidenced by slightly higher mean scores than those of female students. For example, although both groups had the lowest mean scores in Basic Mathematics, male students had a marginally higher mean score of 16.25 compared to

the 9.72 mean score for female students. Additionally, male students performed better in Kiswahili, with a mean score of 50.71, while female students had a slightly lower mean score of 47.40. A similar trend is observable in the other subjects assessed in the FTLE 2025.

A statistical test was conducted on the mean scores to assess whether the observed gender differences in the assessed subjects were statistically significant. Across all subjects, an independent t-test was performed, revealing statistically significant differences in both individual subjects and composite scores (Science and Arts subjects). There were highly statistically significant gender differences in academic performance ($p < .001$), as presented in Table 16.

Table 16: Statistical Test of Significance between Subjects and Gender

Subject	t-value	Dif	Sig. (2-tailed	Mean diff.	SE Diff.	95% CI of the Differences	
						Lower	Upper
Civics	154.73	585460.05	.000	4.05	0.03	4.98	5.11
History	202.47	558665.14	.000	7.34	0.04	7.27	7.41
Geography	190.46	593845.75	.000	7.89	0.04	7.80	7.97
Kiswahili	83.66	663887.90	.000	3.21	0.04	3.14	3.29
English Language	137.33	609966.70	.000	6.11	0.04	6.02	6.20
Physics	193.93	548583.76	.000	7.00	0.04	6.93	7.07
Chemistry	190.39	579041.63	.000	7.28	0.04	6.75	6.90
Mathematics	167.58	525622.53	.000	6.50	0.04	6.81	6.95
Science Subjects	190.95	556808.23	.000	6.88	0.04	6.81	6.95
Arts Subjects	165.20	599118.74	.000	5.90	0.04	5.83	6.97

Table 16 indicates that the most considerable mean differences were observed in Geography (7.89, 95% CI [7.80, 7.97]), History (7.34, 95% CI [7.27, 7.41]), and Chemistry (7.28, 95% CI [7.21, 7.36]), while the smallest was in Kiswahili (3.21, 95% CI [3.14, 3.29]). These consistent, large, and extremely precise differences are evidenced by narrow 95 per cent confidence intervals (widths ≤ 0.15 points) that do not include zero, suggesting systematic, population-level gender-based performance gaps

across the subjects. The tight bounds of the CIs indicate that the actual mean differences in the population are known with near-certainty, highlighting both statistical and practical significance of the reported mean scores. Furthermore, the extremely low standard errors of the differences provide definitive evidence that gender performance gaps are real, stable, and educationally significant across all subjects.

4.2.3 Overall Performance of Students in the FTLE 2025 According to School Ownership

Table 17 presents the mean scores, standard deviation, standard error, and upper and lower boundaries of FTLE scores by school ownership, that is, whether the schools were owned by non government entities (Private - Pvt) or the government (Gvt).

Table 17: Overall Performance of Students in the FTLE 2025 According to School Ownership

							95% CI for Mean			
Subject	**Mean Score**		**SD**		**SE**		**LB**		**UB**	
	Gvt	**Pvt**	**Gvt**	**Pvt**	**Gvt**	**Pvt**	**Gvt**	**Pvt**	**Gvt**	**Pvt**
Civics	16.23	39.31	11.86	19.78	0.01	0.07	16.20	39.16	16.25	39.45
History	30.60	55.37	13.21	22.11	0.02	0.08	30.57	55.21	30.63	55.53
Geography	26.14	52.15	16.34	21.15	0.02	0.08	26.10	52.00	26.17	52.30
Kiswahili	47.21	63.82	16.57	16.80	0.02	0.06	47.18	63.70	47.25	63.94
English Language	28.70	60.11	16.86	23.74	0.02	0.09	28.67	59.94	28.74	60.28
Physics	16.97	39.54	13.43	21.28	0.02	0.08	16.94	39.38	17.00	39.69
Chemistry	22.09	46.96	14.67	20.78	0.02	0.08	22.06	46.81	22.12	47.11
Biology	28.35	53.30	14.46	20.77	0.02	0.08	28.32	53.15	28.38	53.45
Mathematics	10.23	32.81	13.80	25.81	0.02	0.09	10.20	32.63	10.26	33.00
Science Subjects	19.41	43.15	13.32	21.28	0.02	0.08	19.38	43.00	19.44	43.30
Arts Subjects	29.78	54.15	13.64	19.35	0.02	0.07	29.75	54.01	29.81	54.29

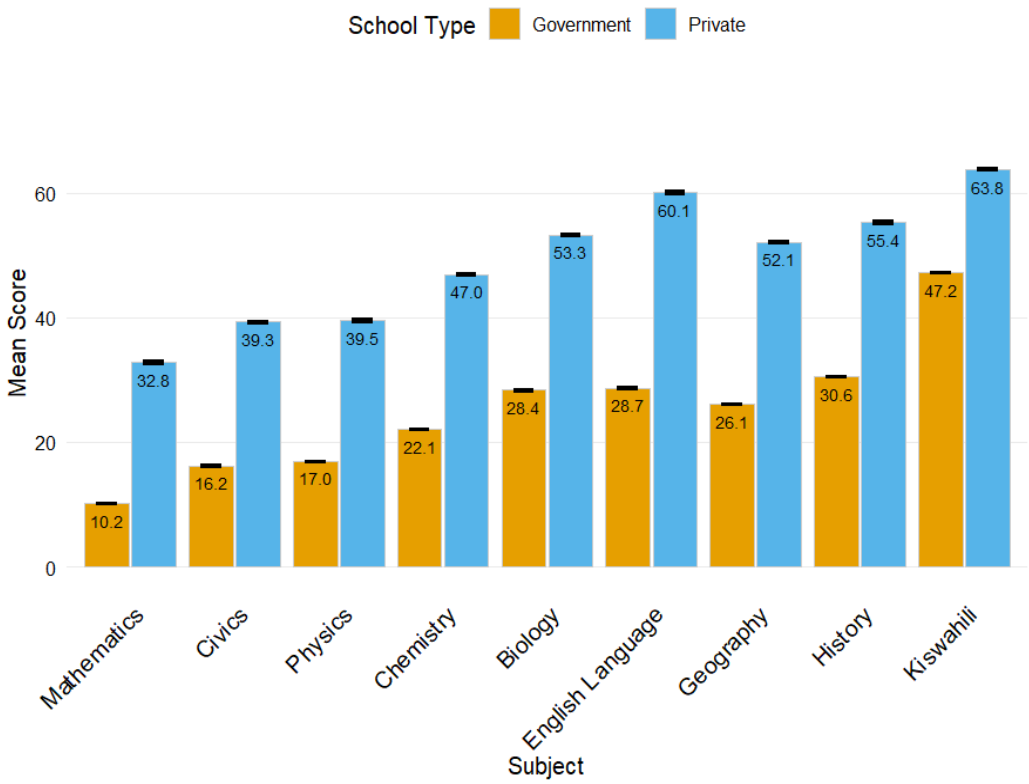

Figure 3: *Overall performance of students in the FTLE 2025 by school ownership*

Figure 3 presents mean examination scores (95% CI) by school type for nine subjects, ordered from the lowest to the highest overall performance. Private schools significantly outperform government schools in every subject (all 95% CIs non-overlapping; $p < 0.001$), with the most significant differences observed in English Language (+31.4 points), Biology (+24.9), History (+24.8), and Basic Mathematics (+22.6).

When data were analysed according to this criterion, the general trend indicated better performance among students in non-government schools (Pvt) across all subjects, as evidenced by higher mean values than those of students in government-owned schools. The results show that students studying in non-government schools had mean scores greater than 50 in five subjects, namely History (55.37), Geography (52.15), Kiswahili (63.82), English Language (60.11) and Biology (53.30). In contrast, the mean scores of students studying in government-owned schools were lower than the 50 mean scores in the same subjects, attaining 30.60 in History, 26.14

in Geography, 47.21 in Kiswahili, 28.70 in the English Language, and 28.35 in Biology. A similar trend is observable in the rest of the subjects across the data.

These differences in mean scores were tested to determine whether they were statistically significant. An independent t-test was conducted across all subjects. It revealed statistically significant differences in both individual subjects and composite scores (science and art), indicating substantial differences in academic performance ($p < .001$). The test revealed statistical characteristics indicating that the two groups (the non-government schools' group and the government schools' group) are distinct in performance. The groups exhibited negative t-test values and negative mean differences, implying that the mean scores of the government school group are consistently lower across all subjects than those of the non-government school group. The results of the statistical tests are presented in Table 18:

Table 18: Statistical Test of Significance between Subject and School Ownership

Subjects	t-value	df	Sig. (2-tailed)	Mean Diff.	SE	95% CI of the Difference	
						Lower	Upper
Civics	-314.05	80210.13	0.00	-23.06	0.07	-23.20	-22.91
History	-301.42	80012.60	0.00	-24.76	0.08	-24.92	-24.59
Geography	-327.03	83585.96	0.00	-25.97	0.08	-26.12	-25.81
Kiswahili	-258.93	89200.88	0.00	-16.62	0.06	-16.75	-16.50
English Language	-354.72	82181.35	0.00	-31.44	0.09	-31.62	-31.27
Physics	-285.03	80738.86	0.00	-22.54	0.08	-22.70	-22.39
Chemistry	-320.69	82187.25	0.00	-24.89	0.08	-25.04	-24.74
Biology	-322.16	82016.32	0.00	-24.95	0.08	-25.10	-24.80
Mathematics	-236.38	79036.28	0.00	-22.58	0.10	-22.76	-22.39
Science Subjects	-300.44	80687.77	0.00	-23.75	0.08	-23.90	-23.59
Arts Subjects	-336.60	82192.96	0.00	-24.35	0.07	-24.49	-24.21

Across the mean scores of all the subjects, the most considerable mean differences were observed in English Language (- 31.44, 95% CI [-31.62, -31.27]) and Geography (-25.97, 95% CI [-26.12, -25.81]), while the smallest was observed in Kiswahili (-16.62, 95% CI [16.75, 16.50]). These consistent, exact differences, substantiated by narrow (95%) confidence intervals (widths ≤ 0.15 points) that do not include zero, suggest systematic population-level performance gaps by school ownership type across all

subjects. The tight bounds of the CIs indicate that the actual mean differences in the population are known with near-certainty, highlighting both statistical and practical significance of the reported mean scores. Furthermore, the extremely low standard errors of the differences provide definitive evidence that performance gaps based on school ownership are real, stable, and educationally significant across the assessed subjects.

4.2.4 Students' Performance in the FTLE by Locality

Table 19 presents mean scores, standard deviations, standard errors, and lower and upper boundaries of students' performance data by school location (rural or urban).

Table 19: Students' Performance by School Locality

Subject	Mean Score		SD		SE		95% CI for Mean			
							LB		UB	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Civics	20.20	16.97	15.94	12.99	0.03	0.02	20.14	16.93	20.25	17.00
History	35.37	31.08	17.30	14.55	0.03	0.02	35.31	31.04	35.43	31.12
Geography	30.99	26.74	19.92	17.03	0.04	0.02	30.93	26.69	31.06	26.78
Kiswahili	51.60	46.80	17.39	16.87	0.03	0.02	51.54	46.75	51.66	46.84
English Language	35.02	29.14	21.55	17.98	0.04	0.03	34.95	29.09	35.10	29.19
Physics	21.00	17.60	17.36	14.26	0.03	0.02	20.94	17.56	21.06	17.64
Chemistry	26.40	22.86	18.15	15.75	0.03	0.02	26.34	22.82	26.47	22.91
Biology	32.60	29.18	18.08	15.54	0.03	0.02	32.54	29.13	32.66	29.22
Mathematics	14.26	10.87	18.83	14.66	0.03	0.02	14.20	10.83	14.32	10.91
Science Subjects	23.57	20.13	17.42	14.30	0.03	0.02	23.51	20.09	23.62	20.16
Arts Subjects	34.64	30.15	17.12	14.62	0.03	0.02	34.58	30.11	34.70	30.19

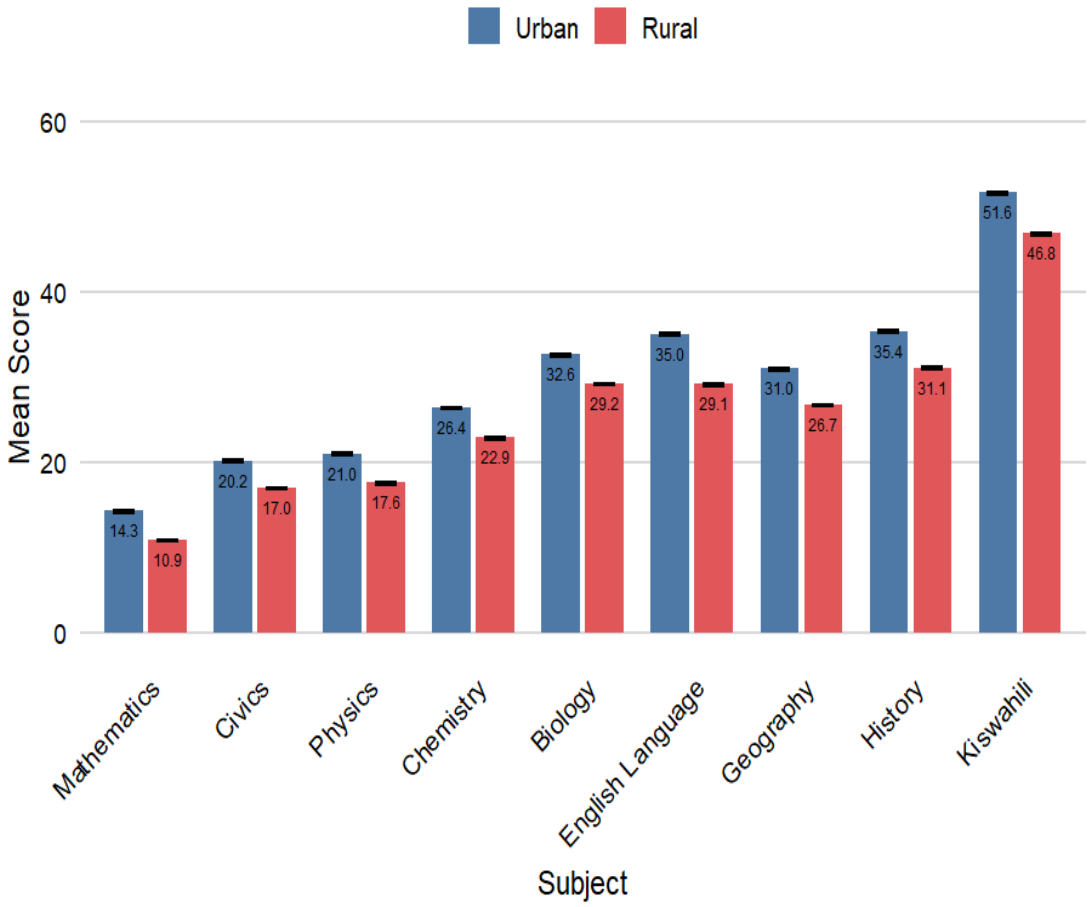

Figure 4: *Performance of students in the FTLE 2025 by school locality*

Figure 4 shows that mean examination scores (with 95% CIs) by subject and school location, ordered from lowest to highest overall performance. Urban schools clearly outperform rural schools in every subject, with no overlap in confidence intervals ($p < 0.001$). The most significant differences appear in English Language (+5.9 points) and Kiswahili (+4.8 points). Overall, a substantial and consistent urban–rural gap is evident across all subjects.

When data were further disaggregated by locality, the results show that students from urban schools performed better, as indicated by higher mean scores across all subjects. Data in Table 19 show better mean scores for Kiswahili for both groups, with students studying in urban schools exhibiting a higher mean score of 51.60 compared to 46.80 for students studying in

rural schools. Similarly, both groups have low mean scores in Basic Mathematics. However, the mean score of students studying in urban schools is comparatively higher (14.26) than that of students in rural schools (10.87). Similar variations are observable in the other subjects assessed in the FTLE 2025. Statistical tests were performed to reveal whether the observed differences are statistically significant across all subjects. An independent t-test was conducted across all subjects. It showed statistically significant differences in both individual subjects and composite scores (Science and Arts subjects), implying a significant difference in academic performance ($p < .001$) by locality (whether the school is in an urban or rural locality), as depicted in Table 20.

Table 20: Statistical Test of Significance between Subjects and Locality

Subjects	t-Value	df	Sig. (2-tailed)	Mean Diff.	SE Diff.	95% CI of the Difference	
						Lower	Upper
Civics	99.05	604321.44	0.00	3.24	0.03	3.17	3.30
History	119.72	618629.56	0.00	4.29	0.04	4.22	4.36
Geography	102.08	628300.92	0.00	4.23	0.04	4.15	4.31
Kiswahili	127.58	694664.39	0.00	4.82	0.04	4.75	4.90
English Language	132.28	616520.65	0.00	5.89	0.04	5.80	5.97
Physics	94.79	609728.31	0.00	3.38	0.04	3.31	3.45
Chemistry	93.78	635115.03	0.00	3.56	0.04	3.48	3.63
Biology	90.58	630812.68	0.00	3.41	0.04	3.34	3.49
Mathematics	89.12	582880.09	0.00	3.40	0.04	3.32	3.47
Science Subjects	96.07	608386.49	0.00	3.44	0.04	3.37	3.51
Arts Subjects	126.30	627983.23	0.00	4.49	0.04	4.42	4.56

Across the mean scores of all the subjects, the largest mean differences were observed in English Language (5.89, 95% CI [5.80, 5.97]) and Kiswahili (4.82, 95% CI [4.75, 4.90]), implying that the urban school group was significantly stronger in these subjects than the rural schools' group. On the other hand, the smallest mean difference was observed in Civics (3.24, 95% CI [3.17, 3.30]), indicating a slight performance difference in this subject. These consistent, exact differences, with narrow 95 per cent confidence intervals (widths ≤ 0.15 points) that do not include zero, suggest systematic, population-level performance gaps across the assessed subjects by school locality. The tight bounds of the CIs indicate that the actual mean differences in the population are known with near-certainty,

highlighting both statistical and practical significance of the reported mean scores. Furthermore, the extremely low standard errors of the differences provide definitive evidence that performance gaps based on school locality are real, stable, and educationally significant across all subjects.

4.3 Differences in Students' Learning in Specific Subjects

Another objective of conducting the FTLE 2025 was to identify differences in students' learning, while considering aspects of gender, school locality and ownership. The differences were inferred from students' performance on the FTLE assessment, as reflected in their responses and, eventually, in their performance on the FTLE 2025 in various competencies and skills. This section presents the results of the analysis of students' performance, showing the percentages of students in different performance categories classified as excellent, very good, good, satisfactory, and unsatisfactory.

4.3.1 Students' Performance in Civics

The results revealed that 83 per cent of the students got unsatisfactory scores in Civics. Only 0.3 per cent attained an excellent level, 1.1 per cent performed very well, 5.4 per cent obtained good results, and 10.1 per cent demonstrated satisfactory performance. Figure 5 illustrates the various categories of students' performance in Civics.

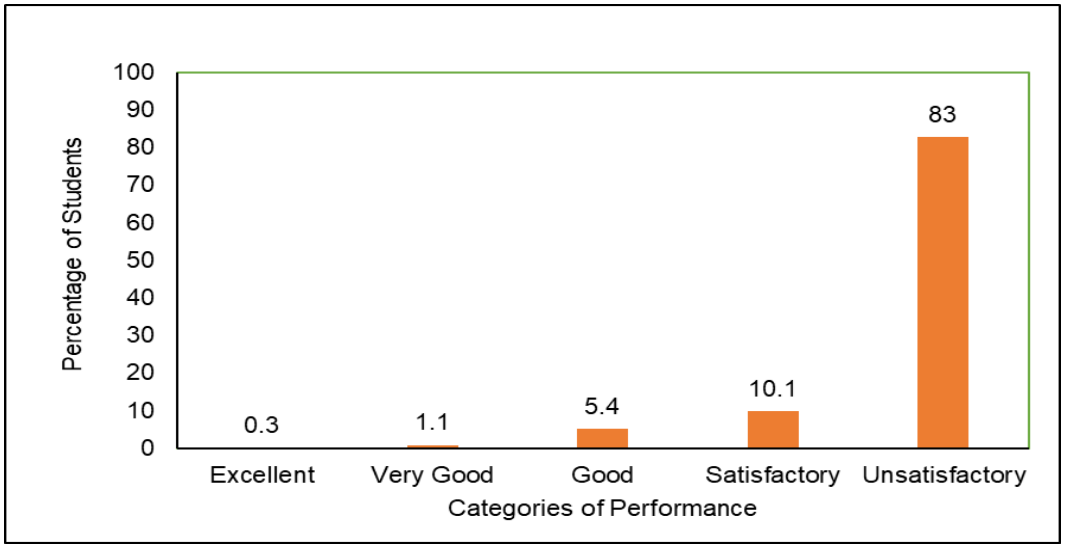

Figure 5: *Students' general performance in Civics*

4.3.1.1 Students' Performance in Civics by Gender, School Locality, and School Ownership

To examine disparities in students' performance in Civics, the analysis combined three key background variables: gender, school locality, and school ownership. The distribution of students across performance categories for each variable is presented in Table 21.

Table 21: Students' Performance in Civics by Gender, School Locality, and School Ownership

Category	Group	Excellent	Very Good	Good	Satisfactory	Unsatisfactory
Gender	Female	0.3	0.7	3.9	7.7	87.4
	Male	0.4	1.7	8.0	14.1	75.7
School Locality	Rural	0.2	0.7	4.2	9.0	85.9
	Urban	0.5	1.8	7.5	11.8	78.4
School Ownership	Non-Government	3.7	8.4	28.8	22.7	36.5
	Government	0.0	0.4	3.3	8.9	87.4

Table 21 indicates that male students substantially outperformed female students, with 24.3 per cent of males achieving a pass (≥ 30%: Excellent + Very Good + Good + Satisfactory) compared to only 12.6 per cent of females. Consequently, the failure rate (< 30%: Unsatisfactory) was markedly lower among males (75.7%) than among females (87.4%), demonstrating clear male superiority in the overall academic performance on this assessment.

Similarly, further analysis shows performance variations by school locality, with a pass rate of 21.6 per cent among urban students compared to only 14.1 per cent among rural students. Consequently, the failure rate was substantially lower in urban areas (78.4%) than in rural areas (85.9%), confirming a marked performance advantage for students from urban localities.

In addition, Table 21 shows that 63.5 per cent of students from non-government schools scored in the excellent-to-satisfactory bands in the Civics assessment, compared to 12.6 per cent of students from government schools. In addition, 87.4 per cent of students from government schools performed unsatisfactorily, compared to 36.5 per cent of those from non-government schools. Therefore, regarding school

ownership, students from non-government schools performed higher than students from government schools.

4.3.1.2 Students' Performance in Different Competencies and Skill Levels in Civics

Students' performance in each Civics competency is shown in Table 22.

Table 22: Students' Performance in Civics Competencies

SN	Competency	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Demonstrate an understanding of Tanzania as a nation.	5.9	2.8	10.1	14.2	67.0
2.	Demonstrate knowledge and ability to apply life skills in life.	2.7	1.3	4.5	7.2	84.4
3.	Demonstrate knowledge and respect for human rights and individual dignity.	1.4	0.9	2.8	4.6	90.3
4.	Demonstrate an understanding of their civic responsibilities and fulfil them.	1.9	1.2	6.1	11.1	79.7
5.	Demonstrates willingness to work hard and diligently for self and National development.	3.5	4.9	19.3	17.7	54.6
6.	Analyse family matters and make the correct decisions.	4.4	2.9	9.6	14.9	68.1
7.	Analyses information and makes the correct decisions.	0.2	0.3	9.6	6.6	90.4
8.	Uses roads correctly and safely.	2.0	2.0	8.1	12.9	74.9
9.	Demonstrates understanding of the concept, structure and functioning of government and participates in its running.	0.9	1.0	3.5	8.4	86.2

Table 22 presents students' performance across nine competencies assessed in Civics. Analysis reveals that only one competency, *demonstrating willingness to work hard and diligently for self and National development* (54.6%), shows exemplary performance. Two competencies *demonstrating an understanding of Tanzania as a nation* (67.0%) and *analysing matters relating to family issues and making the right decisions*

(68.1%) demonstrated satisfactory performance. The remaining competencies showed unsatisfactory performance. These include *Analysing information and making the right decisions (*90.4%); *Demonstrating knowledge of and respect for human rights and individual dignity* (90.3%); *Demonstrating an understanding of the concept, structure and functioning of government and participating in its running* (86.2%); *Demonstrating knowledge and ability to apply life skills in life* (84.4%); *Demonstrating an understanding of their civic responsibilities and fulfilling them* (79.7%), and *Using roads correctly and safely* (74.9%).

The analysis also examined students' performance across different skill levels in Civics. The results indicated that, for six out of the nine competencies (S/N 1, 2, 3, 5, 8, and 9), the order of difficulty followed the pattern 3 > 2 > 1. This implies that items at Level 3 were the most challenging and recorded the lowest performance. In contrast, for competencies S/N 4 and 8, the order of difficulty was 2 > 3 > 1, indicating that students performed better on level 2 and 3 than on Level 1 items. Also, for competency S/N 3, the order of difficulty was 3 > 1 > 2, indicating that students performed better on Level 3 and Level 1 items than on Level 2 items. Finally, in competency S/N 6, the order of difficulty was 1 > 3 > 2, indicating that students performed better on Level 1 and 3 items than on Level 2 items.

Further analysis based on their scripts revealed that most students faced significant challenges when responding to the items. These include difficulties in understanding the task requirements, inadequate knowledge of the tested concepts, and limited proficiency in English. Scripts with blank responses in various questions further evidenced this inadequacy. However, the analysis shows that few students identified the demands of the questions, had a good command of English and had sufficient knowledge of the relevant concepts.

4.3.2 Students' Performance in History

The performance of students in History according to different categories is shown in Figure 6.

Figure 6: *Students' general performance in History*

Figure 6 shows that a very low percentage of students had high performance. The students with excellent performance were 3.2 per cent; those with very good performance were 3.2 per cent; 11.6 per cent had good performance, and 23.8 per cent had satisfactory performance. The majority of students performed unsatisfactorily (58.2%).

4.3.2.1 Students' Performance in History by Gender, School Locality, and School Ownership

To assess variations in students' performance in History, the analysis considered three key background variables: gender, school locality, and school ownership. The distribution of students across performance categories for each variable is presented in Table 23.

Table 23: Students' Performance in History by Gender, School Locality, and School Ownership

Category	Group	Excellent	Very Good	Good	Satisfactory	Unsatisfactory
Gender	Female	2.0	2.2	7.9	22.1	65.9
	Male	5.4	4.9	17.8	26.6	45.3
School Locality	Rural	2.4	2.3	10.0	22.7	62.5
	Urban	4.5	4.7	14.1	25.6	51.2
School Ownership	Non-Government	24.7	13.7	23.9	22.0	15.7
	Government	1.2	2.2	10.4	24.0	62.2

Table 23 shows that 54.7 per cent of male students attained scores in the excellent-to-satisfactory bands in History, compared to 34.1 per cent of female students. In contrast, a higher proportion of female students (65.9%) performed unsatisfactorily than male students (45.3%). These results indicate that male students achieved higher performance than female students in the History assessment.

According to Table 23, 48.8 per cent of students from urban-area schools scored in the excellent-to-satisfactory bands, compared to 37.5 per cent of students from rural-area schools. Conversely, unsatisfactory performance was more common among rural students (62.5%) than urban students (51.2%). Although the differences across performance bands are not substantial—ranging from 2.3 per cent in the very good band to 25.6 per cent in the satisfactory band—students from urban areas generally performed slightly better than those from rural areas in History.

The table also indicated that 84.3 per cent of students from non-government schools achieved scores in the excellent-to-satisfactory bands, while only 37.8 per cent of students from government schools reached the same levels. In contrast, 62.2 per cent of students in government schools performed unsatisfactorily, compared to 15.7 per cent in non-government schools. This pattern shows that the students from non-government schools outperformed those from government schools in the History assessment.

4.3.2.2 Students' Performance in Different Competencies and Skill Levels in History

The students' performance in each History competency is shown in Table 24.

Table 24: Students' Performance in the History Subject Competencies

SN	Competency	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Demonstrate knowledge of the concepts of History and appreciate the importance of the sources of History in everyday life.	3.5	2.0	6.4	13.5	74.6
2.	Examine the theories of the origin and evolution of humans and draw conclusion.	11.2	7.3	21.1	27.6	32.9
3.	Relate man's development of the environment and technology.	4.9	3.4	13.4	30.9	47.4
4.	Relate people's economic activities to the development of social and political organisation.	8.6	5.0	17.9	32.8	35.8
5.	Demonstrate knowledge of the motives for interactions among the peoples of Africa.	7.4	4.9	22.1	32.5	33.2
6.	Demonstrate knowledge and show appreciation of the levels of social, economic development in pre-colonial 'Africa.	4.9	3.8	14.9	27.2	49.2
7.	Examine and explain the motives for the coming of the foreigners to Africa up to the mid-19th century.	3.3	1.8	8.9	20.1	66.0

Table 24 presents students' performance across seven competencies assessed in History. The analysis indicates that overall performance was largely unsatisfactory, as most competencies recorded high proportions of students in the unsatisfactory category. Competency 2, *examining theories of the origin and evolution of humans and drawing conclusions*, demonstrated the relatively strongest performance, with 67.1 per cent of students attaining at least satisfactory performance, including 11.2 per cent Excellent and 7.3 per cent Very Good. Similarly, competency 5, *demonstrating knowledge of the motives for interactions among the peoples of Africa*, showed comparatively better outcomes, with 66.8 per cent of students achieving satisfactory or higher performance.

In contrast, several competencies recorded notably weak performance. Competency 7, *examining and explaining the motives for the coming of foreigners to Africa*, registered the poorest results, with 66.0 per cent of students performing unsatisfactorily and only 6.9 per cent achieving

Excellent or Very Good performance. Likewise, competency 1, *demonstrating knowledge of the concepts and sources of History*, recorded 74.6 per cent unsatisfactory performance, indicating limited mastery of foundational historical concepts. Competencies related to environmental development and technology (47.4% unsatisfactory) and levels of social and economic development in pre-colonial Africa (49.2% unsatisfactory) also showed weak outcomes. Overall, the findings suggest that while students demonstrated moderate understanding in a few analytical and thematic areas, most History competencies were poorly mastered, pointing to challenges in conceptual understanding, interpretation, and application of historical knowledge.

Students' performance across different levels in the History subject shows a clear pattern in which achievement declined as task complexity increased. In six of the seven competencies assessed, students performed best at Level 1 and poorest at Level 3, indicating stronger performance on lower-level factual questions than on tasks requiring analysis, interpretation, and synthesis of ideas. An exception was competency 4 on *relating people's economic activities to social and political organisation*, where learners performed relatively well even at higher levels, suggesting that this area was more familiar and easier to apply in real-life contexts. Overall, the results indicate that while students possess basic historical knowledge, they face notable difficulties with higher-order cognitive skills.

Further analysis of students' scripts revealed several underlying challenges contributing to this pattern. Many learners demonstrated inadequate mastery of foundational historical concepts, limiting their ability to answer both lower- and higher-level questions effectively. Additionally, difficulties in understanding question demands, particularly those requiring analysis and evaluation, affected performance. Language and expression problems further compounded these challenges, as students struggled to interpret questions accurately and articulate responses clearly and coherently. These factors collectively constrained students' ability to demonstrate deeper understanding and analytical competence in History.

4.3.3 Students' Performance in Geography

Students' performance in Geography by category is shown in Figure 7.

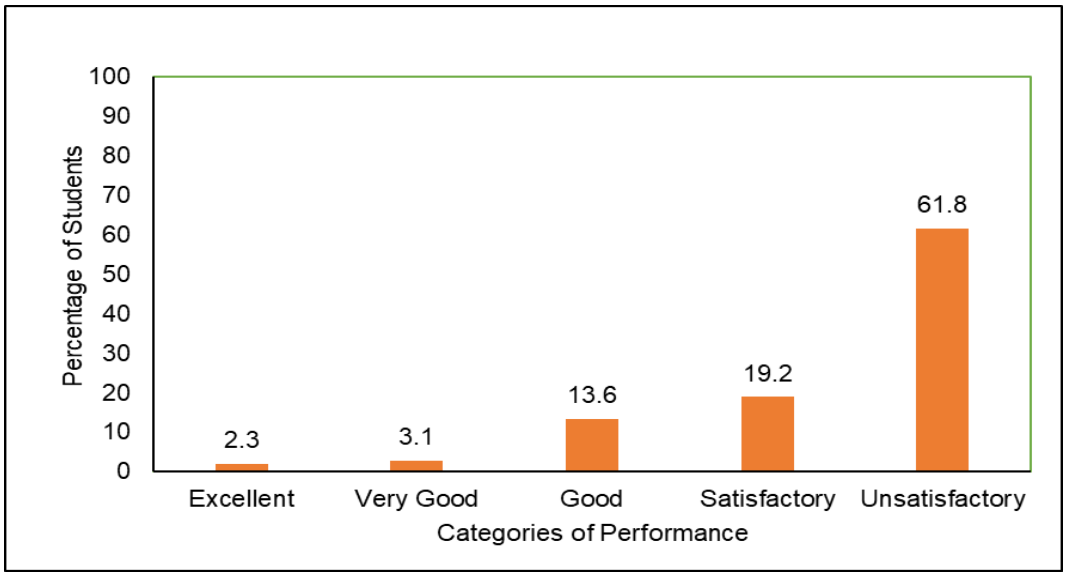

Figure 7: *Students' general performance in Geography*

Figure 7 indicates that most students (61.8%) were in the unsatisfactory category. Their performance in other categories was very low: Excellent (2.3%), Very Good (3.1%), Good (13.6%) and Satisfactory (19.2%).

4.3.3.1 Students' Performance in Geography by Gender, School Locality, and School Ownership

Table 25 presents students' performance in Geography, disaggregated by gender, school locality, and school ownership. It shows the proportion of students in each performance category, from Excellent to Unsatisfactory, across these subgroups.

Table 25: Students' Performance in Geography by Gender, School Locality, and School Ownership

Category	Group	Excellent (%)	Very Good (%)	Good (%)	Satisfactory (%)	Unsatisfactory (%)
Gender	Female	1.4	2.2	9.4	18.0	69.0
	Male	3.6	4.7	20.5	21.3	49.9
School Locality	Rural	1.4	2.2	12.6	18.1	65.7
	Urban	3.7	4.6	15.1	21.0	55.5
School Ownership	Non-Government	16.7	16.5	29.5	19.5	17.8
	Government	0.9	1.9	12.1	19.2	65.9

Table 25 shows that 50.1 per cent of male students scored in the excellent-to-satisfactory bands in Geography, compared to 31 per cent of female students. Conversely, 69 per cent of female students performed unsatisfactorily, while 49.9 per cent of male students did so. Overall, male students generally performed better than female students across all Geography categories.

In terms of school locality, the data indicate that 44.5 per cent of students from urban schools scored in the Excellent-to-Satisfactory bands in Geography, compared to 34.3 per cent of students from rural schools. On the other hand, 65.7 per cent of rural school students performed unsatisfactorily, compared with 55.5 per cent of urban school students. This shows that students from urban schools performed better in the Geography assessment than those from rural schools.

Regarding school ownership, Table 25 indicates that 82.2 per cent of students from non-government schools scored in the Excellent-to-Satisfactory band, compared to 34.1 per cent of students from government schools. In contrast, 65.9 per cent of government school students performed unsatisfactorily, compared with 17.8 per cent of students from non-government schools. Therefore, students from non-government schools performed better in Geography than those from government schools.

4.3.3.2 Students' Performance in Different Geography Competencies and Skill Levels

The students' performance in each Geography competency is shown in Table 26:

Table 26: Students' Performance in Geography Competencies

SN	Competency	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Understand the concept of geography and aspects related to the solar system.	3.5	6.5	25.1	23.2	41.8

SN	Competency	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
2.	Assesses knowledge of parts and physical components of the Earth.	2.6	1.2	4.2	9.4	82.5
3.	Observe, record, analyse and interpret the elements of weather and use the skills of weather elements to solve problems associated with weather.	13.7	4.5	14.0	18.4	49.4
4.	Relate climate to the environment and daily social and economic activities.	7.1	5.5	22.2	23.3	41.9
5.	Read, measure and interpret the information on simple maps.	3.1	2.2	9.1	12.8	72.7
6.	Knowledge of human activities, types, characteristics, importance, problems and ability to apply farming skills to meet certain human needs.	11.5	5.7	15.2	14.6	53.1
7.	Understand importance of water resources and ability to use and conserve the resource to improve the standard of life.	5.0	3.8	10.1	16.1	65.1
8.	Understand importance of forest resources and ability to use and conserve the resource to improve the standard of life.	3.4	2.6	15.7	28.3	49.9
9.	Understand the importance of natural resources and ability to use and conserve that resource to improve the standard of life.	5.2	3.4	13.7	15.2	62.4
10.	Understand the importance of mining and the ability to use and conserve the resource to improve the standard of living.	3.5	3.7	14.8	21.1	56.9

Table 26 presents students' performance across ten competencies assessed in Geography. Analysis reveals that when cumulative percentages in Excellent, Very Good, Good and Satisfactory categories were considered, students demonstrated good performance in five competencies: *Understanding the concept of Geography and aspects related to solar system (58.2%), Relating climate to the environment and daily social and economic activities, (58.1%), Observing, recording, analysing and interpreting the elements of weather and use of skills of weather elements to solve problems associated with weather (50.6%), Understanding importance of water resources and ability to use and conserve the resource to improve the standard of life (50.1%)* and *Knowledge of human activities, types, characteristics, importance,*

problems and ability to apply farming skills to meet certain human needs (46.9%). Three competencies had satisfactory performance these are *Understanding the importance of mining and ability to use and conserve the resource to improve the standard of life* (43.1%), *Understand the importance of natural resources and ability to use and conserve that resource to improve the standard of life* (37.6%) and *Understand importance of water resources and ability to use and conserve the resource to improve the standard of life* (34.9%).

Students' performance was unsatisfactory in two competencies, as evidenced by high percentages in the inadequate category. These competencies include *Assessing knowledge on parts and physical components of the Earth* (82.5%) *and Reading, measuring and interpreting the information on simple maps* (73.3%).

The analysis also examined students' performance across different skill levels in Geography. The results indicated that 2, 1, 2, 5, and 10, in order of difficulty, followed the pattern 3 > 2 > 1, suggesting that performance levels followed a simple-to-complex order. Analysis shows that, for four competencies (3, 6, 7, and 8), the order of difficulty followed the pattern 3 > 1 > 2. This implies that items at Level 3 were the most challenging, followed by Level 1, and Level 2 recorded the lowest performance. Competency 4: The order of difficulty was 1 > 2 > 3, indicating that students performed better on lower-order items. For Competency 9, the order of difficulty was 2 > 1 > 3, indicating that students performed better on Level 2, followed by Level 3 and Level 1.

Further analysis based on their scripts revealed that most students had limited knowledge of the tested concepts. Analysis showed that most students faced challenges when attempting most items, as their responses were irrelevant to the demands of the tested items. Moreover, the analysis showed that some students could not identify the requirements for each item tested. This gap challenged the students, prompting them to answer the questions inappropriately.

The analysis shows that some students had limited skills in vocabulary, grammar, writing, and logical arguments, which often resulted in responses in Kiswahili. In contrast, other students' responses contained grammatical

errors, leading to unintended or imprecise answers. This indicates that some students had difficulty using English as the medium of instruction. Furthermore, limited drawing skills in representing geographical features on the tested items requiring illustrations were a gap that negatively influenced students' performance.

4.3.4 Students' Performance in Kiswahili

The performance of students in Kiswahili according to different categories is shown in Figure 8.

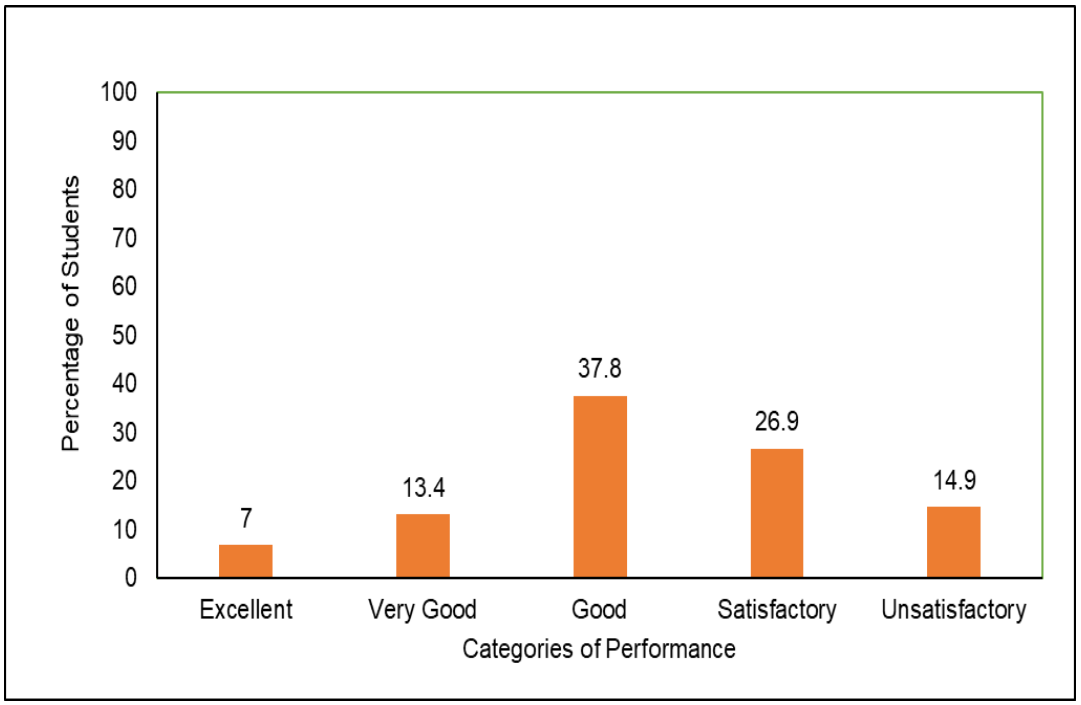

Figure 8: *Students" General Performance in Kiswahili*

Figure 8 shows a fairly distributed performance in the subject compared to other subjects. Cumulatively, in this subject, 85.1 per cent of students are in the Excellent, Very Good, Good, and Satisfactory categories. Good performance in the subject is also substantiated by a low percentage of students (14.9%) in the Unsatisfactory performance category.

4.3.4.1 Students' Performance in Kiswahili by Gender, School Locality, and School Ownership

Table 27 shows students' performance in Kiswahili according to gender, school locality, and school ownership. It presents the percentage of students in each performance band, from Excellent to Unsatisfactory, highlighting differences in achievement across the various groups.

Table 27: Students' Performance in Kiswahili by Gender, School Locality, and School Ownership

Category	Group	Excellent (%)	Very Good (%)	Good (%)	Satisfactory (%)	Unsatisfactory (%)
Gender	Female	5.7	12.1	37.5	28.9	15.8
	Male	9.1	15.7	38.3	23.6	13.3
School Locality	Rural	5.1	12.1	36.8	29.2	16.9
	Urban	10.0	15.5	39.5	23.2	11.7
School Ownership	Non-Government	32.1	23.0	30.1	10.3	4.5
	Government	4.6	12.5	38.5	28.4	16.0

Table 27 shows that 86.7 per cent of male students scored in the Excellent-to-Satisfactory bands in Kiswahili, compared to 84.2 per cent of female students. Conversely, 15.8 per cent of female students performed unsatisfactorily, compared with 13.3 per cent of male students. These results indicate that, in terms of gender, male students performed slightly better than female students in the Kiswahili assessment.

Similarly, Table 27 shows that students' performance varied by school locality. About 88.3 per cent of students from urban schools scored in the Excellent-to-Satisfactory bands, compared to 83.1 per cent of students from rural schools. In contrast, 16.9 per cent of rural students performed unsatisfactorily, compared to 11.7 per cent of urban students. This suggests that students from urban areas generally performed better than their rural counterparts on the Kiswahili assessment.

Furthermore, as indicated in Table 27, school ownership also influenced performance. A total of 95.5 per cent of students from non-government schools scored in the Excellent-to-Satisfactory bands, while 84 per cent of students from government schools achieved similar results. In terms of unsatisfactory performance, 16.0 per cent of government school students fell below the satisfactory threshold, compared to only 4.5 per cent of

students from non-government schools. These findings show that students in non-government schools outperformed those in government schools in the Kiswahili assessment.

4.3.4.2 Students' Performance in Different Competencies and Skill Levels in Kiswahili

The students' performance in each Kiswahili competency is shown in Table 28.

Table 28: Students' Performance in Kiswahili Competencies

SN	Competencies	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Kutumia Kiswahili sanifu katika mawasiliano.	28.1	15.9	31.1	10.7	14.2
2.	Kutumia Kiswahili sanifu kuwasiliana katika mazungumzo na maandishi.	15.6	10.7	22.8	18.3	32.5
3.	Kutumia Kiswahili sanifu kuwasiliana katika miktadha mbalimbali.	10.9	8.8	26.6	17.2	36.6
4.	Kusoma na kuelewa maandiko/mazungumzo mbalimbali kwa ufasaha.	25.9	15.7	32.8	17.8	7.9
5.	Kuandika habari fupi kwa kuzingatia taratibu za uandishi.	15.8	16.6	36.5	19.5	11.6
6.	Kubainisha na kuhakiki kazi za fasihi.	13.6	15.5	36.0	17.7	17.2
7.	Kubainisha, kuhakiki na kutunga kazi za fasihi simulizi.	9.8	11.4	30.5	23.1	25.2
8.	Kuhakiki na kutathmini njia za kuhifadhi kazi za fasihi simulizi.	26.9	13.9	25.3	13.1	20.7

Table 28 presents students' performance across eight competencies assessed in Kiswahili. Analysis shows that five competencies demonstrated excellent performance. These are *Kusoma na kuelewa maandiko/mazungumzo mbalimbali kwa ufasaha (92.1%), Kuandika habari fupi kwa kuzingatia taratibu za uandishi (88.4%), Kutumia Kiswahili sanifu katika mawasiliano (85.8%), Kubainisha na kuhakiki kazi za fasihi (82.8%)* and *Kuhakiki na kutathmini njia za kuhifadhi kazi za fasihi simulizi (79.3%)*. However, two competencies showed very good performance: *Kubainisha,*

kuhakiki na kutunga kazi za fasihi simulizi (74.8%) and *Kutumia Kiswahili sanifu kuwasiliana katika mazungumzo na maandishi (67.5%)*. The remaining competency, *Kutumia Kiswahili sanifu kuwasiliana katika miktadha mbalimbali (63.4%),* showed good performance.

The analysis further examined students' performance across different skill levels in Kiswahili. The results indicated that six out of the eight competencies (S/N 2, 3, 4, 5, 7 and 8) showed the order of difficulty followed the pattern 2 > 3 > 1. This implies that items at Level 2 were the most challenging and recorded the lowest performance. In contrast, for competencies S/N 1 and 6, the order of difficulty was 2 > 1 > 3, indicating that students performed better on higher-order-level items.

Furthermore, response analysis revealed that the students with poor performance were incompetent in the assessed concepts. They faced challenges such as using language appropriately in context, inadequate mastery of grammatical rules, parts of speech, suffixes, and word formation processes.

Moreover, they demonstrated a lack of knowledge of the appropriate use of words commonly used in written texts, such as text messages and literary works like proverbs and idioms.

Furthermore, some students generally performed poorly because they failed to follow instructions correctly, resulting in irrelevant answers and negative responses.

4.3.5 Students' Performance in English Language

Students' performance in English Language, by category, is shown in Figure 9.

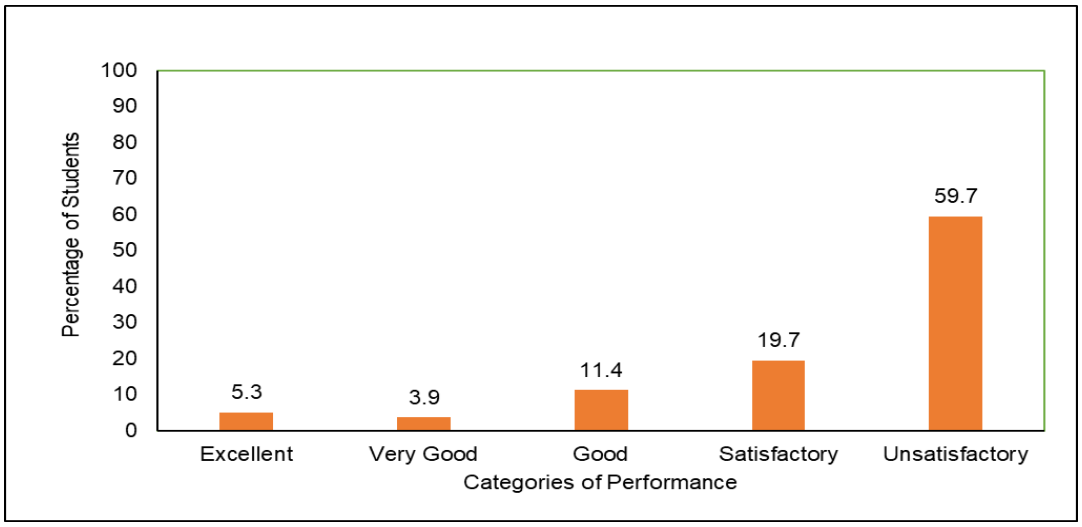

Figure 9: *Students' General performance in English Language*

Figure 9 shows a right-skewed distribution, indicating a tendency toward unsatisfactory performance. Only 5.3 per cent of the students performed excellently. Those with very good performance were 3.9 per cent; 11.4 per cent had good performance, and 19.7 per cent had satisfactory performance. Those who performed unsatisfactorily were 59.7 per cent.

4.3.5.1 Students' Performance in English Language by Gender, School Locality, and School Ownership

Table 29 presents the distribution of students' performance in English Language across different categories, including gender, school locality, and school ownership. It highlights the proportion of students achieving Excellent, Very Good, Good, Satisfactory, and Unsatisfactory scores in each group.

Table 29: Students' Performance in English Language by Gender, School Locality, and School Ownership

Category	Group	Excellent (%)	Very Good (%)	Good (%)	Satisfactory (%)	Unsatisfactory (%)
Gender	Female	3.9	3.1	9.3	18.7	65.0
	Male	7.6	5.3	15.0	21.4	50.7
School Locality	Rural	3.6	3.0	10.3	19.1	64.0
	Urban	8.0	5.5	13.2	20.7	52.6

Category	Group	Excellent (%)	Very Good (%)	Good (%)	Satisfactory (%)	Unsatisfactory (%)
School Ownership	Non-Government	36.5	13.3	20.2	15.8	14.1
	Government	2.4	3.1	10.6	20.1	63.9

Table 29 shows that 49.3 per cent of male students scored in the Excellent-to-Satisfactory bands in English Language, compared to 35 per cent of female students. Conversely, 65.0 per cent of female students performed unsatisfactorily compared to 50.7 per cent of male students, who also performed unsatisfactorily. Therefore, male students performed better in the English Language than female students.

Table 29 indicates that 47.4 per cent of students from urban schools scored in the Excellent-to-Satisfactory bands in English Language, compared to 36 per cent of students from rural schools. However, 64 per cent of rural school students performed unsatisfactorily, compared with 52.6 per cent of urban school students. Thus, in terms of locality, students from urban schools performed higher in English Language assessments than those from rural schools.

Similarly, Table 29 indicates that 85.8 per cent of students from non-government schools scored in the Excellent-to-Satisfactory bands on the English Language assessment, compared to 36.2 per cent of students from government schools. In contrast, 63.9 per cent of students from government schools performed unsatisfactorily compared to 14.1 per cent of those from non-government schools, whose performance was also unsatisfactory. Therefore, in terms of school ownership, students from non-government schools performed better in English Language than those from government schools.

4.3.5.2 Students' Performance in Different English Language Competencies and Skill Levels

The students' performance in each English Language competency is shown in Table 30.

Table 30: Students' Performance in English Competency

SN	Competency	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Use simple English to communicate in social interactions and settings.	17.1	9.7	25.7	20.4	27.1
2.	Describe past activities and personal experiences.	8.3	2.8	6.7	7.6	74.5
3.	Engage in simple conversations and transactions on familiar topics.	8.9	3.6	12.0	20.3	55.3
4.	Express in English in writing, needs, feelings and ideas using appropriate vocabulary.	5.8	2.9	12.1	16.6	62.6
5.	Give and respond to directions/locations using simple English sentences.	10.9	7.7	22.7	23.3	35.4
6.	Identify general and specific information on events in simple written texts she/he encounters.	7.7	2.7	7.3	10.7	71.6
7.	Use English to obtain, process, construct and provide subject matter information in written forms.	9.8	5.1	17.5	23.7	43.9
8.	Use appropriate English pronunciation in a variety of settings.	4.8	3.6	11.8	16.8	63.0
9.	Interact in writing for personal expression and enjoyment.	6.0	11.1	21.2	7.9	53.8
10.	Answer questions on simple readers and report on what he or she read.	3.3	3.3	12.7	20.1	60.6

Table 30 indicates that the students had very good performance (72.9%) in the competency *Using simple English to communicate in social Interactions and settings,* and *Giving and responding to directions/locations using simple English sentences* (64.6%). The students performed well in three competencies: *Using English to obtain, process, construct, and provide subject-matter information in written forms* (56.1%); *Interacting in writing for personal expression and enjoyment* (46.2%)*;* and *Engaging in simple conversation and transactions on familiar topics* (44.8%). Moreover, they had satisfactory performance in the competencies *Answering questions on simple readers and report on what one has read* (39.4%), *Expressing in English in writing needs, feelings and ideas using appropriate vocabulary* (37.4%), and *Using appropriate English pronunciation in a variety of settings (37.0%)*. However, in two competencies, which are *Describing*

past activities and personal experiences and *Identifying general and specific information on events in simple written texts*, they had weak performance of 25.4 and 28.4 per cent, respectively.

Analysis of students' responses revealed that the students with poor performance were incompetent in the assessed concepts. They faced challenges such as low mastery of past tenses to express past activities or events, a lack of principles governing the formation of past tenses, and poor skills with regular and irregular verbs.

Moreover, the students demonstrated a lack of knowledge of the appropriate use of the vocabulary predominantly used in social events such as accidents, elections, and wedding ceremonies. Furthermore, most students performed poorly due to their inability to follow instructions correctly and a limited command of English, leading them to provide irrelevant responses and ungrammatical sentences.

4.3.6 Students' Performance in Physics

The performance of students in Physics according to different categories is shown in Figure 10.

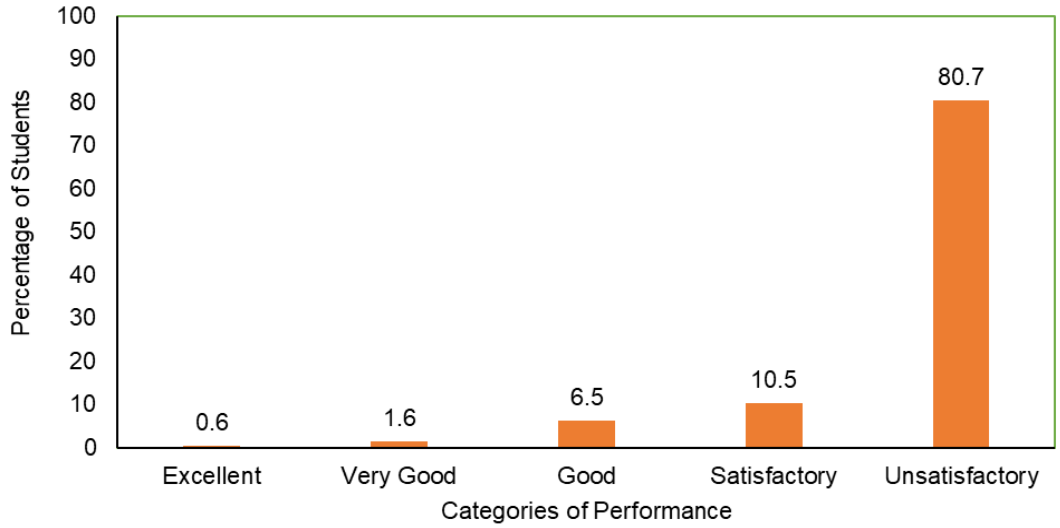

Figure 10: *Students' general performance in Physics*

Figure 10 shows that only 0.6 per cent of the students performed excellently. Those with very good performance were 1.6 per cent; 6.5 per

cent had good performance, and 10.5 per cent had satisfactory performance. Those who performed unsatisfactorily were 80.7 per cent.

4.3.6.1 Students' Performance in Physics by Gender, School Locality and School Ownership

Table 31 compares students' performance in Physics by gender, school locality, and school ownership, showing the distribution of students across the Excellent, Very Good, Good, Satisfactory and Unsatisfactory performance categories.

Table 31: Students' Performance in Physics by Gender, School Locality and School Ownership

Category	Group	Excellent (%)	Very Good (%)	Good (%)	Satisfactory (%)	Unsatisfactory (%)
Gender	Female	0.3	0.9	4.0	8.5	86.3
	Male	1.0	2.9	10.7	13.8	71.6
School Locality	Rural	0.3	1.1	5.4	9.6	83.5
	Urban	1.1	2.5	8.2	11.9	76.3
School Ownership	Private	5.0	10.3	26.0	20.5	38.2
	Government	0.2	0.8	4.7	9.6	84.7

As Table 31 shows, 28.4 per cent of male students scored within the Excellent-to-Satisfactory band, compared to only 13.7 per cent of female students. Conversely, a higher proportion of female students (86.30 per cent) performed unsatisfactorily compared to 71.60 per cent of male students. This indicates that, although the overall performance in Physics was generally low, male students outperformed female students.

Similarly, the table highlights differences in performance based on school locality. Students from urban schools performed better than those from rural schools, with 23.7 per cent of urban students scoring in the Excellent-to-Satisfactory bands compared to 16.5 per cent of rural students. In contrast, 83.5 per cent of rural students performed unsatisfactorily, whereas this was the case for 76.3 per cent of urban students. Thus, students from urban schools demonstrated higher performance in Physics than their rural counterparts.

Furthermore, the table reveals a substantial disparity based on school ownership. The majority of students from non-government schools (61.8 per cent) scored in the Excellent-to-Satisfactory band, compared to only 15.3 per cent of students from government schools. Conversely, 84.7 per

cent of government school students performed unsatisfactorily, compared to 38.2 per cent of students from non-government schools. This shows clearly that students from non-government schools performed better in Physics than those from government schools.

4.3.6.2 Students' Performance in Different Competencies and Skill Levels in Physics

The students' performance in each Physics competency is shown in Table 32.

Table 32: Students' Performance in Physics Competencies

SN	Competency	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Practice safety rules in daily life.	0.9	0.5	4.5	12.9	81.3
2.	Make appropriate measurement of physical quantities.	3.1	3.0	10.6	15.7	67.6
3.	Apply laws, theories and principles of Physics in daily life.	4.2	2.9	10.2	8.5	74.1
4.	Use scientific skills to identify nature and properties of matter.	1.7	1.4	3.6	5.3	87.9
5.	Apply the laws of reflection of light in daily life.	3.9	2.1	5.4	6.2	82.5
6.	Apply electricity and magnetism knowledge in daily life.	2.0	1.8	9.8	12.6	73.8
7.	Apply the concept of turning forces in daily life.	0.4	0.6	4.4	9.2	85.4
8.	Use simple machines to simply work.	3.4	7.0	11.9	10.0	67.8

Table 32 presents students' performance across eight competencies assessed in Physics. Analysis reveals that all eight competencies showed unsatisfactory performance, as most students scored low marks. In decreasing order of weak performance, these competencies are *Using scientific skills to identify the nature and properties of matter* (87.9%), *Applying the concept of turning forces in daily life* (85.4%); *Applying the laws of reflection of light in daily life* (82.5%); *Practising safety rules in daily life* (81.3%); *Applying laws, theories, and principles of Physics in daily life* (74.1%); *Applying knowledge of electricity and magnetism in daily life*

(73.8%), *Making appropriate measurements of physical quantities* (67.6%) and *Using simple machines to simplify wor*k (67.8%).

The analysis of students' performance across different skill levels in Physics found that, in five of the eight competencies (S/N 1, 2, 3, 6, and 7), the difficulty order followed the pattern 3 > 2 > 1. This implies that items at Level 3 were the most challenging and recorded the lowest performance. In contrast, in competencies S/N 4, 5, and 8, the order of difficulty was 2 > 3 > 1, indicating that students performed better on higher-order items.

Further analysis of students' scripts revealed that many learners lacked adequate understanding of the tested concepts, which significantly affected their performance. In many cases, students provided irrelevant responses or left questions unanswered, indicating weak subject-matter knowledge. Additionally, poor mathematical skills hindered their ability to apply appropriate formulas and perform correct calculations, leading to inaccurate answers. Language difficulties were also evident, as grammatical errors limited the clarity and precision of responses. Furthermore, insufficient drawing skills negatively affected performance in items requiring diagrams, such as questions involving the illustration of meniscus shapes, further contributing to the overall unsatisfactory results.

4.3.7 Students' Performance in Chemistry

Generally, the data show low performance in Chemistry, with 70.8 per cent of students attaining unsatisfactory scores. Akin to Figure 11, the distribution of scores is right-skewed, suggesting that students' performance is inadequate. While the majority (70.8%) attained unsatisfactory scores, only 1.4% had excellent performance. Additionally, only 2.0 per cent attained very good performance, 10.0 per cent attained good performance, and 15.8 per cent attained satisfactory performance. Overall, the unsatisfactory performance is supported by the fact that only 13.5 per cent of students are within the three categories of Excellent, Very Good, and Good, as depicted in Figure 11:

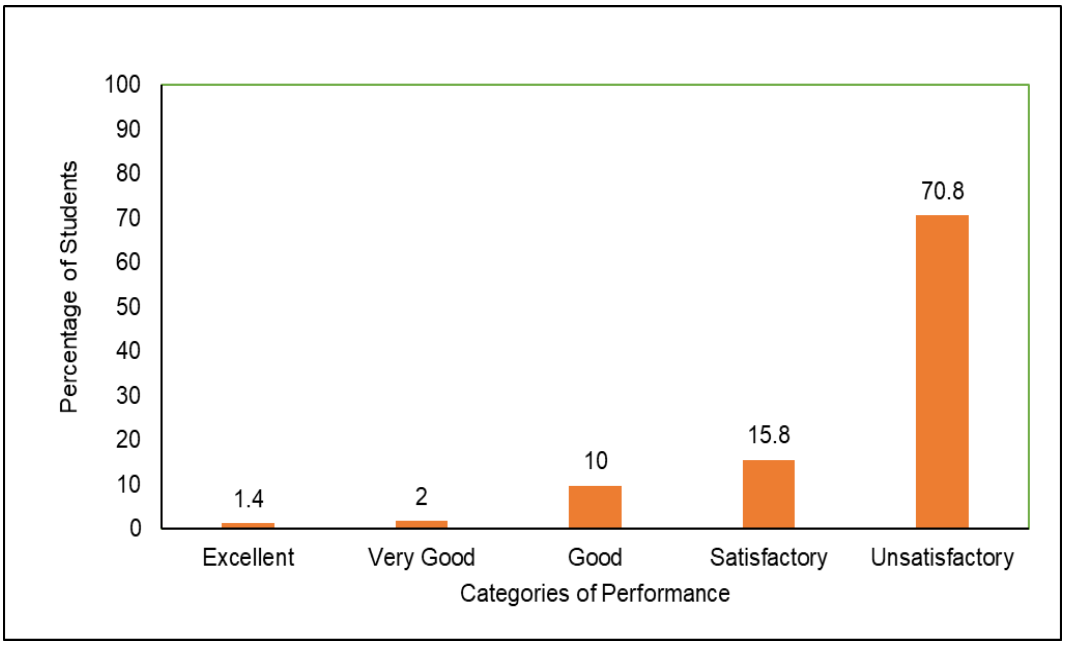

Figure 11: *Students' general performance in Chemistry*

4.3.7.1 Students' Performance in Chemistry by Gender, School Locality, and School Ownership

Data were analysed to compare students' performance in Chemistry in different variables. Table 33 presents the percentage distribution of students' performance by gender, school locality, and school ownership in the Excellent, Very Good, Good, Satisfactory, and Unsatisfactory performance categories.

Table 33: Students' Performance in Chemistry by Gender, School Locality, and School Ownership

Category	Group	Excellent (%)	Very Good (%)	Good (%)	Satisfactory (%)	Unsatisfactory (%)
Gender	Female	0.9	1.3	7.0	13.3	77.6
	Male	2.2	3.3	15.0	19.9	59.6
School Locality	Rural	0.9	1.4	8.7	14.8	74.2
	Urban	2.0	3.0	12.1	17.4	65.5
School Ownership	Non-Government	11.5	11.2	30.6	23.1	23.6
	Government	0.4	1.2	8.1	15.1	75.2

The percentages of students in each performance category were compared by gender to examine differences in achievement between male and

female students. As shown in Table 33, clear variations in performance exist between the two groups. A higher proportion of female students (77.6%) fell into the unsatisfactory category compared to male students (59.6%). Conversely, male students were more represented in the pass performance categories—Excellent, Very Good, and Good—indicating that a greater proportion of male students attained higher scores than female students. For instance, only 0.9 per cent of female students were in the Excellent category, compared to 2.2 per cent of male students, while 1.3 per cent of female students were in the Very Good category, compared to 3.3 per cent of male students. Similar patterns are evident across the remaining performance categories.

With respect to school locality, the results indicate better performance among students from urban schools than those from rural schools. The proportion of students in the Unsatisfactory category was higher in rural schools (74.2%) than in urban schools (65.5%). In addition, students from rural schools were less represented in the pass performance categories than their urban counterparts. For example, only 0.9 per cent of rural students were in the Excellent category, compared to 2.0 per cent of urban students. A similar trend is observed in the Very Good category, where rural schools accounted for 1.4 per cent, compared to 3.0 per cent for urban schools.

Differences in performance were also observed by school ownership, as presented in Table 33. Students in non-government schools performed better than those in government schools. Government schools accounted for a higher proportion of students in the unsatisfactory category (75.2%), whereas non-government schools recorded a substantially lower percentage (23.6%). This suggests that a greater proportion of students in non-government schools achieved better outcomes. This pattern is further supported by higher percentages of students from non-government schools in the Good performance category (30.6%) compared to government schools (8.1%). Similarly, students in the Excellent category were predominantly from non-government schools (11.5%), while only 0.4 per cent were from government schools. Overall, the data consistently indicate that students in non-government schools performed better than those in government schools.

4.3.7.2 Students' Performance in Different Competencies and Skill Levels in Chemistry

The students' performance in each Chemistry competency is shown in Table 34.

Table 34: Students' Performance in Chemistry Competencies

SN	Competency	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Use Chemistry skills and knowledge in daily life.	1.6	2.4	10.0	14.0	72.0
2.	Work safely in the chemistry laboratory and use various chemistry apparatuses properly to perform different activities and experiments.	21.9	6.8	13.9	12.5	44.8
3.	Apply the scientific procedure to carry out investigations in chemistry.	1.7	2.3	17.3	21.7	57.0
4.	Apply different methods to separate mixtures into pure components.	4.7	2.1	6.6	9.7	76.9
5.	Deal with nature and properties of matter.	2.3	1.8	8.8	21.5	65.6
6.	Explain the preparation and properties of simple gases.	3.6	2.7	9.8	17.6	66.3
7.	Treat and purify water with environmental consideration.	7.1	3.8	10.3	14.3	64.5
8.	Use fuels efficiently and sustainably with environmental consideration.	0.8	0.7	3.1	10.0	85.4
9.	Explain the structure of an atom and the periodic trend.	2.2	1.8	7.7	20.7	67.6

Table 34 presents students' performance across nine competencies assessed in Chemistry. The analysis shows that none of the competencies attained a clearly strong level of performance, as unsatisfactory results dominated across all areas. Comparatively better performance was observed in *Working safely in the chemistry laboratory and using apparatus properly* (44.8% unsatisfactory) and *Applying the scientific procedure to carry out investigations in chemistry* (56.9% unsatisfactory), indicating relatively higher mastery of practical and procedural skills. In contrast, the

weakest performance was recorded in *Using fuels efficiently and sustainably with environmental consideration* (85.4% unsatisfactory), followed by *Applying different methods to separate mixtures into pure components* (76.9%) and *Using chemistry skills and knowledge in daily life* (72.0%). Other competencies, including *Dealing with the nature and properties of matter* (65.5%), *Explaining the preparation and properties of simple gases* (66.3%), *Treating and purifying water with environmental consideration* (64.6%), and *Explaining the structure of an atom and periodic trends* (67.6%), also showed predominantly low achievement. Overall, the results indicate that students experience substantial difficulties across most Chemistry competencies, particularly in applying concepts to real-life situations and understanding abstract scientific ideas.

Analysis of scripts indicates that some of the students had inadequate knowledge and skills across the tested concepts. The challenges faced include using inappropriate formulas to calculate heat values, failure to understand the requirements of the questions, inability to apply mixture-separation techniques, and a lack of skills in differentiating concepts. Similarly, some students lacked the necessary skills to interpret experimental data and diagrams to draw expected conclusions and verify scientific facts. Additionally, some students failed to associate the properties of chemical substances with their uses or importance.

4.3.8 Students' Performance in Biology

The performance of students in the Biology subject was analysed based on the five categories of Excellent, Very Good, Good, Satisfactory and Unsatisfactory by computing the percentages of students in each category. The results are presented in Figure 12, where the distribution of scores is skewed to the right, indicating that students' performance in Biology was generally unsatisfactory. More students (60.9%) demonstrated unsatisfactory performance, compared to 17.8 per cent who scored in the Excellent, Very Good, and Good categories. Students with scores in the Satisfactory category (21.3%) indicate that they had partial performance. The distribution of students' performance is illustrated in Figure 12.

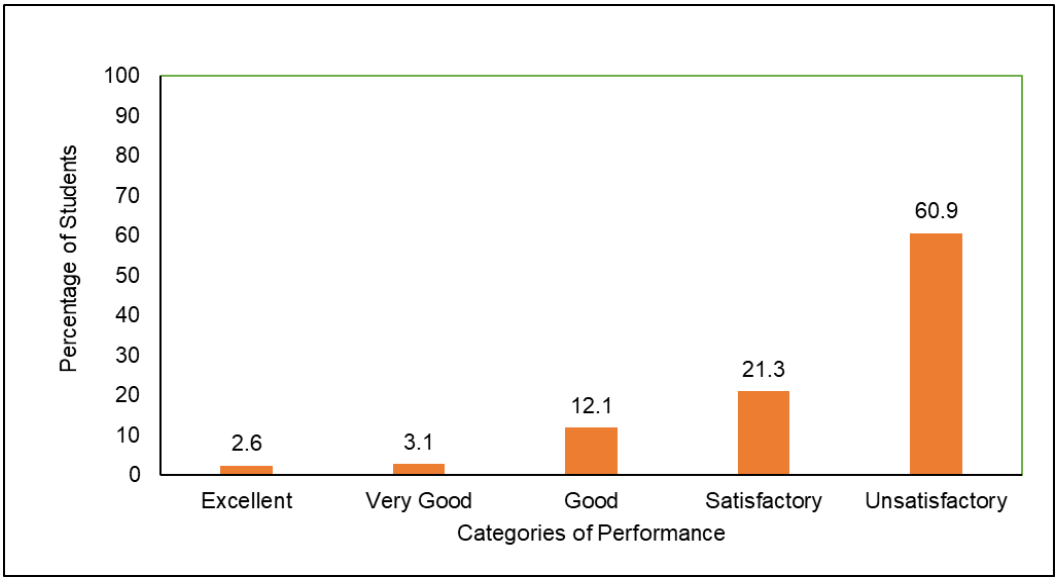

Figure 12: *Students' general performance in Biology*

4.3.8.1 Students' Performance in Biology by Gender, School Locality, and School Ownership

Students' performance in Biology by gender, school locality, and school ownership, is shown in Table 35.

Table 35: Students' Performance in Biology by Gender, School Locality, and School Ownership

Category	Group	Excellent (%)	Very Good (%)	Good (%)	Satisfactory (%)	Unsatisfactory (%)
Gender	Female	1.6	2.2	9.1	19.5	67.6
	Male	4.2	4.7	17.1	24.2	49.8
School Locality	Rural	1.8	2.5	11.0	20.8	63.9
	Urban	3.8	4.2	13.9	22.0	56.1
School Ownership	Non-Government	19.1	14.7	29.0	21.2	16.0
	Government	1.0	2.0	10.5	21.3	65.1

Table 35 shows that, male students performed better than female students in Biology. This is substantiated by higher percentages of female students (67.6%) in the Unsatisfactory category compared to 49.8 per cent of male students in the same category. Similarly, there are more male students in the Excellent, Very Good, and Good categories (4.2%, 4.7% and 17.1%, respectively) than female students, who account for 1.6 per cent, 2.2 per

cent and 9.1 per cent in these categories, implying better performance of male students than that of female students.

The data also confirm that, the urban group exhibited better performance by having a low percentage (56.1%) in the unsatisfactory performance category as compared to 63.9 per cent of students in the rural group in the same category. Similarly, there are more percentages of students in the urban group in the categories of Excellent (3.8%), Very Good (4.2%) and Good (13.9%) as compared to 1.8 per cent, 2.5 per cent and 11.0 per cent, respectively, in the same categories of students in the rural schools.

Similarly, students in the non-government schools performed better than those in the government schools because more students (65.1%) from the government schools group are in the unsatisfactory performance category than those from the non-government schools group (16.0%). Similarly, poor student performance in the government school group is indicated by low percentages in the qualitatively better performance categories. Whereas only 1.0 per cent of students in the government schools' group are in the Excellent category, 19.1 per cent of students in the non-government schools' group are in this category. It is also noted that 29.0 per cent of students in the non government schools' group are in the Good category, compared to 10.5 per cent of students in the government schools' group.

4.3.8.2 Students' Performance in Different Competencies and Skill Levels in Biology

Students' performance in each competency in the Biology assessment is shown in Table 36.

Table 36: Students' Performance in Each Competency in Biology

SN	Competency	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Demonstrate appropriate use of biological knowledge, concepts, principles and skills in	16.2	5.6	16.5	19.5	42.2

SN	Competency	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
	everyday life.					
2.	Demonstrate appropriate preventive measures and precautions against common accidents, infections and other related health problems.	4.9	3.9	13.7	22.7	54.8
3.	Use of scientific procedures and practical skills in studying biology.	12.9	10.4	31.8	26.4	18.5
4.	Group organisms according to their similarities and differences.	4.8	2.2	11.0	19.9	62.1
5.	Use of basic biological concepts, principles and skills to evaluate the roles of various physiological processes in plants and animals.	1.8	1.9	8.5	19.5	68.3
6.	Appreciate nature and ensure sustained interaction of organisms in the natural environment.	16.0	6.4	18.9	21.1	37.6
7.	Use of biological practical skills in studying various physiological processes in plants and animals.	1.3	1.1	5.4	8.5	83.7

Table 36 shows that several competencies showed weak performance. The highest level of unsatisfactory results was recorded in the *Use of biological practical skills in studying physiological processes* (83.8%). This was followed by *Evaluating physiological processes in plants and animals* (68.3%) and *Grouping organisms according to similarities and differences* (62.1%), suggesting difficulties in understanding and applying core biological concepts. *Preventive measures against accidents and health problems* also showed low performance, with more than half of the students scoring unsatisfactorily (54.8%).

Overall, the findings reveal that while students demonstrate some competence in basic biological understanding and environmental awareness, they face considerable challenges in practical application, classification, and higher-order biological processes, highlighting the need for strengthened practical-oriented teaching approaches.

4.3.9 Students' General Performance in Basic Mathematics

The students' general performance in Basic Mathematics is presented in Figure 13.

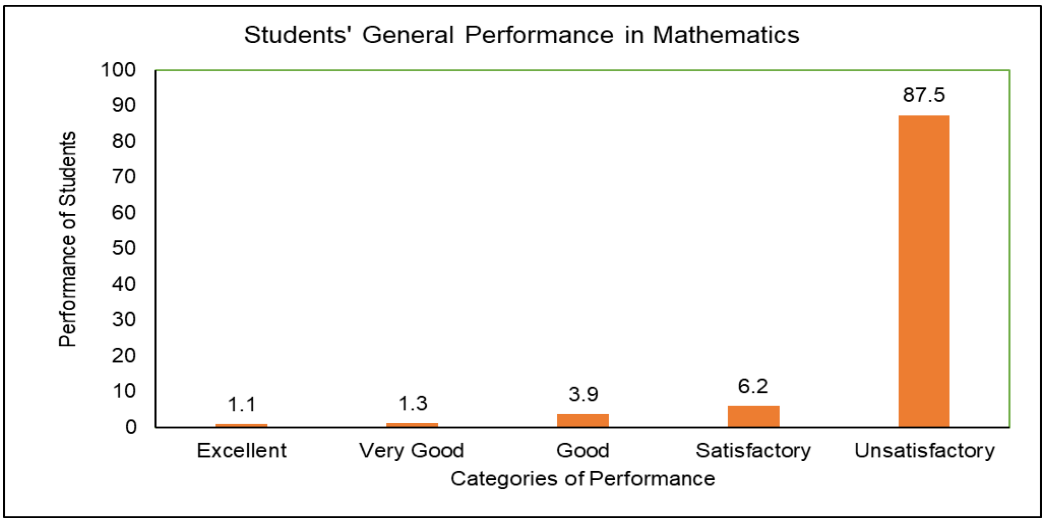

Figure 13: *Students' general performance in Basic Mathematics*

Figure 13 indicates students' general performance in Basic Mathematics. The data depict low performance in the subject, with 87.5 per cent of students falling within the Unsatisfactory performance category. Data further show a right-skewed distribution, indicating that the students' performance is unsatisfactory. Low performance in Basic Mathematics is also substantiated by low percentages of students in the qualitatively better performance categories. Notably, only 1.1 per cent are in the Excellent category of performance, 1.3 per cent in the Very Good category, 3.9 per cent in the Good performance category and 6.2 per cent in the Satisfactory performance category.

4.3.9.1 Students' Performance in Basic Mathematics by Gender, School Locality, and School Ownership

Data were further analysed by gender, school locality, and school ownership to determine differences in performance between the two groups. The results of the analysis are presented in Table 37.

Table 37: Students' Performance in Basic Mathematics by Gender, School Locality, and School Ownership

Category	Group	Excellent (%)	Very Good (%)	Good (%)	Satisfactory (%)	Unsatisfactory (%)
Gender	Female	0.6	0.7	2.5	4.3	91.9
	Male	1.9	2.3	6.3	9.4	80.1
School Locality	Rural	0.6	1.0	3.2	5.7	89.5
	Urban	2.0	1.8	5.2	7.0	84.0
School Ownership	Non-Government	8.7	6.7	16.1	15.1	53.4
	Government	0.4	0.8	2.8	5.3	90.7

Table 37 illustrates weak overall performance, with a remarkable difference by gender. Overall, male students performed better in Basic Mathematics, with a relatively low percentage in the Unsatisfactory performance category (80.1%) compared to 91.9% among female students.

Similarly, the data in Table 37 confirm slight differences in performance by school location. Generally, the urban group exhibited better performance, with a comparatively low percentage (84.0%) in the Unsatisfactory performance category, compared to 89.6% of students in the rural group. This implies that students in the urban group performed better in Basic Mathematics than students in rural schools.

Differences in performance by school ownership are evident in Table 37. Generally, students in non-government schools showed relatively better performance than those in government schools. Evidently, a higher proportion of students in the Unsatisfactory performance category are from the government schools (90.7%), compared to those from the non government schools (53.4%).

4.3.9.2 Students' Performance in Different Competencies and Skill Levels in Basic Mathematics

An analysis of students' performance for each competency focused on the quality of their performance. Percentages of students' performance were analysed and categorised to determine how they performed in each competency. The results of the analysis are presented in Table 38.

Table 38: Students' Performance in Basic Mathematics Competencies

SN	Competency	Categories of Performance				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Distinguish different types of numbers and solve problems.	4.1	2.1	5.4	17.5	71.0
2.	Convert units.	9.3	3.4	11.1	9.8	66.4
3.	Estimate and compute numbers accurately.	4.1	2.2	5.7	6.2	81.8
4.	Do scale drawing and geometrical transformations.	1.4	0.5	4.1	6.1	88.0
5.	Solve problems on perimeters and areas.	3.1	0.8	3.2	4.1	88.8
6.	Factorise and solve problems.	0.6	1.1	3.3	9.6	85.3
7.	Solve problems on ratios, profit and loss, and simple interest.	2.2	0.6	7.2	14.0	76.0
8.	Draw graphs and interpret linear equations.	1.9	0.8	3.5	3.8	90.0
9.	Find relationships among logarithms, exponents and radicals.	0.9	0.5	3.5	7.9	87.3
10.	Verify laws and prove theorems.	0.9	0.2	3.7	3.3	92.0

Table 38 shows that, of the 10 competencies included in the assessment, *Converting units* was the only competency that recorded the highest performance, with 33.6 per cent of students in the Excellent, Very Good, Good, and Satisfactory categories. The remaining competencies recorded unsatisfactory performance, ranging from 71.0 to 92.0 per cent.

Analysis of students' responses showed widespread weaknesses in the assessed concepts. Many failed to identify prime numbers correctly, confusing them with even or odd numbers, and were unable to determine the Lowest Common Multiple (LCM), often confusing it with the Greatest Common Factor (GCF). Students also struggled with fraction operations, including converting improper fractions, simplifying, adding or subtracting unlike fractions, and converting fractions to decimals. Other difficulties included rounding, applying percentage increase and decrease formulae,

converting metric units, interpreting algebraic relationships, and understanding geometrical figures and triangle properties.

Further challenges included applying translation formulas and vectors, using perimeter and area formulae, distinguishing between radius and diameter, and performing algebraic manipulations. Students made errors in inequalities, quadratic equations, Pythagoras' theorem, ratio and proportion, simple interest, indices, logarithms, straight-line equations, and simultaneous equations. Weak estimation skills, poor interpretation of geometric concepts, and omission of correct symbols, steps, and units also negatively affected performance.

4.4 Teachers' Qualifications, Experience and Grades in Teaching Subjects

The second objective of this study was to establish teachers' qualifications, teaching experience and grades attained in their teaching subjects. For this reason, this section establishes whether teachers' backgrounds affected the students' performance.

4.4.1 Teachers' Qualifications

It is believed that the quality of teachers determines the educational standards and achievements of students. Better-educated teachers, with specialised training, are expected to be more effective in class, leading to a better learning environment and higher cognitive outcomes. Furthermore, teachers with graduate degrees in their content areas are expected to have a greater ability to facilitate in-depth knowledge and stimulate critical thinking. These highly-qualified teachers can inspire and excite students, leading to improved attainment and progression.

(a) Overall Teachers' Qualifications

Table 39 presents a general overview of secondary school teachers based on data from the sampled schools.

Table 39: General Teachers' Qualifications

Qualification	Number	Per cent
Bachelor's	2,004	61.0
Diploma	1,217	37.0
Master's	51	1.6
Other	13	.4
Total	**3,285**	**100.0**

The distribution of teachers by educational qualification indicates that the majority, 2,004 (61.0%), had Bachelor's degrees. A second large proportion of teachers, 1,217 (37.0%) had Diplomas, and a small proportion of teachers had Master's degrees or other qualifications (1.6% and 0.4% respectively). Based on the data, most teachers were sufficiently qualified and had at least a Bachelor's degree; however, the representation of higher (graduate) qualifications is minimal.

(b) Teachers' Qualifications Based on Gender

This section presents statistics on teachers' qualifications by gender. However, before presenting teachers' qualifications by gender, it is worth examining the distribution of teachers by gender. This will help us gain a deeper understanding of the data on their qualifications by gender. Statistics based on gender are presented in Table 40.

Table 40: Teachers' Distribution by Gender

Gender	Number	Percent
Female	818.0	24.9
Male	2467.0	75.1
Total	**3285.0**	**100.0**

Table 40 reveals a significant gender disparity within the teaching profession. Of 3,285 teachers, the majority, 2,467 (75.1%) are males, while only 818 (24.9%) are females. Results show that the teaching profession in lower secondary schools in Tanzania is dominated by males, accounting for nearly three-quarters of all teaching staff. Teachers' qualifications based on gender, as presented in Table 41.

Table 41: Teachers' Qualifications by Gender

Qualification	Teachers' Gender (%)	
	Female	Male
Bachelor	64.8	59.7
Diploma	33.4	38.3
Masters	1.7	1.5
Other	0.1	0.5
Total	**100.0**	**100.0**

Table 41 indicates only slight variations in the overall patterns between male and female teachers. Teachers with Bachelor's degrees form the most significant proportion for both genders, 59.7 per cent for males and 64.8 per cent for females, respectively. The data also show that 33.4 per cent of female teachers held diplomas, compared to 38.3 per cent of male teachers. Both genders had a small number of teachers with Master's degrees – 1.7 per cent for females and 1.5 per cent for males. Teachers with other qualifications formed the smallest group for both genders – 0.1 per cent for females and 0.5 per cent for males. However, the evidence suggests that female teachers are marginally better qualified than their male counterparts, with a higher proportion holding bachelor's degrees and a lower proportion holding diploma-level qualifications.

This finding could be attributable to the influence of gender-friendly education policies and expanded opportunities for women's access to university education in Tanzania. However, the percentage with Master's degrees is low among both male and female teachers, suggesting that few pursue postgraduate studies. This underscores the importance of Continuing Professional Development (CPD) and incentives to encourage more male and female teachers to upgrade their qualifications to doctoral levels.

(c) Teachers' Qualifications as per School Locality

This section presents teachers' qualifications in the localities. Table 42 presents the data on teachers who participated in the study by school locality.

Table 42: Teachers' Qualifications as per Locality

Qualifications	School Locality (%)	
	Rural	Urban
Bachelor	57.6	67.2
Diploma	40.7	30.5
Masters	1.4	1.9
Other	0.3	0.4
Total	**100.0**	**100.0**

Table 42 shows that urban schools have a higher percentage of teachers with Bachelor's degrees (67.2%) than rural schools (57.6%). This suggests that urban schools may attract or retain more highly qualified teachers. On the other hand, rural schools have a higher proportion of teachers with Diplomas (40.7%) than urban schools (30.5%). In both places, a small proportion of teachers hold Master's degrees or higher, with only marginal variation across places. Overall, the data indicate that teachers in urban schools have higher academic qualifications than those in rural schools.

(d) Teachers' Qualifications by School Ownership

This section presents statistics on teachers' qualifications by the ownership of the schools in which they teach. Table 43 presents the percentages of teachers' qualifications by school ownership.

Table 43: Teachers' Qualifications by School Ownership

Qualification	School Ownership (%)	
	Government	Non-Government
Bachelor's	56.5	79.9
Diploma	41.5	18.2
Master's	1.6	1.4
Other	0.4	0.5
Total	**100.0**	**100.0**

Table 43 indicates noticeable differences between government and non-government schools. Teachers with Bachelor's degrees form the largest group, accounting for 56.5 per cent of government schools and significantly higher (79.9%) in non-government schools. Those with Diploma qualifications constitute 41.5 per cent of teachers in government schools,

while accounting for only 18.2 per cent of teachers in non-government schools.

The proportion of teachers with a Master's degree is low in both government schools (1.6%) and non-government schools (1.4%). Only 0.4 per cent and 0.5 per cent of teachers in government and non-government schools, respectively, had other qualifications. The results imply that non-government schools have more highly qualified teachers, as indicated by their higher proportion of teachers with a Bachelor's degree. This may be due to strict employment requirements and a greater emphasis on academic qualifications in non-government schools, given that many graduate teachers remain unemployed. Consequently, these schools have a vast pool of qualified teachers to recruit from. On the other hand, the low rate of Master's degree holders in both types of schools demonstrates the scarcity of advanced degrees among teachers, which may imply low prospects/motivation to pursue further studies beyond undergraduate education.

4.4.2 Teachers' Teaching Experience

Teachers' experience is essential for shaping students' learning outcomes. It is believed that experienced teachers have sufficient subject knowledge, developed pedagogical skills, and a rich understanding of students' needs and interests that enrich instruction quality and student involvement. Experienced teachers can better manage classroom behaviour, adapt to different learning styles and create a more inclusive and effective learning environment. As a result, students taught by experienced teachers tend to achieve better learning outcomes due to the combination of expertise and instruction from the teachers. This section presents statistics on teachers' experience.

(a) Overall Teachers' Experience

This section presents statistics on teachers' experience. Table 44 shows data on the teaching experience of the teachers who participated in the study.

Table 44: Teachers' Experience

Experience in Years	Number	percentage
0 - 10	2,387	72.7
11 - 20	831	25.3
21 - 30	61	1.9
31 - 40	6	.2
Total	**3,285**	**100.0**

Table 44 shows the distribution of teachers based on their years of teaching experience. The findings reveal that 72.7 per cent (n = 2,387) of teachers are at an early stage in their careers, having taught for 0–10 years. Teachers with 11–20 years of experience account for 831 (25.3%). Only 61 (1.9%) teachers have 21–30 years of experience, and a small number, 6 (0.2%), have 31–40 years of experience.

Based on the data, it is clear that the teaching staff consists mainly of teachers who have worked for less than 10 years. This suggests that, despite the recent increase in the number of teachers, older teachers (the most experienced) are retiring or leaving the profession, open for younger teachers to take their place. The small ratio of teachers with more than 20 years of experience also suggests that schools are losing their pool of experienced teachers. Thus, they may be suffering from a shortage of mentors, institutional memory, and professional continuity. This may endanger the overall quality of education. However, having a good portion of relatively young staff may promote new ideas and flexibility.

(b) Teachers' Experience Based on Gender

This section presents statistics on teachers' experience according to gender. Table 45 presents teachers' years of teaching experience by gender.

Table 45: Teachers' Experience by Gender

Range of years of teaching Experience	Gender (%)	
	Female	Male
0 –10	69.1	73.9
11–20	29.2	24.0
21–30	1.6	1.9
31–40	1.0	2.0
Total	**100**	**100**

Table 45, indicate a broadly similar pattern of teaching experience among male and female teachers. In both groups, the majority of teachers fall within the early-career category of 0–10 years of teaching experience, accounting for 69.1 per cent of female teachers and 73.9 per cent of male teachers. This suggests that the teaching workforce is largely composed of relatively less experienced teachers, possibly reflecting recent recruitment efforts or attrition among more experienced staff. Teachers with 11–20 years of experience constitute the second largest group, with a higher proportion among female teachers (29.2%) compared to their male counterparts (24.0%). This difference suggests that female teachers are slightly more represented in the mid-career category, which may have positive implications for instructional stability and continuity.

Only a small proportion of teachers in both gender categories have more than 20 years of experience. Female teachers with 21–30 years of experience account for 1.6 per cent, compared to 1.9 per cent of male teachers, while those with 31–40 years of experience represent 1.0 per cent of females and 2.0 per cent of males. The low representation of highly experienced teachers across both genders points to a limited pool of senior educators who can provide mentorship, leadership, and professional guidance to early-career teachers.

(c) Teachers' Experience Based on School Locality

This section presents statistics on teachers' experience according to school locality; that is, whether a school is situated in a rural or urban area. Table 46 presents teachers' experiences by school locality.

Table 46: Teachers' Experience by School Locality

Range of years of teaching Experience	School Locality (%)	
	Rural	Urban
0 –10	72.8	72.4
11–20	25.6	24.8
21–30	1.4	2.6
31–40	0.2	0.2
Total	**100.0**	**100.0**

The data indicate a comparable trend between rural and urban schools, represented by 72.8 per cent of teachers in rural schools with working experience of 0–10 years, and 72.4 per cent of teachers in urban schools with similar experience. Additionally, rural schools have 25.6 per cent of teachers who have worked for 11–20 years. Only 1.4 per cent have worked for 21–30 years, while those with 31–40 years of experience are only 0.2 per cent representation. Similarly, in urban schools, 24.8 per cent have 11–20 years of experience, 2.6 per cent have 21–30 years of experience, and only 0.2 per cent have served on the job for 31–40 years. The data reveal that early-career teachers, those with fewer than ten years of experience, tend to dominate both rural and urban schools. This trend would imply staff with short experience in both areas, supposedly associated with recent hiring and/or high turnover of experienced teachers.

(d) Teachers' Experience by School Ownership

This section presents statistics of teachers' experience as per the ownership of the schools in which they teach. Table 47 presents percentages of teachers' experience based on the type of school ownership.

Table 47: Teachers' Experience by School Ownership

Experience in years	School Ownership (%)	
	Government	Non-Government
0 – 10	69.5	86.1
11 – 20	28.8	10.6
21 – 30	1.5	3.0
31 – 40	0.2	0.3
Total	**100.0**	**100.0**

Table 47 indicates the dominance of early-career teachers. More than half of teachers in government schools (69.5%) and non-government schools (86.1%) have teaching experience of 1 to 10 years. Teachers with moderate experience (11–20 years) were 28.8 per cent in government schools, compared with 10.6 per cent in non-government schools. This suggests less attrition among teachers or greater workforce stability in government schools.

Very few teachers have more than 20 years of experience in either school. Government schools have a 1.7 per cent (1.5% + 0.2%) share, and non-government schools have a 3.3 per cent (3.0% + 0.3%) share. This suggests that long-term teaching experience is uncommon, possibly due to retirement, career changes, or hiring younger staff.

Generally, both types of schools are served by an early-career teaching force, with government schools having marginally more experienced staff. Efforts to improve retention, particularly in the non-government sector, could lead to better teaching and institutional longevity.

4.4.3 Teachers' Attained Grades

A long history of educational research examines the relationship between attained grades and teachers' ability. Many research studies have provided evidence of a strong relationship between the academic performance of teachers during their initial pre-service training and how well they teach. Teachers who achieved higher grades in their teacher training programmes are assumed to be more competent and effective. These observations emphasise the importance of adequate teacher training and

suggest that these programmes may affect teachers' ability to increase student achievement.

However, teaching behaviour is a complex product of the interaction among several variables. Teacher effectiveness is only one aspect of academic success. Other factors, such as teaching skills, classroom control, and continuing professional development, are equally important in determining a teacher's effectiveness.

(a) Teachers' CSEE Attained Grades by School Locality

This section presents statistics on teachers' grades in the Certificate of Secondary Education Examination (CSEE) by the locality of their schools. Table 48 presents data on the grades the teachers attained in the CSEE examinations for the subjects they teach.

Table 48: Subject teachers' CSEE Grades by School Locality

		CSEE Grades (%)							Total
		A	B+	B	C	D	E	F	
Rural	Civics	4.26	5.96	29.36	53.19	6.38	0.43	0.43	100.00
	History	3.83	6.38	25.53	54.04	10.21	0.00	0.00	100.00
	Geography	1.70	5.11	19.57	58.72	14.47	0.00	0.43	100.00
	Kiswahili	8.09	5.11	25.96	54.04	6.81	0.00	0.00	100.00
	English Language	2.98	4.26	18.30	58.30	14.89	1.28	0.00	100.00
	Physics	4.68	10.21	17.87	56.17	11.06	0.00	0.00	100.00
	Chemistry	5.11	10.64	27.66	56.17	0.43	0.00	0.00	100.00
	Biology	2.98	11.91	30.64	51.91	2.55	0.00	0.00	100.00
	Basic Mathematics	5.11	12.77	18.72	54.47	8.94	0.00	0.00	100.00
Urban	Civics	4.62	9.23	23.08	52.31	10.77	0.00	0.00	100.00
	History	3.08	3.08	29.23	55.38	9.23	0.00	0.00	100.00
	Geography	5.38	7.69	19.23	53.08	14.62	0.00	0.00	100.00
	Kiswahili	7.69	8.46	24.62	56.15	3.08	0.00	0.00	100.00
	English Language	6.92	10.77	23.85	46.92	10.00	1.54	0.00	100.00
	Physics	2.31	4.62	25.38	48.46	19.23	0.00	0.00	100.00
	Chemistry	6.15	13.85	32.31	42.31	5.38	0.00	0.00	100.00
	Biology	8.46	18.46	20.00	47.69	5.38	0.00	0.00	100.00
	Basic Mathematics	5.38	9.23	23.85	56.15	5.38	0.00	0.00	100.00

Table 48 suggests that both rural and urban teachers recorded a wide distribution of grades across subjects in their CSEE examinations, with

most teachers in both settings clustered in Grades B and C. However, teachers in urban schools demonstrated slightly better performance, with an average of 39.7 per cent of good grades (A, B+, and B) compared to 36.1 per cent in rural schools. Overall, the data indicate that teachers in urban schools achieved better grades on the CSEE than those in rural schools.

Table 49 presents statistics on teachers' grades in the Advanced Certificate of Secondary Education Examination (ACSEE) by the locality of their schools:

Table 49: Subject Teachers' ACSEE Grades by School Locality

		ACSEE Grades (%)								Total
		A	B+	B	C	D	E	S	F	
Rural	Civics	4.3	3.4	14.9	29.8	22.1	12.8	12.3	0.4	100.00
	History	1.3	2.6	13.2	36.6	26.8	12.3	7.2	0.0	100.00
	Geography	2.1	2.1	11.9	31.5	27.2	20.4	4.7	0.0	100.00
	Kiswahili	3.4	3.0	17.9	37.0	22.6	14.5	1.7	0.0	100.00
	English Language	1.7	3.4	14.5	36.6	26.0	14.0	3.8	0.0	100.00
	Physics	1.3	3.4	7.2	23.0	30.2	26.8	6.4	1.7	100.00
	Chemistry	0.9	1.7	9.4	22.6	29.4	29.4	6.8	0.0	100.00
	Biology	0.0	3.4	9.4	25.5	31.5	28.5	1.7	0.0	100.00
	Basic Mathematics	0.4	1.7	10.2	23.8	30.2	27.2	6.4	0.0	100.00
Urban	Civics	3.1	4.6	13.8	26.2	22.3	12.3	16.9	0.8	100.00
	History	3.1	2.3	18.5	32.3	30.8	10.0	3.1	0.0	100.00
	Geography	1.5	3.8	11.5	33.8	27.7	18.5	3.1	0.0	100.00
	Kiswahili	5.4	6.9	14.6	41.5	18.5	10.0	3.1	0.0	100.00
	English Language	3.1	6.9	23.8	32.3	22.3	10.0	1.5	0.0	100.00
	Physics	3.1	2.3	7.7	17.7	33.1	25.4	10.8	0.0	100.00
	Chemistry	0.0	3.1	4.6	31.5	38.5	16.2	5.4	0.8	100.00
	Biology	0.8	2.3	9.2	23.8	29.2	27.7	6.2	0.8	100.00
	Basic Mathematics	0.8	1.5	9.2	25.4	29.2	30.8	3.1	0.0	100.00

Table 49 suggests that both rural and urban schools had a wide grade distribution across subjects in the ACSEE examinations, with most teachers clustering around grades C and D, reflecting moderate academic achievement. Overall, teachers in urban schools received slightly higher proportions of good grades (A, B+, and B) (18.6%) than those in rural

schools (16.5%). This indicates marginally better academic achievement at the ACSEE level among teachers in urban schools than those in rural schools. However, performance in both groups remains generally modest; most scored between B and D, while very few received As, lower grades (E and S), or failed F.

Table 50: **Teachers' DSEE Grades by School Locality**

		DSEE Grades (%)							
School status		**A**	**B+**	**B**	**C**	**D**	**E**	**S**	**Total**
Rural	Civics	3.7	10.3	29.9	41.1	14.0	0.9	0.0	100.0
	History	1.2	4.9	19.5	56.1	18.3	0.0	0.0	100.0
	Geography	6.1	6.1	21.4	39.8	25.5	1.0	0.0	100.0
	KIswahili	3.8	9.4	26.4	42.5	15.1	1.9	0.9	100.0
	English Language	4.4	3.3	18.7	59.3	14.3	0.0	0.0	100.0
	Physics	2.3	6.9	14.6	48.5	26.9	0.8	0.0	100.0
	Chemistry	10.1	5.4	14.7	56.6	11.6	1.6	0.0	100.0
	Biology	6.7	14.3	23.5	43.7	10.9	0.8	0.0	100.0
	Basic Mathematics	6.0	12.7	17.9	38.8	24.6	0.0	0.0	100.0
Urban	Civics	8.5	14.9	19.1	44.7	12.8	0.0	0.0	100.0
	History	21.4	0.0	28.6	46.4	3.6	0.0	0.0	100.0
	Geography	0.0	16.3	16.3	41.9	23.3	2.3	0.0	100.0
	KIswahili	7.5	10.0	22.5	50.0	10.0	0.0	0.0	100.0
	English Language	11.1	17.8	31.1	28.9	11.1	0.0	0.0	100.0
	Physics	4.7	10.9	7.8	45.3	29.7	1.6	0.0	100.0
	Chemistry	12.3	10.5	19.3	47.4	8.8	1.8	0.0	100.0
	Biology	9.2	18.5	18.5	41.5	12.3	0.0	0.0	100.0
	Basic Mathematics	3.6	12.5	21.4	46.4	16.1	0.0	0.0	100.0

The data suggest that both rural and urban schools exhibited a wide distribution of DSEE grades across subjects, with most teachers concentrated in the C and D grades, indicating generally moderate academic achievement. Overall, teachers in urban schools attained a slightly higher proportion of good grades (A, B+, and B) (about 41.6%) compared to those in rural schools (approximately 33.8%), pointing to marginally better academic performance among urban teachers at the DSEE level. Nevertheless, few teacher had lower grades (E and S) in both localities.

(b) Teachers' Grades Based on School Ownership

Table 51 presents statistics of teachers' grades in their CSEE according to the ownership of the schools where they taught:

Table 51: Subject Teachers' CSEE Grades by School Ownership

		CSEE Grades (%)							Total
		A	B+	B	C	D	E	F	
Government	Civics	3.1	6.1	28.5	54.6	7.1	0.3	0.3	100
	History	2.7	5.8	27.1	54.2	10.2	0.0	0.0	100
	Geography	1.7	6.5	19.4	56.8	15.3	0.0	0.3	100
	Kiswahili	8.5	5.1	24.4	56.3	5.8	0.0	0.0	100
	English Language	3.7	4.7	18.0	58.0	14.2	1.4	0.0	100
	Physics	3.1	7.5	20.3	55.6	13.6	0.0	0.0	100
	Chemistry	4.7	10.2	29.2	53.6	2.4	0.0	0.0	100
	Biology	4.7	11.9	25.8	53.6	4.1	0.0	0.0	100
	Basic Mathematics	4.1	11.5	20.3	56.3	7.8	0.0	0.0	100
Non-Government	Civics	10.0	11.4	21.4	45.7	11.4	0.0	0.0	100
	History	7.1	2.9	25.7	55.7	8.6	0.0	0.0	100
	Geography	8.5	4.2	19.7	56.3	11.3	0.0	0.0	100
	Kiswahili	5.7	11.4	30.0	48.6	4.3	0.0	0.0	100
	English Language	7.1	14.3	30.0	38.6	8.6	1.4	0.0	100
	Physics	7.1	11.4	21.4	44.3	15.7	0.0	0.0	100
	Chemistry	8.6	18.6	30.0	41.4	1.4	0.0	0.0	100
	Biology	5.7	24.3	31.4	37.1	1.4	0.0	0.0	100
	Basic Mathematics	10.0	11.4	21.4	50.0	7.1	0.0	0.0	100

Table 51 shows that teachers from non-government schools achieved a higher proportion of good grades (A, B+, and B) (45.6%) than those from government schools (35.4%). Thus, more teachers in non-government schools got good grades than those in government schools. Table 52 presents statistics on teachers' grades in their Advanced Certificate of Secondary Education Examination (ACSEE) by the ownership of the schools where they taught:

Table 52: Subject Teachers' ACSEE Grades by School Ownership

		ACSEE Grades (%)								Total
		A	B+	B	C	D	E	S	F	
Government	Civics	3.4	3.4	12.5	29.8	21.7	14.2	14.6	0.3	100
	History	1.0	2.4	14.9	34.2	28.5	12.5	6.4	0.0	100
	Geography	1.0	1.4	9.5	34.0	25.9	23.5	4.8	0.0	100
	Kiswahili	2.7	3.1	16.9	38.3	23.1	13.2	2.7	0.0	100
	English Language	1.4	3.4	16.9	34.6	25.4	14.6	3.7	0.0	100
	Physics	1.0	2.7	6.8	21.0	30.8	27.1	9.8	0.7	100
	Chemistry	0.0	1.0	7.5	25.1	30.5	28.1	7.5	0.3	100
	Biology	0.0	2.7	8.5	23.1	29.2	32.2	4.1	0.3	100
	Basic Mathematics	0.0	1.4	8.8	24.1	28.8	31.9	5.1	0.0	100
Non-Government	Civics	5.7	5.7	22.9	22.9	24.3	5.7	11.4	1.4	100
	History	5.7	2.9	15.7	38.6	27.1	7.1	2.9	0.0	100
	Geography	5.6	8.5	21.1	25.4	33.8	4.2	1.4	0.0	100
	Kiswahili	10.0	10.0	15.7	40.0	12.9	11.4	0.0	0.0	100
	English Language	5.7	10.0	21.4	37.1	21.4	4.3	0.0	0.0	100
	Physics	5.7	4.3	10.0	21.4	32.9	22.9	0.0	2.9	100
	Chemistry	2.9	7.1	8.6	28.6	41.4	10.0	1.4	0.0	100
	Biology	1.4	4.3	12.9	32.9	37.1	11.4	0.0	0.0	100
	Basic Mathematics	2.9	2.9	14.3	25.7	34.3	14.3	5.7	0.0	100

Table 52 shows that teachers from non-government schools achieved a significantly higher proportion of good grades (A, B+ and B) (27.8%) than those from government schools (14.9%) at the ACSEE level, the work assigned to students, and materials such as books, videos and presentations used in each subject. The curriculum covers competencies such as content, methods, activities, and resources. In any course or programme, the curriculum delineates what should be taught and what students should do; it draws on teacher-produced materials, textbooks, and national standards.

Table 53: Subject Teachers' DSEE Grades by School Ownership

		DSEE Grades (%)							
		A	B+	B	C	D	E	S	Total
Non government	Civics	5.88	17.65	23.53	35.29	17.65	0.00	0.00	100.00
	History	14.29	0.00	14.29	28.57	42.86	0.00	0.00	100.00
	Geography	20.00	10.00	30.00	10.00	30.00	0.00	0.00	100.00
	Kiswahili	0.00	11.11	33.33	55.56	0.00	0.00	0.00	100.00

		DSEE Grades (%)							
		A	B+	B	C	D	E	S	Total
	English Language	36.36	27.27	27.27	9.09	0.00	0.00	0.00	100.00
	Physics	4.00	12.00	4.00	40.00	40.00	0.00	0.00	100.00
	Chemistry	27.78	16.67	11.11	11.11	33.33	0.00	0.00	100.00
	Biology	14.29	28.57	14.29	35.71	7.14	0.00	0.00	100.00
	Basic Mathematics	14.81	11.11	18.52	33.33	22.22	0.00	0.00	100.00
Government	Civics	5.11	10.95	27.01	43.07	13.14	0.73	0.00	100.00
	History	5.83	3.88	22.33	55.34	12.62	0.00	0.00	100.00
	Geography	3.05	9.16	19.08	42.75	24.43	1.53	0.00	100.00
	KIswahili	5.11	9.49	24.82	43.80	14.60	1.46	0.73	100.00
	English Language	4.00	6.40	22.40	52.80	14.40	0.00	0.00	100.00
	Physics	2.96	7.69	13.61	48.52	26.04	1.18	0.00	100.00
	Chemistry	8.93	5.95	16.67	58.33	8.33	1.79	0.00	100.00
	Biology	7.06	14.71	22.35	43.53	11.76	0.59	0.00	100.00
	Basic Mathematics	3.68	12.88	19.02	42.33	22.09	0.00	0.00	100.00

The data indicate that both government and non-government schools exhibited a broad distribution of Diploma grades across subjects, with most teachers concentrated in the C and D grade ranges, reflecting moderate academic achievement. Overall, teachers in non-government schools attained a higher proportion of good grades (A, B+, and B) (approximately 49.8%) than those in government schools (about 34.9%), suggesting relatively stronger academic performance among teachers in non-government institutions. However, performance in both ownership categories remains generally modest, as the majority of teachers scored between B and D, while very few attained grade A, and lower grades (E and S) were minimal across most subjects.

4.4.4 Curriculum Coverage

The third specific objective of this study was to ascertain the curriculum coverage. This objective was examined through teachers' questionnaires, in which teachers identified the topics they covered from January 2024 to June 2025. The study involved nine core subjects: Civics, Kiswahili, English Language, Geography, History, Biology, Physics, Chemistry, and Basic Mathematics. In the questionnaire, topics were represented by

competencies. Competency coverage data were later correlated with students' performance by subject, while accounting for school ownership and locality factors.

(a) General Competency Coverage versus Students' Performance

The study sought to establish the relationship between curriculum coverage and performance in the nine core subjects tested. The results demonstrate that, in general, schools have a high level of curriculum coverage (regardless of location and ownership), with an overall average of 97.3 per cent. This suggests that teachers generally tend to deliver most of the planned content.

Despite a high level of curriculum coverage, average student performance was much lower, with a mean score of 38.9 per cent, resulting in an average gap of 58.4 per cent between curriculum coverage and students' performance. This discrepancy indicates a persistent gap between teaching and learning outcomes. The findings underscore the need to ensure not only curriculum coverage but also to enhance the effectiveness of teaching approaches, learning activities, and assessment methods to translate instructional time into meaningful student learning outcomes.

Looking at rural and urban schools, the findings suggest that both contexts have high curriculum coverage, with rural schools averaging 97.6 per cent. In comparison, urban schools rated slightly lower at 96.8 per cent. Despite this extensive curriculum coverage, students' performance remained considerably lower, with rural students achieving an average of 36.8 per cent compared to 43.2 per cent in urban schools. This reveals a persistent gap between curriculum delivery and academic performance, though urban students perform marginally better than their rural counterparts.

The analysis of government versus non-government schools, the findings indicate that both school types had high curriculum coverage, with 97.2 per cent on average in government schools and 97.9 per cent in non-government schools. However, student performance varied significantly: government schools' average was 36.2 per cent, compared to non-government schools' much higher average of 72.1 per cent. This significant difference suggests that, while the curricular coverage between government and non-government schools is almost identical, non-government schools are much more effective at translating curriculum

delivery into students' learning outcomes. Perhaps factors such as teaching quality, learning resources, classroom engagement, and support mechanisms may have contributed to the higher performance observed in non-government schools, suggesting the need for strategies to enhance teaching and learning in government schools.

(b) Competency Coverage versus Students' Performance in Each Subject

This section presents statistics on competency coverage versus students' performance in each of the nine core subjects.

(i) Competency Coverage versus Students' Performance in Civics

In this section, teachers' coverage of Civics competencies is compared with students' performance, as summarised in Table 54.

Table 54: Competency Coverage versus Students' Performance in Civics

SN	Competency	Coverage (%)	Students' Performance (%)
1.	Understanding of Tanzania as a nation.	98.7	33.0
2.	Demonstrate knowledge and ability to apply life skills in life.	99.6	15.6
3.	Demonstrate knowledge of and respect for human rights and individual dignity.	99.6	9.7
4.	Demonstrate an understanding of his/he civic responsibilities and fulfils them.	99.6	20.3
5.	Demonstrate willingness to work hard and diligently for self and National development.	99.1	45.4
6.	Analyse matters relating to family issues and make the right decisions.	99.1	31.9
7.	Analyse information and makes right decisions.	98.3	9.6
8.	Use roads correctly and safety.	98.3	25.1
9.	Demonstrate an understanding of the concept, structure and functioning of government and participate in its running.	98.7	13.8

Table 54 shows that curriculum coverage in Civics was very high (98.3%-99.6%), indicating that almost all competencies had been taught. However, students' performance was relatively weak (9.6% to 45.4%), highlighting the gap between curriculum coverage and learning outcomes. The highest performance (45.4%) was observed in the competency *Demonstrate*

willingness to work hard and diligently for self and national development. In comparison, the least among them was recorded in *Analyse information and make the right decisions* (9.6%).

(ii) Competency Coverage versus Students' Performance in History

In this section, teachers' coverage of History competencies is compared with students' performance, as summarised in Table 55.

Table 55: Competency Coverage versus Students' Performance in History

S/N	Competency	Coverage (%)	Students' Performance (%)
1.	Demonstrate knowledge of the concepts of History and appreciate the importance of the sources of History in everyday life.	99.6	25.43
2.	Examine the theories of the origin and evolution of humans and draw conclusion.	99.6	67.15
3.	Relate man's development to the environment and technology.	99.6	52.63
4.	Relate people's economic activities to the development of their social and political organisation.	98.8	64.19
5.	Demonstrate knowledge of the motives for interactions among the people of Africa.	99.6	66.84
6.	Demonstrate knowledge and show appreciation of the levels of social, economic development in pre-colonial Africa.	99.2	50.80
7.	Examine and explain the motives for the coming of the foreigners to Africa up to the mid-19th century.	99.2	34.00

Table 55 shows that curriculum coverage in History was consistently high (98.8%–99.6%), suggesting that almost all intended learning outcomes were taught as planned. Nevertheless, students' performance varied across competencies (ranging from 25.43% to 67.15%), which may reflect disparities in understanding among learners.

The highest performance was observed in the competency *Examine the theories of origins and evolution of human beings and make conclusions* (67.15%), followed very closely by *Demonstrate an understanding on motives for interactions among people in Africa's past* (66.84%), and *Relate economic activities to development of social and political organization* (64.19%). On the other hand, the competency *Demonstrate*

knowledge of the concepts of History and Appreciate the importance of sources of History in everyday life recorded the lowest performance (25.43%).

(iii) Competency Coverage versus Students' Performance in Geography

This section compares teachers' coverage of Geography competencies with students' performance, as shown in Table 56.

Table 56: Competency Coverage versus Students' Performance in Geography

SN	Competency	Coverage (%)	Students' Performance (%)
1.	Understand the concept of geography and aspects related to the solar system.	98.5	58.2
2.	Assesses knowledge of the parts and physical components of the Earth.	98.1	17.5
3.	Observe, record, analyse and interpret the elements of weather and use the skills of weather elements to solve problems associated with weather.	97.7	50.6
4.	Relate climate to the environment and daily social and economic activities.	97.3	58.1
5.	Read, measure and interpret the information on simple maps.	96.9	27.3
6.	Knowledge of human activities, types, characteristics, importance, problems and ability to apply farming skills to meet certain human needs.	97.3	46.9
7.	Understand importance of water resources and ability to use and conserve the resource to improve the standard of life.	95.4	34.9
8.	Understand importance of forest resources and ability to use and conserve the resource to improve the standard of life.	90.4	50.1
9.	Understand the importance of natural resources and ability to use and conserve that resource to improve the standard of life.	84.7	37.6
10.	Understand the importance of mining and the ability to use and conserve the resource to improve the standard of life.	84.7	43.1

Table 56 shows that curriculum coverage in Geography was reasonably high, with most competencies covered between 84.7 per cent and 98.5 per cent, suggesting robust implementation of the syllabus. However, students'

performance differed significantly, ranging from 17.5 to 58.2 per cent, indicating a gap between content coverage and learning outcomes.

The highest performance (58.2%) was recorded in the competencies *Understanding the concept of geography and aspects related to the solar system* and *Relate climate to the environment* and *daily social and economic activities* (58.1%). In contrast, the lowest performance (17.5%) was observed in a competency *Assessing knowledge of parts and physical components of the Earth*.

(iv) Competency Coverage versus Students' Performance in Kiswahili

In this section, teachers' coverage of Kiswahili competencies is compared with students' performance, as summarised in Table 57.

Table 57: Competency Coverage versus Students' Performance in Kiswahili

Na	Umahiri	Ukamilishwaji (%)	Ufaulu wa Wanafunzi (%)
1.	Kutumia Kiswahili sanifu katika mawasiliano.	99	85.84
2.	Kutumia Kiswahili sanifu kuwasiliana katika mazungumzo na maandishi.	99.2	67.48
3.	Kutumia Kiswahili sanifu kuwasiliana katika miktadha mbalimbali.	99.3	63.44
4.	Kusoma na kuelewa maandiko/mazungumzo mbalimbali kwa ufasaha.	99.7	92.14
5.	Kuandika habari fupi kwa kuzingatia taratibu za uandishi.	98.7	88.43
6.	Kubainisha na kuhakiki kazi za fasihi.	98.3	82.84
7.	Kubainisha, kuhakiki na kutunga kazi za fasihi simulizi.	97.9	74.83
8.	Kuhakiki na kutathmini njia za kuhifadhi kazi za fasihi simulizi.	96.6	79.26

Table 57 shows that curriculum coverage in Kiswahili was reasonably high, with most competencies covered between 96.6 per cent and 99.7 per cent. This indicates that nearly all competencies were taught. The students' performance was relatively good, ranging from 63.44 per cent to 92.14 per cent. The highest performance (92.14%) was recorded in the competency

Kusoma na kuelewa maandiko/mazungumzo mbalimbali kwa ufasaha. Good performance was also observed in *Kuandika habari fupi kwa kuzingatia taratibu za uandishi*. (88.43%), *Kutumia Kiswahili sanifu katika mawasiliano* (85.84%), *Kubainisha na kuhakiki kazi za fasihi* (82.84%), and *Kuhakiki na kutathmini njia za kuhifadhi kazi za fasihi simulizi* (79.26%).

(v) Competency Coverage versus Students' Performance in English Language

In this section, teachers' coverage of English Language competencies is compared with students' performance. Table 58 is illustrative.

Table 58: Competency Coverage versus Students' Performance in English Language

SN	Competency	Coverage (%)	Students' Performance (%)
1.	Use simple English to communicate in social interactions and settings.	99.8	72.93
2.	Describe past activities and personal experiences.	97.0	25.47
3.	Engage in simple conversations and transactions on familiar topics.	98.3	44.67
4.	Express in English in writing, needs, feelings and ideas using appropriate vocabulary.	98.7	37.41
5.	Give and respond to directions/locations using simple English sentences.	98.6	64.63
6.	Identify general and specific information on events in simple written texts she/he encounters.	95.6	28.41
7.	Use English to obtain, process, construct and provide subject matter information in written forms.	97.0	56.10
8.	Use appropriate English pronunciation in a variety of settings.	97.5	36.99
9.	Interact in writing for personal expression and enjoyment.	94.4	46.20
10.	Answer questions on simple readers and report on what they read.	96.2	39.37

Table 58 shows that curriculum coverage in English Language was reasonably high, with most competencies covered between 94.4 per cent and 99.8 per cent, which suggests that most competencies were taught. However, students' performance varied significantly, from 25.47 to 72.93 per cent, indicating substantial differences in mastery across

competencies. The best performance was found in the competency *Use simple English to communicate in social interactions and settings* (72.93%), followed by *Give and respond to directions/locations using simple English sentences* (64.63%). In contrast, the lowest performance (25.47% and 28.41%) was recorded in the competencies *Describe past activities and personal experiences* and *Identify general and specific information on events in simple written texts she/he encounters*, respectively.

(vi) Competency Coverage versus Students' Performance in Chemistry

In this section, teachers' coverage of Chemistry competencies is compared with students' performance, as shown in Table 59.

Table 59: Competency Coverage versus Students' Performance in Chemistry

SN	Competency	Coverage (%)	Students' Performance (%)
1.	Use Chemistry skills and knowledge in daily life.	97.8	28.16
2.	Work safely in the chemistry laboratory and use various chemistry apparatuses properly to perform different activities and experiments.	97.6	55.21
3.	Apply the scientific procedure to carry out investigations in chemistry.	97.8	28.31
4.	Apply different methods to separate mixtures into pure components.	97.5	23.13
5.	Deal with nature and properties of matter.	97.3	34.51
6.	Explain the preparation and properties of simple gases.	98.6	33.68
7.	Treat and purify water with environmental consideration.	98.4	35.40
8.	Use fuels efficiently and sustainably with environmental consideration.	92.1	14.59
9.	Explain the structure of an atom and the periodic trend.	89.0	32.37

Table 59 shows that curriculum coverage in Chemistry was high (89.0%-98.6%), indicating that nearly all competencies were taught. However, students' performance was relatively low to moderate, ranging from 14.59 per cent to 55.21 per cent. This performance suggests that high content

coverage does not necessarily translate into substantial learner achievement.

The highest performance (55.2%) was recorded in the competency *Working safely in the chemistry laboratory and using various apparatuses properly*. In contrast, the lowest performance (14.6%) was recorded in the competency *Use fuels efficiently and sustainably with environmental consideration*.

(vii) Competency Coverage versus Students' Performance in Physics

In this section, teachers' coverage of Chemistry competencies is compared with students' performance, as Table 60 illustrates.

Table 60: Competency Coverage versus Students' Performance in Physics

SN	Competency	Coverage (%)	Students' Performance (%)
1.	Practice safety rules in daily life.	98.9	18.78
2.	Make appropriate measurement of physical quantities.	99.3	32.45
3.	Apply laws, theories and principles of Physics in daily life.	98.9	25.87
4.	Use scientific skills to identify the nature and properties of matter.	98.6	12.10
5.	Apply the laws of reflection of light in daily life.	98.2	17.54
6.	Apply electricity and magnetism knowledge in daily life.	99.4	26.21
7.	Apply the concept of turning forces in daily life.	97.2	14.63
8.	Use simple machines to simply work.	97.9	32.25

Table 60 shows that curriculum coverage in Physics was generally high, exceeding 97 per cent. This performance indicates strong coverage of the subject's competencies. However, students' overall performance is not good, ranging from 12.10 per cent to 32.45 per cent. This shows a significant discrepancy between competency coverage and students' performance. The competencies in which the highest performance was recorded are *Make appropriate measurement of physical quantities and using simple machines* (32.45%) and *Use simple machines to simplify work*

(32.25%). The lowest performance was recorded in the competency *Use scientific skills to identify nature and properties of matter* (12.10%). Based on the data, it is clear that competency coverage did not guarantee students' performance.

(viii) Competency Coverage versus Students' Performance in Biology

In this section, teachers' coverage of Biology competencies is compared with students' performance, as shown in Table 61.

Table 61: Competency Coverage versus Students' Performance in Biology

SN	Competency	Coverage (%)	Students' Performance (%)
1.	Demonstrate appropriate use of biological knowledge, concepts, principles and skills in everyday life.	99.7	57.75
2.	Demonstrate appropriate preventive measures and precautions against common accidents, infections and other related health problems.	99.3	45.14
3.	Use of scientific procedures and practical skills in studying Biology.	98.7	81.49
4.	Group organisms according to their similarities and differences.	99.0	37.93
5.	Use of basic biological concepts, principles and skills to evaluate the roles of various physiological processes in plants and animals.	97.4	31.79
6.	Appreciate nature and ensure sustained interaction of organisms in the natural environment.	91.5	62.42
7.	Use of biological practical skills in studying various physiological processes in plants and animals.	82.0	16.19

Table 61 shows high overall competency coverage for the Biology subject, ranging from 82.0 to 99.7 per cent. This performance suggests that most competencies were taught. Nevertheless, students' results varied from 16.19 to 81.49 per cent, highlighting differential mastery across the competencies. The highest performance (81.49%) was recorded in the *Use of scientific procedures and practical skills in studying Biology*. However, low performance was recorded in the *Use of biological practical skills in studying various physiological processes in plants and animals* (16.19%) and *Use of basic biological concepts, principles and skills to evaluate the roles of various physiological processes in plants and animals* (31.79%).

(ix) Competency Coverage versus Students' Performance in Basic Mathematics

In this section, teachers' coverage of Basic Mathematics competencies is compared with students' performance, as illustrated in Table 62.

Table 62: Competency Coverage versus Students' Performance in Basic Mathematics

SN	Competency	Coverage (%)	Students' Performance (%)
1.	Distinguish different types of numbers and solve problems.	99.1	29.11
2.	Convert units.	98.8	33.63
3.	Estimate and compute numbers accurately.	99.1	18.17
4.	Do scale drawing and geometrical transformations.	95.1	12.01
5.	Solve problems on perimeters and areas.	97.9	11.21
6.	Factorise and solve problems.	98.8	14.72
7.	Solve problems on ratios, profit and loss, and simple interest.	98.8	23.97
8.	Draw graphs and interpret linear equations.	97.9	10.00
9.	Find relationships among logarithms, exponents and radicals.	97.1	12.69
10.	Verify laws and prove theorems.	88.3	8.00

Table 62 shows high overall competency coverage in Basic Mathematics (88.3%–99.1%), indicating that most competencies were taught. However, students' performance was relatively low (8.00%–33.63%), suggesting a mismatch between competency coverage and students' performance. The highest performance (33.63%) was observed in *Convert units* and *Distinguish different types of numbers and solve problems* (29.11%). In contrast, poor performance (8.00% and 10.00%) was observed in *Verify laws and prove theorems* and *Draw graphs and interpret linear equations*, respectively.

(c) Competency Coverage versus Students' Performance in Rural and Urban Settings

This section presents comparative statistics on competency coverage versus students' performance for each of the nine core subjects in rural and urban settings.

(i) Competency Coverage versus Students' Performance in Civics in Rural and Urban Schools

This section provides comparative statistics on competency coverage and students' performance in the Civics subject across rural and urban schools. The comparison is shown in Table 63.

Table 63: Competency Coverage versus Students' Performance in Civics in Rural and Urban Schools

SN	Competency	Coverage Rural (%)	Students' Performance (%)	Coverage Urban (%)	Students' Performance (%)
1.	Understanding of Tanzania as a nation.	98.7	29.9	98.8	37.9
2.	Demonstrate knowledge and ability to apply life skills in life.	100.0	13.4	98.8	19.2
3.	Demonstrate knowledge of and respect for human rights and individual dignity.	100.0	8.1	98.8	12.3
4.	Demonstrate an understanding of his/her civic responsibilities and fulfils them.	100.0	17.4	98.8	25.0
5.	Demonstrate willingness to work hard and diligently for self and National development.	99.3	41.7	98.8	51.5
6.	Analyse matters relating to family issues and makes right decisions.	100.0	29.2	97.6	36.3
7.	Analyse information and makes right decisions.	99.3	7.7	96.4	12.7
8.	Use roads correctly and safety.	99.3	22.2	96.4	29.8
9.	Demonstrate an understanding of the concept, structure and functioning of government and participate in its running.	99.3	13.0	97.6	15.2

Table 63 shows that, generally, rural and urban schools achieved high curriculum coverage rates (above 96%), and students' performance was lower across contexts. The average performance of urban students was approximately 26.7 per cent, compared to 20.3 per cent for rural students. The most significant gaps were observed in competencies such as *Understanding Tanzania as a nation* (urban 37.9%, rural 29.9%) and *Demonstrating willingness to work hard and diligently for self and national development* (urban 51.5%, rural 41.7%). This indicates that urban students performed marginally better in Civics than rural students, despite having slightly lower curriculum coverage in some competencies.

(ii) Competency Coverage versus Students' Performance in History in Rural and Urban Schools

Table 64 provides comparative statistics on competency coverage and students' performance in History across rural and urban schools.

Table 64: Competency Coverage versus Students' Performance in History in Rural and Urban Schools

SN	Competency	Coverage Rural%)	Students' Performance (%)	Coverage Urban (%)	Students' Performance (%)
1.	Demonstrate knowledge of the concepts of History and appreciate the importance of the sources of History in everyday life.	100.0	21.7	98.9	31.5
2.	Examine the theories of the origin and evolution of humans and draw conclusion.	100.0	64.6	98.9	71.2
3.	Relate man's development to the environment and technology.	100.0	50.3	98.9	56.4
4.	Relate people's economic activities to the development of their social and political organisation.	98.8	61.2	98.9	69.0
5.	Demonstrate knowledge of the motives for interactions among the people of Africa.	99.4	65.2	100	69.5
6.	Demonstrate knowledge and show appreciation of the levels of social, economic development in pre-colonial Africa.	98.8	48.6	100	54.3
7.	Examine and explain the motives for the coming of the foreigners to Africa up to the mid-19th century.	98.8	31.2	100	38.5

Table 64 shows that urban and rural students have relatively equal syllabus coverage (an average of 99%). However, urban students performed better than students from rural schools in all competencies, with the most significant differences in *Demonstrate knowledge of the concepts of History and appreciate the importance of the sources of History in everyday life* (31.5% in urban compared to 21.7% in rural) and *Examine and explain the motives for the coming of the foreigners to Africa up to the mid-19th century* (38.5% urban versus 31.2% rural). The least variation was observed in the competency *Examine the theories of the origin and evolution of humans*

and conclude, as both urban (71.2%) and rural students (64.6%) performed relatively well.

(iii) Competency Coverage versus Students' Performance in Geography in Rural and Urban Schools

Table 65 provides comparative statistics on competency coverage and students' performance in Geography across rural and urban schools.

Table 65: Competency Coverage versus Students' Performance in Geography in Rural and Urban Schools

SN	Competency	Coverage Rural (%)	Students' Performance (%)	Coverage Urban (%)	Students' Performance (%)
1.	Understand the concept of geography and aspects related to the solar system.	98.9	54.5	97.3	64.3
2.	Assesses knowledge of the parts and physical components of the Earth.	98.4	15.6	97.3	20.5
3.	Observe, record, analyse and interpret the elements of weather and use the skills of weather elements to solve problems associated with weather.	97.9	47.8	97.3	55.1
4.	Relate climate to the environment and daily social and economic activities.	97.9	56.6	95.9	60.5
5.	Read, measure and interpret the information on simple maps.	96.8	23.5	97.3	33.4
6.	Knowledge of human activities, types, characteristics, importance, problems and ability to apply farming skills to meet certain human needs.	97.9	44.0	95.9	51.6
7.	Understand importance of water resources and ability to use and conserve the resource to improve the standard of life.	95.2	32.4	95.9	38.9
8.	Understand importance of forest resources and ability to use and conserve the resource to improve the standard of life.	90.9	48.6	89.2	52.4
9.	Understand the importance of natural resources and ability to use and conserve that resource to improve the standard	86.1	35.3	81.1	41.4

SN	Competency	Coverage Rural (%)	Students' Performance (%)	Coverage Urban (%)	Students' Performance (%)
	of life.				
10.	Understand the importance of mining and the ability to use and conserve the resource to improve the standard of life.	85.6	40.4	82.4	47.4

Table 65 shows that government and non-government schools had high and fairly comparable Geography syllabus coverage (averaging 93.9% in rural and 93.0% in urban schools). However, both groups of schools performed at an average level, with urban schools having a marginally higher mean performance (46.6%) than rural schools (39.9%). The findings also indicate that urban students scored higher than their rural counterparts in all competencies. The most significant urban-rural gaps were observed in *Read, measure and interpret the information on simple maps* (33.4% urban vs 23.5% rural) and *Assess knowledge of parts and physical components of the Earth* (20.5% urban vs. 15.6% rural). The least discrepancy was found in the aspect *Relate climate to the environment and daily social and economic activities* (60.5% urban vs 56.6% rural).

(iv) Competency Coverage versus Students' Performance in Kiswahili in Rural and Urban Schools

This section provides comparative statistics on competency coverage and students' performance in the Kiswahili subject across rural and urban schools. The comparison is presented in Table 66:

Table 66: Competency Coverage versus Students' Performance in Kiswahili in Rural and Urban Schools

Na.	Competency	Coverage Rural (%)	Students' Performance (%)	Coverage Urban (%)	Students' Performance (%)
1.	Kutumia Kiswahili sanifu katika mawasiliano.	99.5	84.2	97.8	88.5
2.	Kutumia Kiswahili sanifu kuwasiliana katika mazungumzo na maandishi.	99.8	65.2	97.8	71.1
3.	Kutumia Kiswahili sanifu kuwasiliana katika miktadha mbalimbali.	100.0	59.4	97.8	69.9
4.	Kusoma na kuelewa maandiko/mazungumzo mbalimbali kwa ufasaha.	100.0	91.0	97.8	94.0
5.	Kuandika habari fupi kwa kuzingatia taratibu za uandishi.	99.3	86.7	97.3	91.2
6.	Kubainisha na kuhakiki kazi za fasihi.	99.0	81.4	96.7	85.2
7.	Kubainisha, kuhakiki na kutunga kazi za fasihi simulizi.	100.0	72.5	93.5	78.5
8.	Kuhakiki na kutathmini njia za kuhifadhi kazi za fasihi simulizi.	98.8	76.9	91.9	83.1

Table 66 indicates that urban students achieved slightly better than rural students in Kiswahili, though the two (rural and urban schools) reported a high percentage of syllabus coverage. Rural schools had an average coverage of 99.6 per cent, and urban schools had an average of 96.6 per cent, indicating nearly complete coverage of the curriculum in both settings. However, the average students' performance was 77.2 per cent in rural areas and 82.7 per cent in urban areas, reflecting a performance gap of about 5.5 per cent in favour of urban students. Urban students outperformed rural students in all competencies, with the most significant differences observed in *Kutumia Kiswahili sanifu kuwasiliana katika miktadha mbalimbali* (69.9% urban vs. 59.4% rural) and *Kutumia Kiswahili sanifu kuwasiliana katika mazungumzo na maandishi* (71.1% urban vs. 65.2% rural). The smallest gap was observed in *Kusoma na kuelewa maandiko/mazungumzo mbalimbali kwa ufasaha* (94.0% urban vs. 91.0% rural), where both groups achieved excellent performance.

(v) Competency Coverage versus Students' Performance in the English Language in Rural and Urban Schools

This section provides comparative statistics on competency coverage and students' performance in the English Language subject across rural and urban schools. Comparison data between the two categories is presented in Table 67.

Table 67: Competency Coverage versus Students' Performance in the English Language in Rural and Urban Schools

SN	Competency	Coverage Rural (%)	Students' Performance (%)	Coverage Urban (%)	Students' Performance (%)
1.	Use simple English to communicate in social interactions and settings.	99.8	70.6	99.8	76.6
2.	Describe past activities and personal experiences.	96.7	22.4	96.7	30.4
3.	Engage in simple conversations and transactions on familiar topics.	98.4	40.3	98.2	51.8
4.	Express in English in writing, needs, feelings and ideas using appropriate vocabulary.	98.7	33.2	97.6	44.2
5.	Give and respond to directions/locations using simple English sentences.	98.1	60.7	100	70.9
z.	Identify general and specific information on events in simple written texts she/he encounters.	95.1	25.0	97.6	33.9
7.	Use English to obtain, process, construct and provide subject matter information in written forms.	96.7	52.9	97.6	61.3
8.	Use appropriate English pronunciation in a variety of settings.	97.6	33.7	97.2	42.3
9.	Interact in writing for personal expression and enjoyment.	94.5	44.0	94	49.8
10.	Answer questions on simple readers and report on what they read.	96.2	34.9	96.3	46.5

Table 67 shows that the mean curriculum coverage for rural and urban areas was 97.8 per cent and 97.9 per cent, respectively, indicating nearly equal levels of curriculum implementation. However, the students' average performance was lower at 41.8 per cent in rural areas and 50.8 per cent in urban areas, suggesting a performance gap of about 10 per cent in favour of urban students. The significant difference between urban and rural students was observed in *Engage in simple conversations and transactions on familiar topics* (51.8% urban vs 40.3% rural), *Express in English in*

writing, needs, feelings and ideas using appropriate vocabulary (44.2% urban vs 33.2% rural), and *Answer questions on simple readers and report on what he or she read* (46.5% urban vs 34.9% rural). The smallest difference was observed in *Use simple English to communicate in social interactions and settings* (76.6% urban vs. 70.6% rural).

(vi) Competency Coverage versus Students' Performance in Physics in Rural and Urban Schools

This section provides comparative statistics on competency coverage and students' performance in Physics across rural and urban schools. The presentation is shown in Table 68.

Table 68: Competency Coverage versus Students' Performance in Physics in Rural and Urban Schools

SN	Competency	Coverage Rural (%)	Students' Performance (%)	Coverage Urban (%)	Students' Performance (%)
1.	Practice safety rules in daily life.	98.9	16.6	99.1	22.3
2.	Make appropriate measurement of physical quantities.	99.4	30.1	99.1	36.3
3.	Apply laws, theories and principles of Physics in daily life.	98.9	23.3	98.9	29.9
4.	Use scientific skills to identify nature and properties of matter.	98.3	10.3	99.1	15.0
5.	Apply the laws of reflection of light in daily life.	97.7	15.3	99.1	21.1
6.	Apply electricity and magnetism knowledge in daily life.	99.8	24.1	100	29.6
7.	Apply the concept of turning forces in daily life.	96.0	12.0	99.1	18.9
8.	Use simple machines to simply work.	97.2	30.1	99.1	35.8

Table 68 shows that, generally, schools in both rural and urban settings have high curriculum coverage (rural: 96–99.8%, urban: 99–100%). However, students' performance in both settings is minimal, though urban students scored relatively higher than rural students (an average of 26.1% in urban vs 20.2% in rural). The most significant differences/gaps were observed in the *Apply the concept of turning forces in daily life* (18.9% urban versus 12.0% rural) and Apply laws, theories and principles of Physics in daily life (29.9% urban versus 23.3% rural). The least difference

was observed in the *competence Use scientific skills to identify nature and properties of matter* (15.0% in urban areas vs 10.3% in rural areas).

(vii) Competency Coverage Versus Students' Performance in Chemistry in Rural and Urban Schools

This section presents comparative statistics on competency coverage and students' performance in Chemistry across rural and urban schools. The statistics are shown in Table 69.

Table 69: Competency Coverage versus Students' Performance in Chemistry in Rural and Urban Schools

SN	Competency	Coverage Rural (%)	Students' Performance (%)	Coverage Urban (%)	Students' Performance (%)
1.	Use Chemistry skills and knowledge in daily life.	98.3	24.4	99.1	34.1
2.	Work safely in the chemistry laboratory and use various chemistry apparatuses properly to perform different activities and experiments.	97.8	52.2	99.1	60.1
3.	Apply the scientific procedure to carry out investigations in chemistry.	98.3	41.1	99.1	46.3
4.	Apply different methods to separate mixtures into pure components.	97.8	21.3	99.1	26.0
5.	Deal with nature and properties of matter.	97.8	32.1	99.1	38.3
6.	Explain the preparation and properties of simple gases.	99.4	31.9	99.1	36.6
7.	Treat and purify water with environmental consideration.	99.4	31.9	98.3	41.1
8.	Use fuels efficiently and sustainably with environmental consideration.	95.0	12.5	90.4	17.9
9.	Explain the structure of an atom and the periodic trend.	91.7	30.6	86.1	35.2

Table 69 indicates high curriculum coverage in both rural and urban schools (Rural: 91.7–99.4%, Urban: 86.1–99.1%) across competencies. Despite the extensive coverage, students perform poorly in both settings (rural and urban). Nonetheless, urban students seem to be performing slightly higher than their rural counterparts (mean score 37.3% in urban vs 30.9% in rural). The most significant differences were in *Use Chemistry skills and knowledge in daily life* (34.1% urban vs 24.4% rural) whereas the least difference was observed in *Explain the structure of an atom and the periodic trend* (35.2% urban vs 30.6% rural).

(viii) Competency Coverage versus Students' Performance in Biology in Rural and Urban Schools

The comparative statistics about competency coverage versus students' performance in the Biology subject across rural and urban schools is provided in Table 70.

Table 70: Competency Coverage versus Students' Performance in Biology in Rural and Urban Schools

SN	Competency	Coverage Rural (%)	Students' Performance(%)	Coverage Urban (%)	Students' Performance (%)
1.	Demonstrate appropriate use of biological knowledge, concepts, principles and skills in everyday life.	100.0	55.4	99	61.4
2.	Demonstrate appropriate preventive measures and precautions against common accidents, infections and other related health problems	99.8	42.0	98.6	50.2
3.	Use of scientific procedures and practical skills in studying Biology.	99.5	80.9	99	82.4
4.	Group organisms according to their similarities and differences.	99.0	36.7	99	39.9
5.	Use of basic biological concepts, principles and skills to evaluate the roles of various physiological processes in plants and animals.	98.0	29.8	99	35.1
6.	Appreciate nature and ensure sustained interaction of organisms in the natural environment.	92.6	61.1	89.3	64.5
7.	Use of biological practical skills in studying various physiological processes in plants and animals.	82.7	14.2	80.6	19.4

As Table 70 indicates, rural and urban schools have high curriculum coverage (rural: 82.7–100.0% vs urban: 80.6–99.0%). However, students' performance is moderate despite the high curriculum coverage, with urban students scoring relatively higher than rural students (an average of 50.4%

in urban vs 45.7% in rural), indicating a gap of about 4.7 per cent in favour of urban students. The most significant differences were found in the competencies *Demonstrate appropriate preventive measures and precautions against common accidents, infections and other related health problems* (50.2% urban vs 42.0% rural) and *Use of biological practical skills in studying various physiological processes in plants and animals* (19.4% urban vs 14.2% rural). The least difference was noted in the competence *Use of scientific procedures and practical skills in studying Biology* (82.4% urban vs. 80.9% rural).

(ix) Competency Coverage versus Students' Performance in Basic Mathematics in Rural and Urban Schools

The comparative statistics on competency coverage and students' performance in Basic Mathematics across rural and urban schools is provided in Table 71.

Table 71: Competency Coverage versus Students' Performance in Basic Mathematics in Rural and Urban Schools

SN	Competency	Coverage Rural (%)	Students' Performance (%)	Coverage Urban (%)	Students' Performance (%)
1.	Distinguish different types of numbers and solve problems.	99.0	26.9	99.1	32.6
2.	Convert units.	99.1	30.1	98.3	39.3
3.	Estimate and compute numbers accurately.	99.1	16.0	99.1	21.6
4.	Do scale drawing and geometrical transformations.	95.8	10.5	94	14.4
5.	Solve problems on perimeters and areas.	97.2	8.8	99.1	15.0
6.	Factorise and solve problems.	98.9	13.6	98.7	16.6
7.	Solve problems on ratios, profit and loss, and simple interest.	98.6	22.0	99.1	27.1
8.	Draw graphs and interpret linear equations.	97.2	8.7	99.1	12.1
9.	Find relationships among logarithms, exponents and radicals.	97.2	11.3	97	14.9

SN	Competency	Coverage Rural (%)	Students' Performance (%)	Coverage Urban (%)	Students' Performance (%)
10.	Verify laws and prove theorems.	88.5	6.3	88	10.8

Table 71 indicates high curricular coverage in both rural and urban schools (rural 88.5–99.1% vs urban 88.0–99.1%). However, students' overall performance is low in both settings (an average of 20.4% in urban vs 15.4% in rural), suggesting a gap of around 5.0% in favour of urban students. The most significant differences were recorded in the competencies *Convert units* (39.3% urban vs 30.1% rural) and the least difference was observed in *Factorise and solve problems* (16.6% urban vs 13.6% rural).

(d) Competency Coverage versus Students' Performance in Government and Non-Government Schools

This section presents comparative statistics on competency coverage versus students' performance in each of the nine core subjects across rural and urban settings.

(i) Competency Coverage versus Students' Performance in Civics in Government and Non-Government Schools

This section provides comparative statistics on competency coverage and students' performance in the Civics subject across government and non-government schools. Comparison data is presented in Table 72.

Table 72: Competency Coverage versus Students' Performance in Civics in Government Versus Non-Government Schools

SN	Competency	Coverage Govt (%)	Students' Performance(%)	Coverage Non-Govt	Students' Performance(%)
1.	Understanding of Tanzania as a nation.	98.3	28.9	100	75.9
2.	Demonstrate knowledge and ability to apply life skills in life.	99.4	11.7	100	57.6

SN	Competency	Coverage Govt (%)	Students' Performance(%)	Coverage Non-Govt	Students' Performance(%)
3.	Demonstrate knowledge of and respect for human rights and individual dignity.	99.4	6.7	100	42.0
4.	Demonstrate an understanding of his/her civic responsibilities and fulfils them.	99.4	16.4	100	62.8
5.	Demonstrate willingness to work hard and diligently for self and National development.	98.9	41.8	100	83.9
6.	Analyse matters relating to family issues and makes right decisions.	98.9	27.7	100	76.6
7.	Analyse information and makes right decisions.	98.3	6.9	98.3	39.0
8.	Use roads correctly and safely.	98.3	21.0	98.3	69.0
9.	Demonstrate an understanding of the concept, structure and functioning of government and participate in its running.	98.9	10.9	98.3	45.0

Table 72 indicates that overall curriculum coverage is high for both government and non-government schools (government: 98.3–99.4% vs non-government: 98.3–100%). However, students' performance varied significantly, with non-government school students scoring substantially above their counterparts in government schools (average scores of 61.3 per cent for non-government schools vs 19.1 per cent for government schools), indicating a performance gap of approximately 44.2 per cent in favour of non-government schools. The most notable differences were found in the competencies *Analyse matters relating to family issues and makes right decisions* (76.6% non-government vs 27.7% government) and *Use roads correctly and safely* (69.0% non-government vs 21.0% government). The least difference was observed in *Analyse information and make the right decisions* (39.0% non-government vs 6.9% government).

(ii) Competency Coverage versus Students' Performance in History in Government and Non-Government Schools

This section provides comparative statistics on competency coverage and students' performance in History across government and non-government schools. Comparison data is provided in Table 73.

Table 73: Competency coverage versus students' performance in History in Government and Non-Government Schools

SN	Competency	Coverage Govt (%)	Students' Performance (%)	Coverage Non-Govt (%)	Students' Performance (%)
1.	Demonstrate knowledge of everyday life.	99.5	21.6	100	66.6
2.	Examine the theories of the origin and evolution of humans and draw conclusion.	99.5	64.9	100	91.3
3.	Relate man's development to the environment and technology.	99.5	49.8	100	82.6
4.	Relate people's economic activities to the development of their social and political organisation.	98.4	61.9	100	88.5
5.	Demonstrate knowledge of the motives for interactions among the people of Africa.	99.5	64.8	100	88.3
6.	Demonstrate knowledge and show appreciation of the levels of social, economic development in pre-colonial Africa.	99.5	48.1	100	79.7
7.	Examine and explain the motives for the motives for the coming of the foreigners to Africa up to the mid-19th century.	98.9	30.8	100	67.7

Table 73 shows both government and non-government schools have high curriculum coverage (government: 98.4%–99.5% vs non-government: 100%). Students' performance in the two groups, however, varied, with non-government students performing significantly higher than those in government schools (a mean of 80.7% for non-government versus 48.8% for government). This is a 31.9 per cent gap, disadvantaging government schools. The competency with highest substantial difference was *Demonstrate knowledge of everyday life* (66.6% non-government vs 21.6% government), and the lowest difference was observed in *Examine the theories of the origin and evolution of humans and draw conclusion* (91.3% non-government, 64.9% government).

(iii) Competency Coverage versus Students' Performance in Geography Government and Non-Government Schools

This section provides comparative statistics on competency coverage and students' performance in Geography across government and non-government schools. Comparison data is presented in Table 74.

Table 74: Competency coverage versus students' performance in Geography in Government and Non-Government Schools

SN	Competency	Coverage Govt (%)	Students' Performance	Coverage Non-Govt (%)	Students' Performance (%)
1.	Understand the concept of geography and aspects related to the solar system.	98.7	55.3	96.7	90.0
2.	Assesses knowledge of the parts and physical components of the Earth.	98.3	13.9	96.8	55.2
3.	Observe, record, analyse and interpret the elements of weather and use the skills of weather elements to solve problems associated with weather.	97.8	47.4	96.8	85.0
4.	Relate climate to the environment and daily social and economic activities.	97.4	55.7	96.8	83.7
5.	Read, measure and interpret the information on simple maps.	96.5	23.2	100	70.3
6.	Knowledge of human activities, types, characteristics, importance, problems and ability to apply farming skills to meet certain human needs.	97.0	43.3	100	85.3
7.	Understand importance of water resources and ability to use and conserve the resource to improve the standard of life.	94.8	31.3	100	72.7
8.	Understand importance of forest resources and ability to use and conserve the resource to improve the standard of life.	89.1	46.9	100	83.3
9.	Understand the importance of natural resources and ability to use and conserve that resource to	82.6	34.0	100	76.6

SN	Competency	Coverage Govt (%)	Students' Performance	Coverage Non-Govt (%)	Students' Performance (%)
	improve the standard of life.				
10.	Understand the importance of mining and the ability to use and conserve the resource to improve the standard of life.	83.5	39.6	93.5	79.9

Table 74 indicates that a high percentage of both government and non-government schools have adequate curriculum coverage (82.6–98.7% and 93.5–100%, respectively). However, students' performance in both categories differs considerably, with non-government students performing relatively higher than those in government schools (an average of 78.2% in non-government vs 39.06% in government schools), indicating a performance gap of about 39.14% in favour of non-government schools. The most significant differences were observed in the competencies *Read, measure and interpret the information on simple maps* (70.3% non-government vs 23.2% government) and *Understand the importance of natural resources* and *ability to use and conserve that resource to improve the standard of life* (76.6% non-government vs 34.0% government). The least difference was recorded in *Relate climate to the environment and daily social and economic activities* (83.7% non-government vs 55.7% government).

(iv) Competency Coverage versus Students' Performance in Kiswahili in Government Versus Non-Government Schools

This section provides comparative statistics on competency coverage versus students' performance in the Kiswahili subject across government and non-government schools. Comparison data is provided in Table 75.

Table 75: Competency coverage versus students' performance in Kiswahili in Government and Non-Government Schools

SN	Competency	Coverage Govt (%)	Students' Performance (%)	Coverage Non-Govt (%)	Students' Performance (%)
1.	Kutumia Kiswahili sanifu katika mawasiliano.	98.6	84.9	100	96.1

SN	Competency	Coverage Govt (%)	Students' Performance (%)	Coverage Non-Govt (%)	Students' Performance (%)
2.	Kutumia Kiswahili sanifu kuwasiliana katika mazungumzo na maandishi.	98.9	65.7	100	86.3
3.	Kutumia Kiswahili sanifu kuwasiliana katika miktadha mbalimbali.	99.1	61.7	100	81.9
4.	Kusoma na kuelewa maandiko/mazungumzo mbalimbali kwa ufasaha.	99.5	91.8	100	95.9
5.	Kuandika habari fupi kwa kuzingatia taratibu za uandishi.	98.2	87.6	100	96.7
6.	Kubainisha na kuhakiki kazi za fasihi.	98.2	81.8	98.5	93.7
7.	Kubainisha, kuhakiki na kutunga kazi za fasihi simulizi.	98.6	73.3	95.5	90.6
8.	Kuhakiki na kutathmini njia za kuhifadhi kazi za fasihi simulizi.	97.5	78.0	93.3	92.6

Table 75 reveals that both government and non-government schools present high curriculum coverage (97.5–99.5% and 93.3–100%, respectively). Likewise, students' performance in both school categories is generally high, with non-government students scoring relatively higher than those from government schools (an average of 91.7% and 78.1%, respectively), showing a performance gap of about 13.6 per cent in favour of non-government schools.

(v) Competency Coverage versus Students' Performance in English Language in Government and Non-Government Schools

This section provides comparative statistics on competency coverage and students' performance in the English Language subject across government and non-government schools. Comparison data is provided in Table 76.

Table 76: Competency coverage versus students' performance in English Language in Government and Non-Government Schools

SN	Competency	Coverage Govt (%)	Students' Performance(	Coverage Non-Govt (%)	Students' Performance(%)
1.	Use simple English to communicate in social interactions and settings.	99.8	70.9	99.8	94.4
2.	Describe past activities and personal experiences.	97.3	21.1	95.1	71.8
3.	Engage in simple conversations and transactions on familiar topics.	98.5	41.2	97.6	81.3
4.	Express in English in writing, needs, feelings and ideas using appropriate vocabulary.	98.5	33.5	95.1	78.8
5.	Give and respond to directions/locations using simple English sentences.	98.5	62.0	100	92.6
6.	Identify general and specific information on events in simple written texts she/he encounters.	96.7	23.9	91.5	76.8
7.	Use English to obtain, process, construct and provide subject matter information in written forms.	98.1	53.3	94.3	86.0
8.	Use appropriate English pronunciation in a variety of settings.	97.3	32.8	95.1	81.3
9.	Interact in writing for personal expression and enjoyment.	95.1	43.1	91	80.3
10.	Answer questions on simple readers and report on what they read.	96.9	35.8	92.7	77.1

Table 76 shows that both government and non-government schools have high curriculum coverage (government: 95.1–99.8%, non-government: 91.0–100%). However, non-government students scored significantly higher than those in government schools (an average of 82.0% in non-government vs 41.8% in government), suggesting a 40.2% performance gap in favour of non-government schools. The most significant differences were observed in the competencies *Describe past activities and personal experiences* (71.8% non-government vs 21.1% government) and *Identify general and specific information on events in simple written texts* (76.8% non-government vs 23.9% government). The least difference was observed in *Give and respond to directions/locations using simple English sentences* (92.6% non-government vs 62% government).

(vi) Competency Coverage versus Students' Performance in Physics in Government and Non-Government Schools

This section provides comparative statistics on competency coverage and students' performance in Physics across government and non-government schools. Comparison data is provided in Table 77.

Table 77: Competency Coverage versus Students' Performance in Physics in Government and Non-government Schools

SN	Competency	Coverage Govt	Students' Performance (%)	Coverage Non-Govt (%)	Students' Performance (%)
1.	Practice safety rules in daily life.	99.1	14.9	98.3	59.9
2.	Make appropriate measurements of physical quantities.	99.6	29.0	98.3	68.9
3.	Apply laws, theories and principles of Physics in daily life.	99.1	22.3	98.3	63.7
4.	Use scientific skills to identify the nature and properties of matter.	98.7	8.5	98.3	50.5
5.	Apply the laws of reflection of light in daily life.	98.2	13.5	98.3	60.9
6.	Apply electricity and magnetism knowledge in daily life.	99.9	22.8	100	62.7
7.	Apply the concept of turning forces in daily life	96.5	11.7	100	46.0
8.	Use simple machines to work simply.	97.3	28.8	100	69.6

Table 77 shows that, in general, both government and non-government highly covered the Physics curriculum (96.5–99.9% and 98.3–100%, respectively). However, students' performance across the two school categories differs significantly, with non-government students scoring relatively higher (60.3%) than those in government schools (18.9%), indicating a performance gap of about 41.4% in favour of non-government schools. The most significant differences were reflected in the competencies *Apply the laws of reflection of light in daily life* (60.9% non-government vs 13.5% government) and *Practice safety rules in daily life* (59.9% non-government vs 14.9% government). The least difference was observed in *Apply the concept of turning forces in daily life* (46.0% non-government vs 11.7% government).

(vii) Competency Coverage versus Students' Performance in Chemistry in Government and Non-Government Schools

This section compares competency coverage and students' performance in the Chemistry subject across government and non-government schools. Comparison data is provided in Table 78.

Table 78: Competency Coverage versus Students' Performance in Chemistry in Government and Non-Government Schools

SN	Competency	Coverage Govt (%)	Students' Performance (%)	Coverage Non-Govt (%)	Students' Performance (%)
1.	Use Chemistry skills and knowledge in daily life.	98.2	23.6	100	76.3
2.	Work safely in the chemistry laboratory and use various chemistry apparatuses properly to perform different activities and experiments.	98.0	51.8	99.3	91.3
3.	Apply the scientific procedure to carry out investigations in chemistry.	98.2	39.5	100	81.7
4.	Apply different methods to separate mixtures into pure components.	97.8	19.7	100	59.2
5.	Deal with nature and properties of matter.	98.2	31.0	97	71.8
6.	Explain the preparation and properties of simple gases.	99.6	29.8	98.5	74.9
7.	Treat and purify water with environmental consideration.	99.1	31.5	98.5	77.0
8.	Use fuels efficiently and sustainably with environmental consideration.	93.9	11.1	91	51.5
9.	Explain the structure of an atom and the periodic trend.	91.7	29.7	82.1	60.7

Table 78 indicates that schools from both categories-government and non-government-have high curriculum coverage in Chemistry (government: 91.7–99.6%, non-government: 82.1–100%). However, students' performance differs significantly between the two schools, with non-government students performing relatively higher than those in government schools (an average of 73.3% in non-government vs 28.9% in government), suggesting a performance gap of 44.4% in favour of non-government schools. The most significant performance gaps were observed in the competencies *Use Chemistry skills and knowledge in daily life* (76.3% non-government vs 23.6% government) and *Work safely in the chemistry laboratory and use various chemistry apparatuses properly*

(91.3% non-government vs 51.8% government). The least difference was noted in *Explain the structure of an atom and periodic trend* (60.7% non-government vs 29.7% government).

(viii) Competency Coverage versus Students' Performance in Biology in Government and Non-Government Schools

This section compares competency coverage and students' performance in the Biology subject across government and non-government schools. Comparison data is presented in Table 79.

Table 79: Competency Coverage Versus Students' Performance in Biology Government vs Non-Government Schools

SN	Competency	Coverage Govt (%)	Students' Performance (%)	Coverage Non-Govt (%)	Students' Performance (%)
1.	Demonstrate appropriate use of biological knowledge, concepts, principles and skills in everyday life.	99.6	54.7	100	89.7
2.	Demonstrate appropriate preventive measures and precautions against common accidents, infections and other related health problems.	99.4	41.5	99.1	84.0
3.	Use of scientific procedures and practical skills in studying Biology.	98.4	80.3	100	93.8
4.	Group organisms according to their similarities and differences.	98.8	34.7	100	72.8
5.	Use of basic biological concepts, principles and skills to evaluate the roles of various physiological processes in plants and animals.	96.8	28.4	100	67.8
6.	Appreciate nature and ensure sustained interaction of organisms in the natural environment.	90.4	60.1	96.3	87.6
7.	Use of biological practical skills in studying various physiological processes in plants and animals.	80.5	12.5	88.9	55.1

Table 79 demonstrates that both government and non-government schools sufficiently covered the Biology curriculum (government: 80.5–99.6%; non-government: 88.9–100%). However, student performance across both school types differs significantly, with students in non-government schools performing relatively better than those in government schools (on average 78.6% in non-government vs 44.6% in government schools), suggesting a performance gap of around 34.1% in favour of non-government schools.

The most significant gaps were observed in the competencies *Use of biological practical skills in studying various physiological processes in plants and animals* (55.1% non-government vs 12.5% government) and *Demonstrate appropriate preventive measures and precautions against common accidents, infections and other related health problems* (84.0% non-government vs 41.5% government). The least noted gap was in the competence *Use of scientific procedures and practical skills in studying Biology* (93.8% non-government vs 80.3% government).

(ix) Competency Coverage versus Students' Performance in Basic Mathematics in Government and Non-Government Schools

This section provides comparative statistics on competency coverage and students' performance in the Mathematics subject across government and non-government schools. Comparison data is provided in Table 80.

Table 80: Competency Coverage versus Students' Performance in Mathematics in Government and Non-Government Schools

SN	Competency	Coverage Govt (%)	Students' Performance (%)	Coverage Non-Govt (%)	Students' Performance (%)
1.	Distinguish different types of numbers and solve problems.	98.9	25.7	100	65.2
2.	Convert units.	98.5	30.4	100	68.4
3.	Estimate and compute numbers accurately.	98.9	14.8	100	53.8
4.	Do scale drawing and geometrical transformations.	94.5	8.9	98.2	45.6
5.	Solve problems on perimeters and areas.	97.8	8.2	98.2	43.2
6.	Factorise and solve problems.	98.7	11.8	99.1	46.4
7.	Solve problems on ratios, profit and loss, and simple interest.	98.9	20.5	98.2	61.2
8.	Draw graphs and interpret linear equations.	97.8	7.4	98.2	38.0
9.	Find relationships among logarithms, exponents and radicals.	97.1	10.3	97.4	38.6
10.	Verify laws and prove theorems.	87.9	5.8	90.4	31.7

Table 80 shows that, despite similar high coverage of the Mathematics curriculum in both government (87.9–98.9%) and non-government (90.4–100%) schools, there is a significant difference in students' performance between the two groups. On average, students in non-government schools

scored 49.2 per cent, compared with 14.4 per cent in government schools, indicating a 34.8 percentage-point gap in favour of non-government schools. The most significant performance differences were in *Distinguish different types of numbers and solve problems* (25.7% vs 65.2%) and Solve problems on ratios, profit and loss, and simple interest (20.5% vs 61.2%).

4.5 Identifying Teaching and Learning Gaps

The fifth objective of the Form Two Learning Evaluation (FTLE) was to identify teaching and learning gaps that hinder students' development of the abilities prescribed in the curriculum. Skill acquisition remains a key challenge among secondary school students. These challenges may arise from teaching gaps, learning gaps or a combination of both.

Learning gaps refer to the inconsistencies between what students have actually learned and what they expected to learn at a certain level of study. Such gaps may arise from various factors, including environmental constraints, inappropriate teaching methods, misconceptions, limited mastery of the language of instruction, insufficient prior knowledge, different learning styles, and a lack of motivation.

Similarly, teaching gaps reflect the discrepancy between the instructional approaches needed to achieve learning objectives and the actual practices implemented in schools. These gaps are primarily influenced by teacher effectiveness and the appropriateness of supporting facilities and environments. Effective teaching is reflected in the use of appropriate methods for teaching and learning.

In the FTLE, analyses were conducted to identify challenges students faced in responding to assessment questions across nine core subjects. In addition, questionnaires were administered to students, teachers, heads of schools, parents or guardians, and school board members to gather information on the challenges encountered during teaching and learning. Therefore, teaching and learning gaps were identified based on several factors, including proficiency in the language of instruction, learning environments, the importance of the internal school quality assurance, teaching and learning methods, the use of teaching aids, adequacy of

laboratory equipment, the use of the LMS, teachers' job satisfaction, teachers' challenges in teaching, and students challenges in learning.

4.5.1 Language of Instruction

Language of instruction refers to the primary language used by teachers to teach and communicate with students in the classroom. In their study, teachers were asked about the language they use in teaching, and their response was as shown in Table 81:

Table 81: Teachers' Mastery and Use of English in Teaching

Language Used	Percentage (%)
Both English and Kiswahili	27.85
English	60.3
Kiswahili	11.85
Total	**100**

Table 81 shows that the majority of secondary school teachers (60.3%) used English as the primary language of instruction, whereas 27.85 per cent reported using both English and Kiswahili.

For effective teaching and learning, teachers must use a language that learners can easily comprehend. Proficiency in the language of instruction enables all students to acquire the intended competencies. Conversely, when learners fail to master the language of instruction at the appropriate stages, they may struggle to develop essential skills, leading to learning gaps.

In the United Republic of Tanzania, Kiswahili is the language of instruction in Kiswahili-medium primary schools, whereas English is used in English-medium primary schools. At the secondary level, Kiswahili is taught as a subject, while English serves as the medium of instruction.

In the questionnaires, subject teachers were asked to indicate the extent to which they experienced challenges in teaching due to students' mastery of English. Their responses were categorised as significant, moderate, minor, or not at all. The results are presented in Table 82.

Table 82: Students' Mastery of the Language of Instruction

Extent of challenges	Percentage (%)
Large extent	12.6
Moderate extent	52.3
Not at all	2.7
Small extent	32.3

About 52 per cent of teachers reported experiencing challenges to a moderate extent, while 32.3 per cent indicated a small extent. Additionally, 12.6 per cent reported a large extent, and 2.7 per cent stated that they were not challenged at all. Teachers who experienced challenges to a moderate or large extent highlighted several factors that significantly affected their teaching. These included students' poor mastery of the language of instruction, insufficient education and learning materials, large class size, and ineffective school administration.

4.5.2 Teaching and Learning Environment

School heads, students, and parents were consulted regarding the overall condition of the teaching and learning environment, in both school and home settings. Specifically, head teachers were asked to outline the strategies and interventions implemented in their schools to promote a conducive climate for effective teaching and learning. Their responses are summarised in Table 83.

Table 83: Heads of Schools' Responses on the Teaching and Learning Environment

SN	General Teaching and Learning Environment	
	Item	Percentage (%)
1.	The school has a safety/security plan.	85.9
2.	The school has a special programme to identify students at risk of dropping out.	93.9
3.	The school has a suggestion box.	0.9
4.	The school has improved the follow-up process for students at risk of dropping out.	0.9
5.	The school has a mechanism for handling students'	1.0

SN	General Teaching and Learning Environment	
	Item	Percentage (%)
	complaints.	
6.	The school collaborates with the community in dealing with issues related to violence against children and gender-based violence.	1.0
7.	Guidance and counselling	1.0

Table 83 indicates that schools have substantial measures to enhance safety/security plan of about 85.9 per cent and special program to identify students at risk of dropping out about 93.9 per cent. These findings suggest a strong institutional commitment to creating conducive conditions for effective instruction. Counselling and guidance, as well as community involvement in school development, are critical components for supporting students' well-being. However, assessments show that these areas are given less priority, accounting for only 1.0 per cent. If counselling, guidance, and parental involvement are not adequately prioritised, significant learning gaps may emerge in students' academic performance**.** In addition, parents were surveyed regarding the characteristics of their home environments that support students' learning. Their responses are presented in Table 84.

Table 84: Parents' Responses on the Availability of Enabling Learning Environments at Home

SN	Item	Percentage (%)
(i)	Availability of light	90.7
(ii)	Availability of chairs	74.0
(iii)	Availability of tables	75.9
(iv)	Availability of textbooks	53.2
(v)	Availability of emotional/supportive environment	71.0

Table 84 shows that lighting was the most widely available resource, reported by 90.7% of the parents. This was followed by the availability of tables (75.9%), chairs (74.0%), and a positive emotional home-based supportive environment (71.0%). Textbooks were the least accessible to 53.2% of students. These findings suggest that day scholar students may require additional support to access essential learning materials, particularly textbooks. The absence of text and reference books at home

can significantly hinder students' ability to study effectively and complete assignments, potentially leading to lower academic performance.

4.5.3 School Quality Assurance Team

The School Quality Assurance Team is a strategic body responsible for upholding and enhancing standards of teaching, learning, and overall institutional performance. It plays a vital role in fostering a culture of excellence by systematically evaluating educational processes, identifying areas for improvement, and supporting schools in achieving their pedagogical goals. The team ensures that teaching practices, curriculum implementation, and assessment methods align with the established educational standards. Additionally, it promotes reflective practices to improve student outcomes and teacher effectiveness, while providing mentorship, training, and constructive feedback to educators and school leaders.

4.5.4 Internal School Quality Assurance Team (ISQAT)

An Internal School Quality Assurance Team is a group of educators and administrators within a school responsible for continuously monitoring, evaluating, and improving the quality of teaching, learning, and institutional practices. Its role is to ensure that the school meets educational standards, fosters professional growth, and promotes a culture of accountability and excellence.

As part of the current educational reforms, the Government of Tanzania on the mainland officially introduced the Internal School Quality Assurance Team (ISQAT) in 2021. The team systematically reviews educational programmes and processes to promote continuous improvement in quality, equity, and efficiency. In the 2025 Form Two Learning Evaluation (FTLE), teachers were asked to indicate the extent to which their schools' internal quality assurance teams supported them during instructional activities. Their responses are summarised in Table 85.

Table 85: Teachers' Support from the Internal School Quality Assurance Unit

Extent of Adequacy	Percentage
Large	25.5
Moderate	49.9
Small	14.5
Not at all	10.1
Total	**100**

Table 85 shows that 49 per cent of teachers received moderate support from the Internal School Quality Assurance Teams (ISQAT), while 25.5 per cent reported receiving support to a large extent. Conversely, 14.5 per cent of teachers indicated limited support to a small extent, and 10.1 per cent reported receiving no support from the team. These teachers who did not receive adequate support may lack accountability, miss constructive feedback, and experience stagnation or decline in instructional quality. In addition, inconsistent teaching practices and assessment methods could compromise fairness and negatively affect student outcomes. These findings highlight the need for further initiatives to strengthen ISQATs' functioning and impact across schools.

4.5.5 Teaching and Learning Methods

Teaching methods are the instructional strategies used to help students achieve the intended learning outcomes. The effectiveness of these methods can be influenced by various learner-related factors, including age, maturity, motivation, prior knowledge, cognitive ability, mental and physical health, attention span, aspirations, and goal-setting behaviours. In this study, the subject teachers were asked to describe the instructional approaches they utilised to promote effective learning among their students. Their responses are summarised in Table 86.

Table 86: Teaching Methods Used by Teachers

Teaching Method	Extent of Application (%)
Lecture	5.0
Interactive lecture	27.7
Directed Discussion	23.2
Problem-based learning	9.6

Teaching Method	Extent of Application (%)
Project-based learning	3.1
Case-based learning	2.3
Experimentation	7.9
Questions and answers	21.2
Total	**100**

As Table 86 illustrates, the most frequently employed teaching methods were interactive lectures (27.7%), directed discussions (23.2%), and the question-and-answer method (21.2%). These approaches reflect a preference for teacher-led participatory methods that actively engage students in the learning process. In contrast, some techniques, such as case-based learning (2.3%), project-based learning (3.1%), and experimentation, were rarely utilised. The traditional lecture method was also minimally applied (5.0%), reflecting a shift away from passive delivery models. This approach may limit the application of innovative, practical teaching methods and hinder the development of critical thinking and problem-solving skills among students.

Table 87: Teaching Methods by School Ownership

Teaching Method	School Ownership (%)	
	Government	Non-government
Lecture	81.9	18.1
Interactive Lecture	80.8	19.2
Directed discussion	80.7	19.3
Problem-based learning	74.8	25.2
Project-based learning	70.8	29.2
Case-based learning	69.5	30.5
Experimentation	82.0	18.0
Question and answers	82.0	18.0

The data in Table 87 highlights a clear difference in teaching methods between government and non-government schools. Government schools tend to rely heavily on traditional approaches, with high proportions of teachers using lectures (81.9%), interactive lectures (80.8%), directed discussions (80.7%), experimentation (82.0%), and question-and-answer methods (82.0%). In contrast, non-government schools show greater use of learner-centred methods, including problem-based learning (25.2%),

project-based learning (29.2%), and case-based learning (30.5%). Although these methods are also present in government schools, their adoption rates are lower, ranging from 69.5 per cent to 74.8 per cent. Overall, the findings suggest that government-run schools remain largely teacher-centred. In contrast, non-government schools are more inclined toward participatory and inquiry-driven approaches, reflecting differences in pedagogical orientation and resource flexibility.

Table 88: Teaching Methods by School Locality

Teaching Methods	School Locality (%)	
	Rural	Urban
Lecture	67.5	32.5
Interactive Lecture	63.3	36.7
Directed discussion	65.2	34.8
Problem-based learning	61.4	38.6
Project-based learning	64.4	35.6
Case-based learning	61.5	38.5
Experimentation	67.5	32.5
Question and answers	66.7	33.3

The findings indicate apparent differences in teaching methods between rural and urban schools. Rural schools tend to rely more on teacher-centred approaches, with high usage of lectures (67.5%), interactive lectures (63.3%), directed discussions (65.2%), experimentation (67.5%), and the question-and-answer method (66.7%). In contrast, urban schools show greater adoption of learner-centred methods, such as problem-based learning (38.6%), project-based learning (35.6%), and case-based learning (38.5%). Although these approaches are also present in rural-based schools, their application remains comparatively limited. Overall, the results suggest that rural schools continue to depend on conventional instructional practices. In contrast, urban schools are increasingly embracing interactive and participatory methods, reflecting differences in teacher training, exposure, and resource availability.

4.5.6 Use of Teaching Aids

Teaching aids are tools, materials or resources that teachers use to make learning easier, clearer, and more engaging for students. They include a range of tools and resources, together with technological devices (e.g.,

computers and the internet), instructional materials (e.g., textbooks, chalkboards, and visual illustrations), and tangible objects (e.g., specimens, maps, and globes). Educators use these aids to enrich instruction, capture students' attention, and foster motivation for learning. This study aimed to assess the extent to which teachers incorporate teaching aids within their respective subject areas. The results are presented in Table 89.

Table 89: Use of Teaching Aids

The use of Teaching Aid	Percentage
Large	25.6
Moderate	60.8
Small	10.3
Not at all	1.2

Table 89 reveals that 60.8 per cent of teachers reported using teaching aids to a moderate extent, while 25.6 per cent indicated extensive use. These figures suggest a general awareness among educators of the importance of teaching aids in facilitating effective instruction and enhancing student learning. In contrast, 10.3 per cent of teachers utilised teaching aids to a limited extent, and a small proportion (1.2%) did not use them at all. This situation may hinder the quality of teaching and learning processes. Table 90 shows the use of teaching aids by school locality:

Table 90: Extent of Use of School Teaching Aids by School Locality

Extent of Using Teaching Aids	School Locality (%)	
	Rural	Urban
Large	26.7	29.9
Moderate	62.4	57.4
Small	10.0	10.9
Not at all	0.9	1.8
Total	**100**	**100**

The data show that the alleged adequacy of teaching aids is generally high in both rural and urban schools, though with minor variations between the two. A significant degree of adequacy was reported by 29.9 per cent of urban schools and 26.7 per cent of rural schools, indicating that urban

schools are slightly better equipped. Similarly, more than half of the schools in both areas rated adequacy as moderate (62.4% rural and 57.4% urban), suggesting that most schools have teaching aids, but not always in sufficient quantity or quality. Only a small proportion of schools, around 10.0 per cent in rural and 10.9 per cent in urban areas, reported that teaching aids are available to a small extent, and 0.9 per cent in rural and 1.8 per cent in urban areas, said they are not available at all. Overall, these results imply that while both rural and urban schools have a fair level of teaching aids, rural schools exhibit slightly higher adequacy. Table 91 shows the use of teaching aids according to school ownership.

Table 91: Extent of Applying Teaching Aids by School Ownership

Extent of Using Teaching Aids	School Ownership	
	Government	Non-government
Large	22.9	48.8
Moderate	64.3	45.3
Small	11.5	5.3
Not at all	1.4	0.6
Total	**100**	**100**

Table 91 illustrates notable differences in the perceived adequacy of teaching aids between government and non-government schools. A significant degree of adequacy was reported by the majority of non-government schools (48.8%), compared to 22.9 per cent among government schools, indicating that non-government schools are more effective in using teaching aids. Conversely, moderate adequacy was more common in government schools (64.3%) than in non-government schools (45.3%), suggesting that while teaching aids are available, they may not be sufficient in quantity or variety in government institutions. Only a small proportion of schools in both categories reported a small extent, 11.5 per cent in government and 5.3 per cent in non-government, or no adequate data at all (1.4% and 0.6%, respectively). Overall, the findings imply that non-government schools generally have a higher adequacy of teaching aids than government schools.

4.5.7 Adequacy of Laboratory Equipment

Effective science education relies heavily on students' active engagement in practical activities. Empirical evidence suggests that learners assimilate

scientific knowledge more efficiently when they engage in hands-on experimentation, rather than receiving instruction on practical concepts solely through theory. To ensure meaningful participation in laboratory exercises, secondary schools must be equipped with sufficient laboratory resources that meet instructional demands.

To assess the adequacy of these facilities, the researchers administered a structured questionnaire to science teachers. The instrument collected responses regarding the extent to which laboratory infrastructure in their respective schools supported effective teaching and learning. Table 92 shows the general adequacy of laboratory facilities.

Table 92: General Availability of Laboratory Facilities in Schools

Extent of availability	Percentage (%)
Large	14.9
Moderate	41.4
Small	11.4
Not at all	32.3
Total	**100**

As Table 92 demonstrates, 41.4 per cent of the teachers reported that laboratory equipment was moderately adequate, while 14.9 per cent indicated that it was sufficient to a large extent. These findings suggest that, to some degree, governmental efforts have been made to improve the availability of science laboratory facilities in schools. However, 11.4 per cent of respondents noted that laboratory equipment was available to a small extent, and a significant proportion, 32.3 per cent, reported on the complete lack of laboratory resources, highlighting persistent gaps in infrastructure provision.

Teachers who reported using laboratory facilities to a small extent or not at all were asked to provide reasons for this limited usage. The most frequently cited constraint, reported by 51.1 per cent, was the absence of laboratories; 42.5 per cent cited insufficient apparatus, and 6.4 per cent reported poor infrastructure for water, electricity, and gas systems in laboratory rooms. Table 93 presents the adequacy of laboratory facilities based on school locality.

Table 93: Adequacy of Laboratory by School Locality

Extent of Adequacy	Locality	
	Rural	Urban
Large	12.6	18.9
Moderate	44.8	35.3
Small	30.2	36.1
Not at all	12.4	9.7
Total	**100.0**	**100.0**

Table 93 shows that the adequacy of laboratory facilities in urban and rural schools is moderate, with 44.8 per cent in rural areas and 35.3 per cent in urban areas, respectively. Furthermore, 30.2 per cent of teachers in rural areas and 36.1 per cent of teachers in urban areas reported that laboratory facilities were available to a small extent (12.6 per cent). In addition, 18.9 per cent of teachers reported that laboratory facilities were available to a large extent. Therefore, teachers had an equal opportunity to use laboratory facilities to teach science subjects more practically. In contrast, 12.4 per cent of rural schools had no laboratory facilities, compared with 9.7 per cent of schools in urban areas. Table 94 shows the adequacy of laboratory facilities according to school ownership.

Table 94: Adequacy of Laboratory Facilities by School Ownership

Extent of Adequacy	School Ownership	
	Private	Government
Large	36.2	9.8
Moderate	34.4	43.1
Small	26.0	13.3
Not at all	3.4	33.8
Total	**100.0**	**100.0**

Table 94 compares the availability of laboratory equipment in government and non-government secondary schools. A moderate level of availability was reported by 43.1 per cent of teachers in government schools and 34.4 per cent in non-government schools. Notably, 36.2 per cent of respondents from non-government institutions indicated that laboratory equipment was adequate to a large extent, compared with only 9.8 per cent in government schools. Furthermore, 26.0 per cent of teachers in private schools reported limited availability of laboratory resources, compared to 13.3 per cent in government schools. Alarmingly, 33.8 per cent of government schools were

reported to lack laboratory equipment entirely, but only 3.4 per cent of non-government schools did.

Overall, while the general availability of laboratory equipment in secondary schools was moderate, the data suggest that non-government schools are comparatively better equipped than government schools. Likewise, schools in urban areas tend to have superior laboratory resources than those in rural areas.

4.5.8 Use of the Learning Management System

The study also aimed to establish the extent to which the teachers used the Learning Management System (LMS). They were asked to state how much they used LMS in their teaching process. Table 95 presents the results.

Table 95: Use of LMS in Teaching and Learning

Extent of Using LMS	Percentage (%)
Large extent	14.8
Moderate extent	58.9
Not at all	5.7
Small extent	20.5
Total	**100.0**

Table 95 shows that 58.9 per cent of teachers used the Learning Management System to a moderate extent, and 14.8 per cent used it to a large extent. However, 20.5 per cent of teachers used it to a small extent, and 5.7 per cent did not use it at all. This might have negatively impacted students' performance in some schools. In addition, teachers provided several reasons for their non-use of the LMS, as Table 96 illustrates:

Table 96: Limiting Factors for the Non-use of LMS

Items	Percentage
Poor/Weak internet connection	28.9
Lack of computers/tablets	38.6
Lack of smartphones	26.7
Lack of internet access	5.9
Total	**100.0**

According to the data presented in Table 96, the most significant factor in the non–use of LMS was the unavailability of computers or tablets, affecting 38.6% of the participants. This was closely followed by unstable internet connectivity (28.9%), lack of smartphones (26.7%), and 5.9% reported complete absence of internet access. From the data presented above, it appears that the use of LMS may not be active throughout the teaching and learning process.

4.5.9 Use of LMS by School Locality

To provide data on the use of Learning Management Systems (LMS) across different parts (rural and urban), teachers were asked to rate the extent of their utilisation. Their responses are presented in Table 97.

Table 97: Use of LMS Based on Locality

Extent of Use	Locality (%)	
	Rural	Urban
Large extent	16.2	16.6
Moderate	58.6	62.9
Not at all	4.9	4.8
Small extent	20.3	15.7
Total	**100.0**	**100.0**

Based on the findings in Table 97, teachers in urban areas slightly lead in moderate LMS use, with 62.9 per cent reporting it, compared to 58.6 per cent in rural areas. Besides, 16 per cent of teachers in urban areas use LMS extensively, compared to 16.2 per cent in rural areas. Additionally, 4.9 per cent of teachers in rural areas are not using LMS, compared to 4.8 per cent in urban areas. Similarly, 20.3 per cent of teachers in rural areas, compared to 15.7 per cent in urban areas, use it to a small extent. Therefore, the proportion of teachers using LMS is almost identical across localities, suggesting that high adoption is consistent across localities. In addition, teachers in rural schools have a slightly higher proportion in the small-extent category, possibly indicating challenges such as internet access, electricity, or LMS training. These factors hinder the use of LMS in schools.

4.5.10 Use of LMS by School Ownership

To provide data on the use of Learning Management Systems (LMS) across different types of schools (based on school ownership), the teachers were asked to rate the extent of their utilisation. Their responses are presented in Table 98.

Table 98: Use of LMS based on Ownership

Extent of Use	Ownership (%)	
	Government	Non – Government
Large	57.2	40.7
Moderate	40.1	52.1
Not at all	0.2	1.1
Small	2.6	6.1

The study indicates that the use of Learning Management Systems (LMS) is more intensive among teachers in government schools, with 57.2 per cent reporting use to a large extent, compared to 40.7 per cent in non-government schools. Conversely, a moderate level of LMS utilisation is more prevalent in non-government schools (52.1%) than in government schools (40.1%). In addition, 2.6 per cent of teachers in government schools reported using LMS to a small extent, compared to 6.1 per cent in non-government schools. Similarly, 1.1 per cent of teachers in non-government schools reported not using LMS at all, compared to 0.2 per cent in government schools. Overall, findings suggest that the majority of teachers in both school types use LMS at least moderately, and 1.3 per cent of teachers who are not using LMS limit themselves and their students to the access of digital learning resources and opportunities for combined or online learning; these are essential in modern education.

4.5.11 Teachers' Job Satisfaction

In this context, job satisfaction refers to the combination of physiological, environmental and psychological factors that make teachers appreciate their work. It is a comprehensive concept influenced by personal, institutional, and social magnitudes. A satisfied teacher is generally motivated to teach, willing to remain in the institution, and committed to maximising their contribution to students' success. In this study, the collected data were analysed by locality (rural and urban) and by school ownership (government and non-government) to determine whether

differences in job satisfaction existed between these groups, as shown in Table 99.

Table 99: Extent of Teachers' Job Satisfaction

Extent of Job Satisfaction	
Extent of Satisfaction	**Percentage (%)**
Large extent	43.9
Moderate extent	49.8
Small extent	5.4
Not at all	0.9
Total	**100.0**

The data in Table 99 indicate that nearly half of the respondents (49.8%) experience job satisfaction to a moderate extent, while a substantial proportion (43.9%) reported a high level of satisfaction. This suggests that most teachers perceive their working conditions as reasonably supportive and fulfilling. However, a small segment of teachers, covering 5.4 per cent, had low satisfaction, and 0.9 per cent had no satisfaction at all. These 6.3 per cent were not satisfied and could affect morale and work performance.

4.5.11.1 Teachers' Job Satisfaction by School Locality

To provide data on job satisfaction according to the school locality (whether rural or urban), teachers were asked to state the extent of their satisfaction, and their responses are presented in Table 100.

Table 100: Extent of Teachers' Job Satisfaction by Locality

Satisfaction Extent	Locality	
	Rural (%)	**Urban (%)**
Large extent	42.6	46.0
Moderate extent	50.7	48.1
Not at all	1.0	0.8
Small extent	5.6	5.1

Table 100 indicates that the majority of teachers in both rural and urban schools reported moderate overall job satisfaction. Only a small proportion of teachers expressed complete dissatisfaction (i.e., "not at all"), 0.8 per cent in urban schools and 1.0 per cent in rural schools. Although these figures are relatively low, any level of dissatisfaction may still negatively

influence the quality of teaching and learning, possibly contributing to lower student performance.

4.5.11.2 Teachers' Job Satisfaction by School Ownership

To provide data on job satisfaction according to school ownership (Government and Non-Government schools), the teachers were asked to indicate the extent of their satisfaction. Their responses are presented in Table 101.

Table 101: Teachers' Job Satisfaction by School Ownership

Extent of Satisfaction	Ownership (%)	
	Government	Non-Government
Large extent	57.2	40.7
Moderate extent	40.1	52.1
Not at all	0.2	1.1
Small extent	2.6	6.1
Total	**100**	**100**

Table 101 reveals that a greater proportion of teachers in government schools (57.2%) reported higher job satisfaction than their counterparts in non-government schools (40.7%). Conversely, moderate job satisfaction was more prevalent among teachers in non-government schools (52.1%) than in government schools (40.1%). In addition, 6.1 per cent of teachers in non-government schools and 2.6 per cent in government schools reported being satisfied to a small extent. Furthermore, 1.1 per cent of teachers in non-government schools and 0.2 per cent in government schools indicated dissatisfaction with their teaching roles. Such levels of dissatisfaction may negatively affect instructional quality and student learning outcomes, potentially leading to reduced academic performance.

4.5.12 Teachers' Job Satisfaction Based on their Teaching Subjects

The teachers were asked to indicate the extent to which they were satisfied with teaching their respective subjects, as Table 102 illustrates.

Table 102: Teachers' Job Satisfaction in Teaching their Subjects

Subject	Extent of Job Satisfaction Subject-wise			
	Large Extent	Moderate Extent	Not at All	Small Extent
Civics	45.6	48.9	0.8	4.7
History	44.8	49.4	2.2	3.6
Geography	42.6	51.1	0.8	5.5
Kiswahili	46.1	48.9	1.4	3.6
English Language	40.5	51.8	0.6	7.2
Physics	43.9	49.7	0.0	6.4
Chemistry	43.0	48.9	1.1	7.0
Biology	44.4	46.9	0.8	7.8
Basic Mathematics	43.7	52.5	0.5	3.3

Table 102 shows that teachers' job satisfaction with teaching their subjects was reported at an average of 43.8 per cent to a large extent, 49.8 per cent to a moderate extent, 5.5 per cent to a small extent, and 0.9 per cent not at all. Thus, a significant proportion of teachers reported being moderately satisfied with teaching their respective subjects. Low levels of subject teachers' job satisfaction may negatively impact students' learning. Furthermore, teachers were asked to evaluate the underlying factors contributing to dissatisfaction. These findings are summarised in Table 103.

Table 103: Reasons for Teachers' Job Dissatisfaction

Items	Percentage (%)
Insufficient appreciation	5.2
Shortage of teachers compared to the number of students	14.0
Low quality of Infrastructure	22.2
Inadequate teaching and learning materials	12.2
Shortage of teachers' houses	10.0
Unrewarding of education upgrading	6.3
Inadequate salary	14.0
Underperformance of the student	5.2
Lack of motivation	11.1
Total	**100.0**

The data reveal that low-quality infrastructure is the leading reason for teacher dissatisfaction, reported by 22.2 per cent of respondents. Other significant concerns include inadequate salaries (14.0%), teacher shortages relative to the number of students (14.0%), and a shortage of teaching and learning materials (12.2%). Moreover, 11.1 per cent of teachers reported on the lack of motivation. In comparison, 10.0 per cent reported on the shortage of teachers' houses, and 6.3 per cent felt unrewarded for education upgrading and insufficient acknowledgement. In addition, 5.2 per cent 5.2 per cent cited the concern of students' underperformance. The data further illustrates how the low quality of infrastructure underscores its role as the most critical factor affecting teachers' morale, followed by inadequate salaries, a shortage of teachers relative to the number of students, and inadequate teaching and learning materials. These challenges collectively hinder the teaching and learning process, ultimately impacting students' ability to gain essential knowledge and skills.

4.5.13 Teachers' Responses on Teaching Challenges

Challenges in teaching refer to the difficulties or obstacles that teachers face in educating students. To understand the challenges teachers encounter, this study collected their views on the specific challenges affecting teaching and learning. Table 104 summarises their responses, highlighting the most frequently reported challenges.

Table 104: Teachers' Perceived Extent of Challenges in Teaching

Extent of Challenges	Percentage (%)
Large extent	12.6
Moderate extent	52.3
Not at all	2.7
Small extent	32.3

The findings reveal that 52.3 per cent of teachers experienced challenges in the teaching process to a moderate extent, while 32.3 per cent reported encountering such difficulties to a small extent. Additionally, 12.6 per cent of respondents indicated that they faced challenges to a large extent, and only 2.7 per cent reported not experiencing any challenges throughout the teaching process.

Furthermore, teachers who reported moderate and significant challenges were further asked to specify the factors that most substantially affected their teaching, and their responses are presented in Table 105:

Table 105: Factors Substantially Affecting Teaching as Reported by Teachers

Reason	Percentage (%)
Students' low mastery of the language of instruction	52.3
Insufficient teaching and learning materials	29.3
Large class size	16.9
Ineffective school administration	1.4

Table 105 indicates that 52.3 per cent of teachers faced challenges due to students' low mastery of the language of instruction, and 29.3 per cent identified a shortage of teaching and learning materials. The data also shows that large class sizes contributed 16.9 per cent, and ineffective school administration contributed 1.4 per cent. Thus, these data indicate that students' incompetence in the language of instruction and the insufficient availability of teaching and learning materials were the main factors affecting teachers throughout the teaching and learning process.

4.5.14 Challenges Students Face in Learning

Students face a multitude of challenges that hinder their ability to learn effectively. From cognitive and emotional barriers to socioeconomic and technological limitations, these obstacles may vary widely across individuals and contexts. Therefore, it is essential to recognise and address the challenges, which can help empower and create inclusive and supportive learning experiences that enable all students to reach their full potential in education. Table 106 presents students' responses on whether they had ever missed classes from January 2024 to June 2025.

Table 106: Students' Responses on Missing Classes

Response	Percentage (%)
Yes	70.0
No	30.0

To offer a better understanding of the factors contributing to student absenteeism, the students were asked to identify the reasons for missing classes. Their responses, together with the corresponding percentages, are summarised in Table 107.

Table 107: Students' Reasons for Skipping School

Reasons for Missing Classes	Percent (%)
Sickness	82.2
Family problems	22.3
Long distance from home to school	10.7
Traditional taboo/activities	3.3
Menstruation-related challenges (for girls only)	10.5

About 82.2 per cent of the students reported being absent from school due to illness or health-related concerns. Moreover, 22.3 per cent missed classes due to family-related issues. Long distances from home to school affected the attendance of 10.7 per cent of students, whereas 10.5 per cent were absent due to menstruation-related challenges. Moreover, 3.3 per cent missed school due to traditional taboos or cultural activities. Table 108 summarises the nature of family problems for students who responded that this was a problem:

Table 108: Reported Challenges Related to Family Problems

Nature of the Family Problems	Percentage (%)
Other home activities	71.9
Family conflicts/separation	22.5
Financial problems/poverty	2.8
Illness/sickness	1.7
Funeral/burial ceremony	1.1

Among those who reported missing school due to family-related problems, the reasons were distributed as follows: 71.9 per cent mentioned other family activities, and 22.5 per cent reported family conflicts or separation. In comparison, 2.8 per cent reported financial difficulties or poverty, 1.7 per cent missed school due to illness or health-related problems, and 1.1 per cent were absent because of funeral or burial ceremonies. Within the category of family problems, household responsibilities have emerged as a

major hindrance to students' school attendance. This situation may lead to significant learning gaps in their academic progress. Across the nine core subjects studied, students indicated which subject they liked most. Table 109 presents the results:

Table 109: Percentages of Students' Preferences for Subjects

Subject	Strongly Like	Like	Dislike	Strongly Dislike
Civics	34.0	58.4	5.7	1.9
History	30.3	53.0	13.3	3.4
Geography	48.6	44.3	5.7	1.4
Kiswahili	74.0	23.7	1.4	0.9
English Language	56.6	39.7	2.7	0.9
Physics	19.4	37.7	29.1	13.9
Chemistry	30.8	45.1	18.2	5.8
Biology	42.4	44.7	9.5	3.4
Basic Mathematics	18.2	38.0	25.1	18.7

Of the nine subjects, Kiswahili stood was the most preferred subject by 74.0 per cent of students. English Language followed with 56.6 per cent, and Geography with 48.6 per cent. Also, 58.4 per cent of students in Civics, 53.0 per cent in History, and 45.1 per cent in Chemistry tended to like their respective subjects. On the other hand, 18.7 per cent of students strongly disliked the Basic Mathematics subject, followed by 13.9 per cent in Physics, Chemistry at 5.8 per cent and Biology at 3.4 per cent, respectively. This low level of interest in specific subjects may contribute to learning gaps among students across different subject areas.

Furthermore, in this FTLE assessment, students were asked why they disliked specific subjects, and their responses are presented in Table 110.

Table 110: **Students' Reasons for Not Preferring Certain Subjects**

Subject	Difficult to Understand (%)	Does not help in my Future Career (%)	Does not help in Knowledge Expansion (%)	Does not help in Solving Problems (%)
Civics	58.6	24.7	16.1	9.0
History	51.9	30.4	14.8	13.6
Geography	50.8	25.1	19.6	13.9
Kiswahili	36.3	45.9	17.0	18.3
English Language	44.8	21.2	16.4	23.2
Physics	71.8	15.5	12.1	10.2
Chemistry	61.8	20.4	14.4	11.0

Subject	Difficult to Understand (%)	Does not help in my Future Career (%)	Does not help in Knowledge Expansion (%)	Does not help in Solving Problems (%)
Biology	60.7	20.0	14.6	13.4
Basic Mathematics	72.0	12.3	10.3	14.1

Most students (72.0%) identified Mathematics as the most complex subject to understand, followed by Physics (71.88%), then Chemistry (61.8%), and Biology (60.7%). In addition, 14.1 per cent of students in Mathematics, 13.4 per cent in Biology, 11.4 per cent in English Language, 23.2 per cent in Kiswahili, 18.3 per cent in Chemistry, and 11.0 per cent in Physics reported that the subjects were not helpful to them in solving problems. This attitude had a detrimental effect on performance.

4.5.15 Parents' Involvement/Commitment to Education

Parents' positive attitudes and engagement are crucial to improving learning at school. The school can benefit significantly from their positive and active participation, as well as full commitment to education. This can help nurture a wider community, thereby enhancing educational outcomes, resource mobilisation, and accountability.

Furthermore, parents were asked to indicate the extent of their engagement in school-related educational activities for their children. Their responses are presented in Table 111:

Table 111: Extent of Parents' Engagement in School Educational Activities

SN	Extent of Participation	Percentage (%)
(i)	Always	68.6
(ii)	Often	27.8
(iii)	Rarely	3.6
(iv)	Never	0.0
	Total	**100**

Table 111 shows that 68.6 per cent of the parents surveyed reported participating and being willing and committed to educational matters, while 27.8 per cent often participate, and 3.6 per cent rarely participate. The findings highlight that parental involvement in school education is widely

valued for fostering a positive and supportive school climate that enhances student success.

Similarly, Students whose parents are not involved tend to perform worse academically. Without parental encouragement, children may lack confidence in their abilities and show less persistence in learning tasks. Parental involvement often helps ensure consistent attendance; in addition, when parents are not involved, absenteeism rates can rise, contributing to learning gaps.

4.5.16 Distance from Home to School and its Effects on Teaching and Learning

Geographical distance remains a key barrier to academic success for day scholars. Students who travel long distances on foot often arrive at school late and very tired, which impairs their concentration and engagement during lessons. This fatigue also extends into their hours after school. Thus, it makes it difficult to complete homework effectively. Parallel to teachers who face similar constraints, those who come from distant places may have limited time for lesson preparation and may be too weary to deliver instruction effectively. These challenges collectively affect the overall quality of education.

Table 112 presents the perspectives of students, teachers and head teachers on how residential location influences teaching and learning.

Table 112: Residences of Students, Teachers and Heads of Schools

SN	Category	Residence	Percentage (%)
(i)	Students	Boarding	9.9
		Hostel	9.5
		Day scholars	80.6
		Total	**100**
(ii)	Teachers	Within the school compound	24.3
		Near the school compound	40.5
		Far from the school compound	35.2
		Total	**100**
(iii)	Head of school	Within the school compound	50.8
		Near the school compound	27.9
		Far from the school compound	21.3
		Total	**100**

About 80.6 per cent of students are day scholars, while only 19.4 per cent reside in dormitories or hostels. Among teachers, 24.3 per cent live within

the school compound, 40.5 per cent live nearby, and 35.2 per cent live far from the school. For head teachers, 50.8 per cent live on school compounds, 27.9 per cent live nearby, and 21.3 per cent live at a distance. These residential patterns directly impact students' learning. When teachers and students must travel long distances, exhaustion may develop. This situation can reduce students' and teachers' classroom engagement and limit time for academic interaction. Thus, it can affect the quality of teaching, the ineffective implementation of the curriculum, and student performance.

Students were also asked to report the frequency of their punctual arrival in class. They were instructed to select from the following response categories: always, often, sometimes, rarely, or never. A summary of their responses is presented in Figure 14.

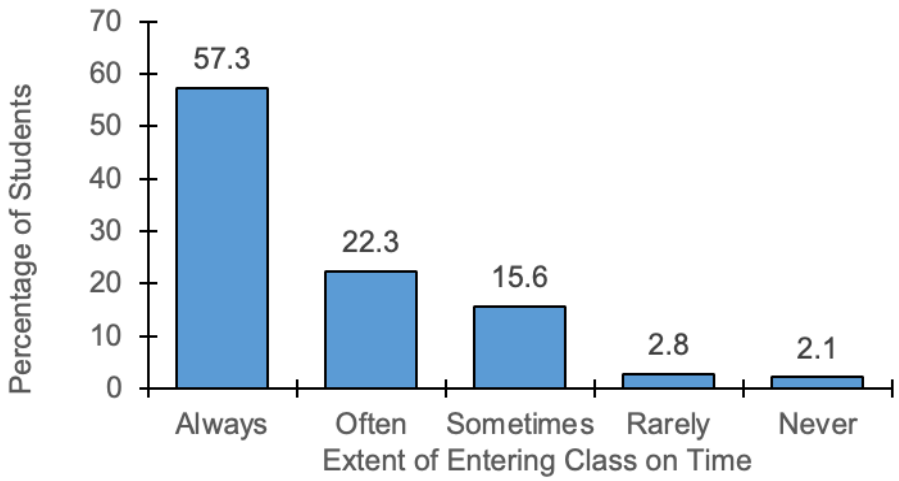

Figure 14: *Students' frequency of attending classes*

Figure 14 presents data on students' punctuality in attending classes. According to the findings, 57.3 per cent of students consistently arrived on time, indicating a strong level of engagement with their academic responsibilities. In contrast, 22.3 per cent reported being punctual often, 15.6 per cent sometimes, 2.8 per cent rarely, and 2.1 per cent never. Late arrivals can result in missed instructional content, potentially hindering students' academic progress.

Table 113: Students' Responses on Factors for their Late Attendance

Reasons	Percentage of Cases
Long distance from home to school	53.8
Family problems	28.4
Geographical barriers	6.5
Traffic jam	4.0
Economic constraints	19.5

Table 113 shows that the most frequently reported factor for students' late arrivals to school was the long distance from home to school, reported by 53.8 per cent of respondents. Additional reasons included family-related issues (28.4%), financial difficulties (19.5%), geographical challenges (6.5%), and traffic (4.0%). These results highlight that the distance from home remains a significant barrier to timely school attendance, leading to learning gaps between students. In addition, students provided information on the distance they encountered from home to school. Table 114 outlines the distribution of these distances based on locality:

Table 114: Students' Home-to-School Distances by Locality

Distance (km)	School Locality (%)	
	Rural	Urban
0–5	61.5	49.5
5.1–10	20.8	27.1
10.1–30	15.7	22.0
30.1 –80	2.0	1.1
Total	**100**	**100**

The data show that the majority of students in both rural and urban areas live within 0–5 km around their schools, with 61.5 per cent in rural areas and 49.5 per cent in urban areas. However, a notable proportion of urban students (27.1%) live between 5.1–10 km from school, compared to 20.8 per cent in rural areas.

As the distance increases, the number of students decreases. In the 10.1–30 km range, 15.7 per cent of rural students and 22.0 per cent of urban

students are affected. In addition, 2.0 per cent of students in rural areas and 1.1 per cent in urban areas lived between 30.1 and 80 km from school.

This distribution suggests that while most students live relatively close to school, a significant minority, especially in urban settings, face longer travel times, which may affect students' physical, psychological, and emotional well-being.

In addition, students provided information regarding the distance they encountered from home to school. Table 115 outlines the distribution of these distances based on school ownership.

Table 115: Students' Home-to-School Distances by School Ownership

	School Ownership (%)	
Distance (km)	**Government**	**Non-government**
0–5	56.5	52.8
5.1–10	24.2	17.6
10.1–30	17.8	4.6
30.1–80	1.4	25.0
Total	**100**	**100**

The data reveal that most government and non-government schools are located within 0–5 km, with 56.5 per cent of government schools and 52.8 per cent of non-government schools falling within this range. As the distance increases, the number of schools decreases significantly. Only 1.4 per cent of government schools are found between 30.1 and 80 km, compared to 25.0 per cent of non-government schools in the same range. Therefore, a long distance from home to school affects students and teachers, also making them arrive at school very late, leading to fatigue and poor concentration. It can also cause low enrolment, drop out, or reduce the effectiveness of lesson preparation and teaching quality, thus heightening the learning gap.

4.6 Participants' Recommendations

This section presents recommendations provided by participants. All questionnaires designed for teachers, students, parents, and board members included an open-ended question which required them to offer their suggestions. The percentages presented in this section are case-based (i.e., how many times the case is mentioned). They do not reflect the

number of respondents because the respondents were free to say more than one case. Table 116 summarises their recommendations.

Table 116: Participants' Recommendations

Recommendations	Heads of school	Teachers	Students	Parents	Board Member
Enhancement of Educational Infrastructure	24.8	21.5	49.8	34.0	30.4
Strengthen Teacher Recruitment, Training and Professional Development	36.5	24.1	43.6	21.4	58.4
Provision and Improvement of Teaching and Learning Resources	28.2	23.4	55.7	14.8	40.8
Promoting Parental and Community Engagement in Education	7.1	4.3	2	10.4	4.7
Enhancing Students' Welfare, Guidance and Support Services	5.3	5.0	24.3	10.4	5
Integration of Information and Communication Technology in Education	6.2	10.9	2.9	7.1	1.1
Strengthening Motivation and Incentive Systems for Teachers and Students	4.1	5.2	0	1.6	0.3

4.6.1 Improving Educational Infrastructure

All respondents expressed a need to improve educational infrastructure to varying degrees. However, students led the submission by 49.8 per cent, followed by parents (34.0%), calling for the enhancement of educational infrastructure in government rural and urban schools. They emphasised the need to improve physical facilities such as classrooms, offices, laboratories, libraries, furniture, and toilets. This recommendation is viable because enhanced infrastructure provides students with a conducive learning environment, reduces class sizes, and boosts the morale of teachers and students. Their focus on infrastructure stems from an insight that the learning environment has a significant role in students' learning. Thus, investment in school infrastructure is not cosmetic; it is integral to educational standards.

4.6.2 Strengthening Teacher Recruitment, Training, and Professional Development

Board members (58%) referred to schools located in rural areas; students (43.6%) based on schools in both rural and urban areas, and heads of schools (36.5%), drawing on urban-based schools and strongly

recommended strengthening teachers' recruitment, training and professional development. This recommendation stems from schools which are understaffed relative to the recommended number of teachers or employ underqualified staff, which has implications for the quality of instruction. The respondents also suggested regular in-service training, workshops, and refresher sessions to update teachers on teaching methodologies. This recommendation is based on the idea that teachers' employment and professional development are essential for curriculum implementation. Regular in-service training increases teachers' confidence, improves classroom management and enables a learner-centred approach.

4.6.3 Improving and Providing Teaching and Learning Resources

Strengthening the availability and effective use of teaching and learning resources improves instructional quality, reduces disparities between schools, and promotes equitable access to education for all learners. The need for the provision and improvement of teaching and learning resources was reported by 55.7 per cent of student respondents across both government and non-government schools. The respondent students highlighted the need for better teaching and learning resources, especially in government schools. This recommendation urges the education authorities to prioritise the provision, equitable distribution, and proper utilisation of quality teaching and learning materials across schools to enhance instructional effectiveness and learning outcomes.

4.6.4 Promoting Parental and Community Engagement in Education

Enhanced parental and community engagement promotes shared responsibility for learners' success, improves school accountability, and strengthens community support for education. About 12.3 per cent of heads of schools, 10.1 per cent of board members, and 10 per cent of parents from schools in urban areas underscored the need to promote parental and community engagement in education. This submission calls for the government and other educational stakeholders to strengthen frameworks for partnerships among schools, parents, and the wider community, especially in urban areas. This should include sensitisation programmes, capacity-building for school committees and boards, and the establishment of regular communication and participation platforms to

enhance shared responsibility for students' learning outcomes and overall school improvement.

4.6.5 Enhancing Student Welfare and Support Services

Enhanced student welfare and guidance services will help address social, emotional, and academic challenges, thereby improving students' engagement, attendance, and academic performance. About 24.3 per cent of students, mainly from urban schools, highlighted the need to enhance student welfare, guidance, and support services. Thus, it is recommended that education authorities strengthen mechanisms to provide effective counselling, mentorship, and welfare programmes to address students' academic, social, and psychological needs, especially in urban schools.

4.6.6 Integration of ICT into the Educational Process

Integrating ICT in education bridges the digital divide between rural and urban schools. It promotes interactive learning and equips teachers and students with essential digital skills for the 21st century. Such a need, especially in rural areas, is reflected in 15.4 per cent of heads of schools in rural government schools and 16.7 per cent in rural non-government schools. They emphasised the need to integrate ICT into education, urging the government and other stakeholders to enhance the use of digital technologies in teaching, learning, and administration. This should include investing in ICT infrastructure, reliable internet connectivity, digital content development, and teacher capacity-building programmes to ensure effective integration of ICT in classroom practices and school operations.

4.6.7 Strengthening Motivation and Incentive Systems for Teachers and Students

Strengthening motivation and incentive systems enhances teachers' morale, improves performance, and fosters a culture of excellence and accountability among both teachers and students. About 11.2 per cent of heads of schools in urban non-government schools and 14.0 per cent of board members in non-government rural schools highlighted the need to strengthen motivation and incentive systems for teachers and students in their schools. It is, therefore, the duty of the government, school owners, and other stakeholders to develop sustainable incentive frameworks.

These should include both financial and non-financial rewards such as recognition schemes, professional development opportunities, performance-based bonuses, and academic awards for students. Such systems will encourage excellence, accountability, and a stronger culture of achievement within schools. Implementing these recommendations is essential for advancing the quality, equity, and relevance of education in Tanzania. Taken together, they tackle critical dimensions of the education system, ranging from strengthening learning environments and pedagogical practices to improving student welfare, teacher motivation, and community engagement. By prioritising these areas, Tanzania can enhance learning outcomes and build a more inclusive, accountable, and resilient education system.

CHAPTER FIVE

COMPARATIVE ANALYSIS OF FTLE PHASES I AND II FINDINGS

5.1 Introduction

This chapter comparatively analyses the findings from FTLE, both phases I and II structured around the study's core objectives. These objectives include examining differences in student learning outcomes; assessing teachers' qualifications, teaching experience, and performance grades in the specific subjects they teach; evaluating curriculum coverage in terms of competency development; and identifying gaps in teaching and learning practices. Moreover, the chapter compares the recommendations proposed during the analysis of both FTLE phases, highlighting areas of progress and persistent challenges.

5.2 Comparisons of Key Findings from FTLE Phases I and II

5.2.1 Differences in Students' Learning Outcomes

FTLE I evaluated students in four subjects: Basic Mathematics, Biology, English Language, and Physics. In contrast, FTLE II expanded the scope to nine subjects, adding Chemistry, Kiswahili, Geography, History, and Civics to the original four subjects. The analysis of students' performance in both phases was based on gender, school locality (rural/urban), and type of school ownership (government/non-government). This analysis considered both academic achievement and students' self-reported skill levels in each subject.

A comparative overview of performance for each of the assessment subjects that feature in both FTLE I and II is presented in Table 117:

Table 117: Comparison of Students' Performance in Phase I and II

Subject	FTLE Phases	Performance Categories/Bands (%)				
		Excellent	Very Good	Good	Satisfactory	Unsatisfactory
Biology	I	1.3	2.8	13.5	19.8	62.6
	II	2.6	3.1	12.1	21.3	60.9
English Language	I	4.1	3.9	12.2	19.9	59.9
	II	5.3	3.9	11.4	19.7	59.7
Physics	I	1.4	2.2	9.4	15.7	71.3
	II	0.6	1.6	6.5	10.5	80.7
Basic Mathematics	I	0.7	1.0	3.8	5.8	88.7
	II	1.1	1.3	3.9	6.2	87.5

Table 117 shows that students' overall performance across all subjects is skewed to the right, with more than 50 per cent performing unsatisfactorily. Poor performance among students is observed in Basic Mathematics, with unsatisfactory performance of 88.7 per cent and 87.5 per cent for FTLE I and II, respectively. Their performance in Physics is unsatisfactory at 71.3 per cent and 80.7 per cent on both FTLE I and II, respectively. English Language recorded the highest-performance, with 40.1 per cent and 40.3 per cent of students performing Excellent to Satisfactory in FTLE I and II, respectively. Moreover, the percentage performance has increased slightly in FTLE II compared to FTLE I in Biology, English Language, and Basic Mathematics. Conversely, there is a slight 9.5 per cent decrease in performance in Physics among students performing Excellent to Satisfactory in FTLE I and II.

Comparisons of students' performance based on gender, school locality, school ownership and competency skills in Basic Mathematics, Biology, English Language and Physics subjects are as follows:

5.2.1.1 Basic Mathematics

Comparison results for students' performance by gender, school locality, and school ownership in this subject are presented in Table 118.

Table 118: Comparisons of Students' Performance in Basic Mathematics by Gender, School Locality and School Ownership

Subject	Performance Categories/ Bands (%)	FTLE Phases	Gender		Locality		Ownership	
			F	M	Urban	Rural	Govt	Non-Govt
Basics Mathematics	Excellent	I	0.5	1.0	1.2	0.5	0.2	5.5
		II	0.6	1.9	2.0	0.6	0.4	8.7
	Very Good	I	0.9	1.0	1.3	0.8	0.5	5.6
		II	0.7	2.3	1.8	1.0	0.8	6.7
	Good	I	2.7	5.2	4.8	3.3	2.5	17.4
		II	2.5	6.3	5.2	3.2	2.8	16.1
	Satisfactory	I	4.9	7.0	6.4	5.5	4.9	15.7
		II	4.3	9.4	7.0	5.7	5.3	15.1
	Unsatisfactory	I	91.0	85.8	86.3	89.9	91.9	55.8
		II	91.9	80.1	84.0	89.6	90.6	53.5

Table 118 presents a detailed comparison of students' performance in Basic Mathematics by gender, school locality, and school ownership.

(a) Analysis by gender indicates that the majority of students scored in the Unsatisfactory category in both FTLE phases. In FTLE I, 91.0 per cent of female students and 85.8 per cent of male students were in the unsatisfactory category, while in FTLE II, the figures were 91.9 per cent for females and 80.1 per cent for males. The remaining students, who achieved results ranging from Excellent to Satisfactory, accounted for 9.0 per cent of females and 14.2 per cent of males in FTLE I, and 8.1 per cent of females and 19.9 per cent of males in FTLE II. This pattern suggests that male students consistently outperformed female students, with a noticeable improvement in the second phase. Figure 15 illustrates these gender-based differences.

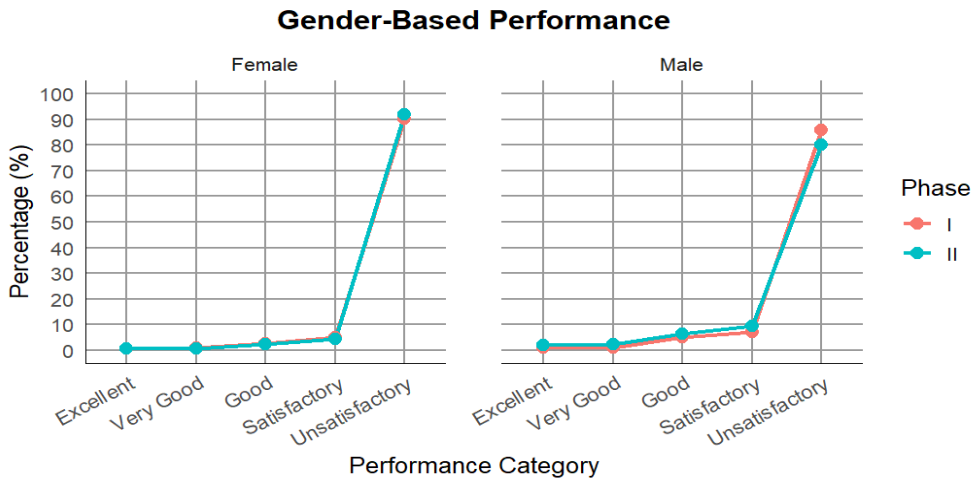

Figure 15: *Students' performance in FTLE I and II in Basic Mathematics by gender*

(b) When considering school locality, students in urban schools performed slightly better than their peers in rural schools. In FTLE I, 86.3 per cent of urban students were in the Unsatisfactory category, compared to 89.9 per cent of rural students. In FTLE II, 84.0 per cent of urban and 89.6 per cent of rural students remained in the Unsatisfactory category. Conversely, the proportion of students scoring in the Excellent-to-Satisfactory categories was higher in urban schools—13.7 per cent in FTLE I and 16.0 per cent in FTLE II—

compared to rural schools, which recorded 10.1 per cent in FTLE I and 10.4 per cent in FTLE II. These results suggest that urban students maintain a slight performance advantage, although rural students showed marginal improvement in FTLE II. Figure 16 compares performance by school locality.

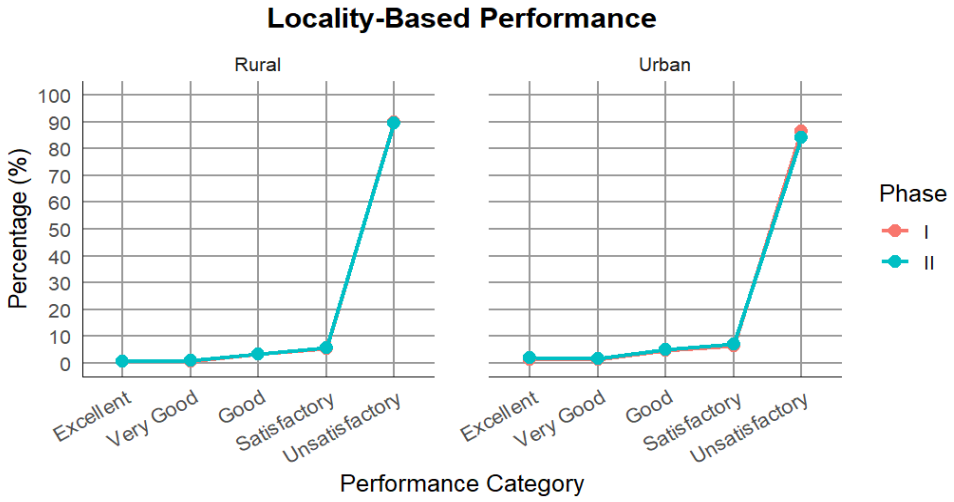

Figure 16: *Students' performance in FTLE I and II in Basic Mathematics by school locality*

(c) Examining performance by school ownership, students from non-government schools consistently outperformed those in government schools. In FTLE I, 91.9 per cent of government school students scored unsatisfactorily compared to 55.8 per cent of non-government students. In FTLE II, 90.6 per cent of government students and 53.5 per cent of non-government students remained unsatisfactory. The remaining students in both phases achieved scores in the Excellent-to-Satisfactory range, demonstrating a small overall improvement, particularly among non-government school students. Figure 17 illustrates the differences in performance by school ownership.

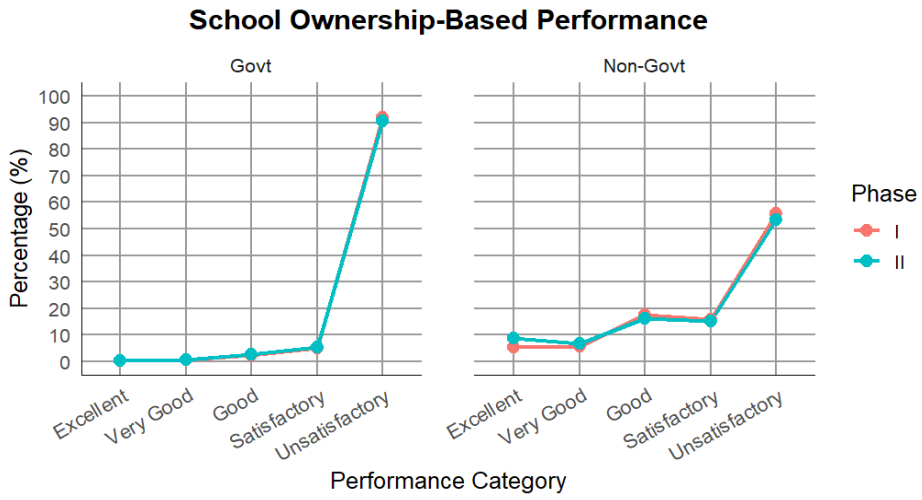

Figure 17: *Students' performance in FTLE I and II in Basic Mathematics by school ownership*

(d) Comparison of Performance in Basic Mathematics Competencies in FTLE I and II

The performance comparison results for competencies assessed in both FTLE I and FTLE II in this subject are presented in Table 119.

Table 119: Performance Comparison in Performance in FTLE Phase I and II

SN	Competency	FTLE Phases	Categories of Performance				
			Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Distinguish different types of numbers and solve problems	I	3.0	1.6	7.7	9.8	77.9
		II	4.1	2.1	5.4	17.5	71.0
2.	Convert units	I	3.4	1.5	4.6	6.9	83.5
		II	9.3	3.4	11.1	9.8	66.4
3.	Estimate and compute numbers accurately	I	1.9	0.6	5.5	8.4	83.6
		II	4.1	2.2	5.7	6.2	81.8
4.	Do scale drawing and geometrical transformations	I	2.6	1.5	4.4	5.4	86.1
		II	1.4	0.5	4.1	6.1	88.0
5.	Solve problems on perimeters and areas	I	2.0	0.8	2.7	3.2	91.3
		II	3.1	0.8	3.2	4.1	88.8
6.	Factorise and solve problems	I	0.7	1.3	3.8	4.6	89.5
		II	0.6	1.1	3.3	9.6	85.3
7.	Solve problems on ratios, profit and loss, and simple interest	I	6.5	2.3	4.2	7.5	79.5
		II	2.2	0.6	7.2	14.0	76.0

SN	Competency	FTLE Phases	Categories of Performance				
			Excellent	Very Good	Good	Satisfactory	Unsatisfactory
8.	Draw graphs and interpret linear equations	I	1.8	0.8	2.5	13.6	81.3
		II	1.9	0.8	3.5	3.8	90.0
9.	Find relationships among logarithms, exponents and radicals	I	0.7	0.3	5.0	7.3	86.7
		II	0.9	0.5	3.5	7.9	87.3
10.	Verify laws and prove theorems	I	1.1	0.9	3.6	6.2	88.2
		II	0.9	0.2	3.7	3.3	92.0

Generally, Table 119 indicates poor performance by students in all 10 competencies of Basic Mathematics. Specifically, 77.9 to 91.3 per cent of students and 66.4 to 92.0 per cent of students in FTLE I and FTLE II, respectively, performed unsatisfactorily in all 10 competencies. Of the 10 assessed competencies, performance on *Convert units* improved from 16.4 per cent in FTLE I to 33.6 per cent in FTLE II, with 33.6 per cent of students scoring Excellent to Satisfactory grades. Moreover, this competency registered the highest performance (33.6%) among all assessed competencies. Generally, students' performance in FTLE II has improved over that in FTLE I.

5.2.1.2 Biology

Students' performance in Biology, analysed by gender, school locality, and school ownership, is summarised in Table 120.

Table 120: **Students' Performance in Biology by Gender, School Locality, and School Ownership**

Subject	Performance Categories/ Bands (%)	FTLE Phases	Gender		Locality		Ownership	
			F	M	Urban	Rural	Govt	Non-Govt
Biology	Excellent	I	1.2	1.6	2.1	1.0	0.6	9.3
		II	1.6	4.2	3.8	1.8	1.0	19.1
	Very Good	I	2.0	3.7	3.2	2.6	1.7	13.2
		II	2.2	4.7	4.2	2.5	2.0	14.7
	Good	I	10.9	16.7	15.5	12.5	11.2	38.1
		II	9.1	17.1	13.9	11.0	10.5	29.0
	Satisfactory	I	17.9	22.2	21.3	19.0	19.6	21.2
		II	19.5	24.2	22.0	20.8	21.3	21.2
	Unsatisfactory	I	68.0	55.8	57.9	64.9	66.9	18.2

Subject	Performance Categories/ Bands (%)	FTLE Phases	Gender		Locality		Ownership	
			F	M	Urban	Rural	Govt	Non-Govt
		II	67.6	49.7	56.1	63.9	65.1	15.9

(a) Analysis reveals that male students consistently performed better than female students across both phases. In FTLE I, 68.0 per cent of females and 55.8 per cent of males scored in the unsatisfactory category. In FTLE II, the figures were 67.6 per cent for females and 49.7 per cent for males. The remaining students—32 per cent of females and 44.2 per cent of males in FTLE I, and 32.4 per cent of females and 50.3 per cent of males in FTLE II—achieved results in the Excellent-to-Satisfactory range. These findings indicate a slight improvement in performance for both genders in the second phase. Figure 18 illustrates the differences in performance between male and female students.

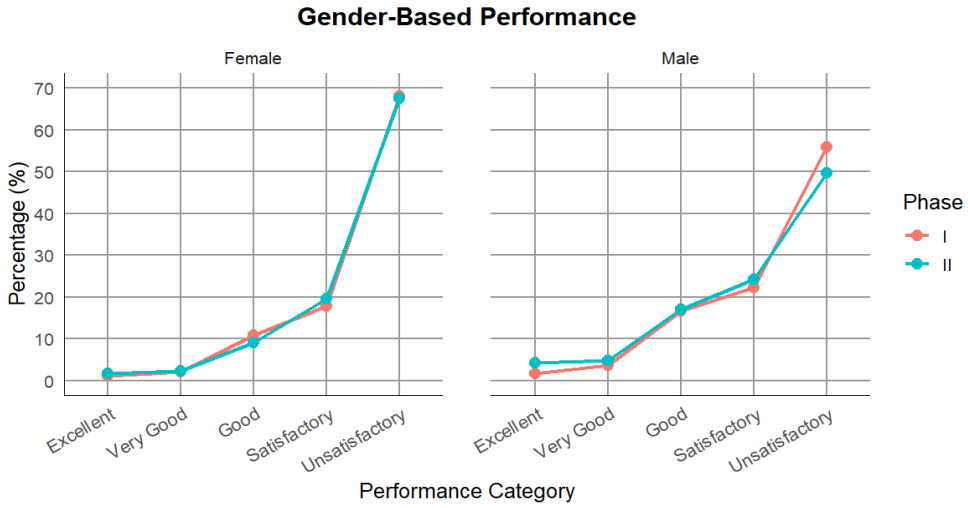

Figure 18: *Students' performance in FTLE I and II in Biology by gender*

(b) Performance patterns by school locality show that students from urban schools performed marginally better than those from rural schools. In FTLE I, 42.1 per cent of urban students scored in the Excellent-to-Satisfactory range compared to 35.1 per cent of rural students. In FTLE II, these proportions increased slightly to 43.9 per cent for urban students and 34.9 per cent for rural students. Despite this improvement, more than half of the students in both localities

scored unsatisfactorily in each phase. Figure 19 presents students' performance by school locality.

Figure 19: *Students' performance in FTLE I and II in Biology by school locality*

(c) Evaluation by school ownership indicates that students from non-government schools performed better than those from government schools. In FTLE I, 81.8 per cent of non-government students scored in the Excellent-to-Satisfactory categories, compared to 33.1 per cent of government students. In FTLE II, these figures improved slightly to 84.1 per cent for non-government schools and 34.9 per cent for government schools. The remaining students scored unsatisfactorily, representing 18.2 per cent and 15.9 per cent for non-government schools, and 66.9 per cent and 65.1 per cent for government schools in FTLE I and II, respectively. Overall, the results suggest a modest improvement in both school types, with non-government schools maintaining higher performance levels. Figure 20 illustrates these differences by school ownership.

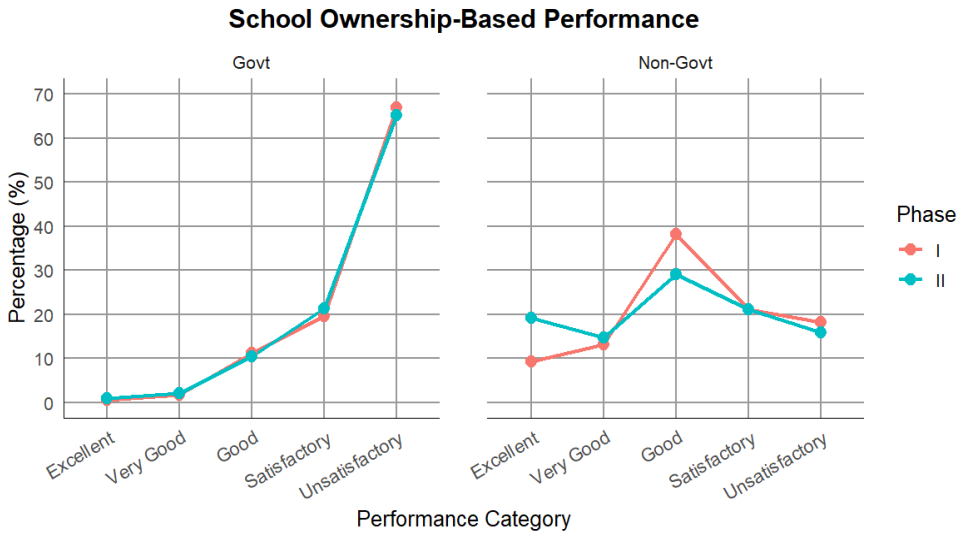

Figure 20: *Students' performance in FTLE I and II in Biology by school ownership*

(d) Comparison of Performance in Biology Competencies in FTLE I and II

The performance comparison results for competencies assessed in both FTLE I and FTLE II in this subject are presented in Table 121.

Table 121: Students' Performances in Different Biology Competencies

SN	Competency	FTLE Phases	Categories of Performance				
			Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Demonstrate appropriate use of biological knowledge, concepts, principles and skills in everyday life	I	4.9	2.1	8.9	15.4	68.8
		II	16.2	5.6	16.5	19.5	42.3
2.	Demonstrate appropriate preventive measures and precautions against common accidents, infections and other related health problems	I	8.1	4.9	18.8	24.7	43.6
		II	4.9	3.9	13.7	22.7	54.9
3.	Use of scientific procedures and practical skills in studying Biology	I	10.8	9.7	24.7	19.0	35.9
		II	12.9	10.4	31.8	26.4	18.5
4.	Group organisms according to their similarities and differences	I	3.9	3.1	9.5	12.9	70.7
		II	4.8	2.2	11.0	19.9	62.1
5.	Use of basic biological concepts,	I	1.9	2.0	8.3	13.3	74.5

SN	Competency	FTLE Phases	Categories of Performance				
			Excellent	Very Good	Good	Satisfactory	Unsatisfactory
	principles and skills to evaluate the roles of various physiological processes in plants and animals	II	1.8	1.9	8.5	19.5	68.2
6.	Appreciate nature and ensure sustained interaction of organisms in the natural environment	I	4.0	3.1	13.0	21.8	58.1
		II	16.0	6.4	18.9	21.1	37.6
7.	Use of biological practical skills in studying various physiological processes in plants and animals	I	2.6	3.0	9.9	29.6	54.9
		II	1.3	1.1	5.4	8.5	83.8

Table 121 shows that students' performance improved in 5 of 7 assessed competencies. Improvements in students' performance were recorded in the competencies with SN 1 (26.5%), 3 (17.3%), 4 (8.5%), 5 (6.5%), and 6 (20.5%). Conversely, students' performance in the competencies with SN 2 and 7 decreased by 11.3 per cent and 28.8 per cent, respectively, from FTLE I to FTLE II. Therefore, students' overall performance in this subject has improved.

5.2.1.3 English Language

Comparison data of students' performance in English Language based on gender, school locality, and school ownership are presented in Table 122.

Table 122: **Students' Performance in English Language**

Subject	Performance Categories/ Bands (%)	FTLE Phases	Gender		Locality		Ownership	
			F	M	Urban	Rural	Govt	Non-Govt
English Language	Excellent	I	4.3	3.8	6.8	2.7	1.5	30.1
		II	3.9	7.6	8.0	3.6	2.4	36.5
	Very Good	I	3.5	4.5	6.4	2.7	2.7	17.0
		II	3.1	5.3	5.5	3.0	3.1	13.3
	Good	I	9.8	15.2	14.5	11.0	11.1	23.4
		II	9.3	15.0	13.2	10.3	10.6	20.2
	Satisfactory	I	18.3	21.9	21.7	19.0	20.4	14.4
		II	18.7	21.4	20.7	19.1	20.1	15.8
	Unsatisfactory	I	64.1	54.6	50.6	64.6	64.3	15.1
		II	65.1	50.7	52.6	64.0	63.9	14.1

Table 122 provides a detailed comparison of students' performance in the English Language by gender, school locality, and school ownership.

(a) An analysis of students' performance across both FTLE Phases I and II reveals that male students generally performed better than their female counterparts. In FTLE I, 64.1 per cent of female students and 54.6 per cent of male students scored in the Unsatisfactory category, while in FTLE II, 65.1 per cent of female students and 50.7 per cent of male students remained in this category. The remaining students—35.9 per cent females and 45.4 per cent males in FTLE I, and 34.9 per cent females and 49.3 per cent males in FTLE II—scored in the Excellent-to-Satisfactory categories. These trends are clearly visible in Figure 21.

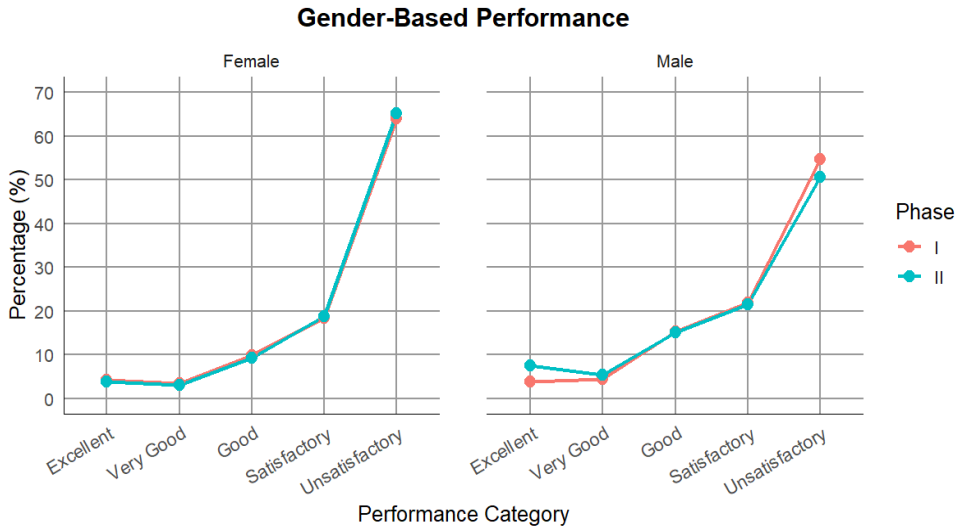

Figure 21: *Students' performance in FTLE I and II in English Language by gender*

(b) Considering school locality, in FTLE I, 49.4 per cent of students from urban schools scored in the Excellent-to-Satisfactory categories, compared to only 35.4 per cent of students from rural schools. Consequently, 64.6 per cent of students from rural schools and 50.6 per cent from urban schools performed unsatisfactorily. In FTLE II, 47.4 per cent of urban students and 36.0 per cent of rural students scored in the Excellent-to-Satisfactory categories, while 52.6 per cent of urban students and 64.0 per cent of rural students remained in the Unsatisfactory category. These differences are illustrated in Figure 22.

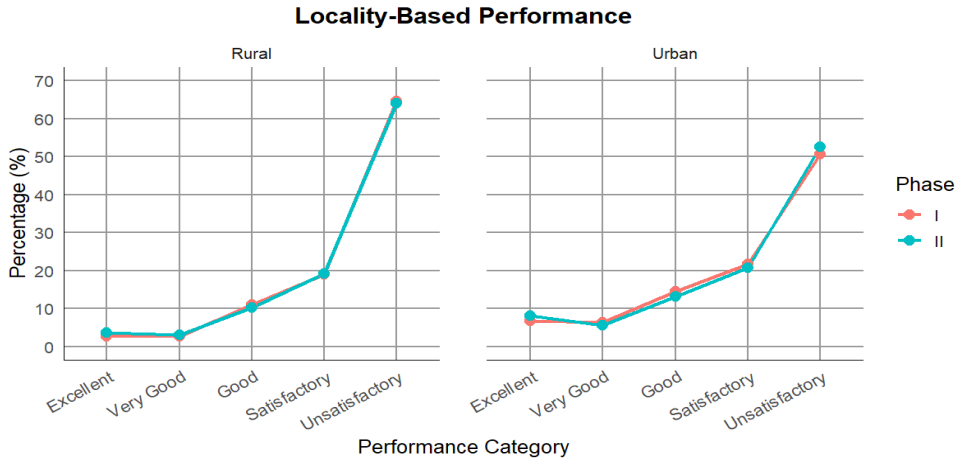

Figure 22: *Students' performance in FTLE I and II in English Language by school locality*

(c) Regarding school ownership, FTLE I results show that 84.9 per cent of students from non-government schools scored in the Excellent-to-Satisfactory categories, compared to 35.7 per cent of students from government schools. In FTLE II, similar trends were observed, with 85.9 per cent of non-government school students and 36.1 per cent of government school students achieving scores in the same bands. The remaining students (15.1 per cent from non-government schools and 64.3 per cent from government schools in FTLE I; 14.1 per cent from non-government schools and 63.9 per cent from government schools in FTLE II) scored unsatisfactorily. These results are shown in Figure 23.

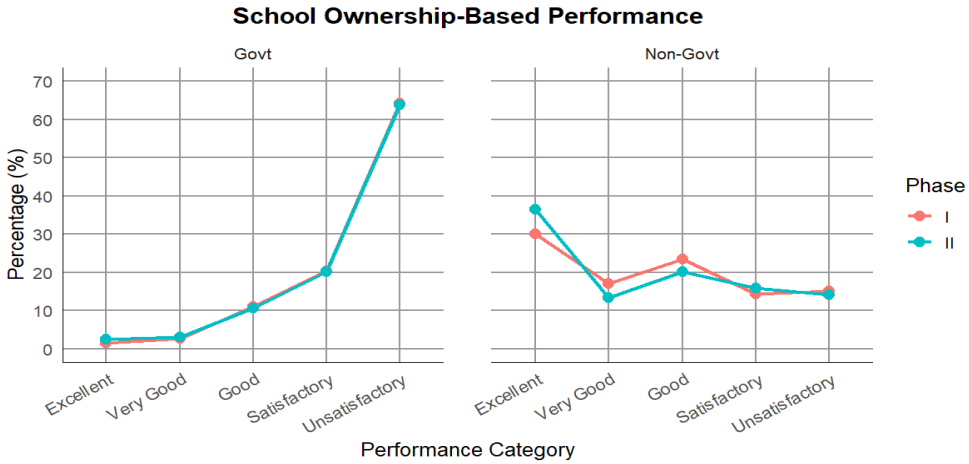

Figure 23: *Students' performance in FTLE I and II in English Language by school ownership*

(d) **Comparison of Students' Performance in English Language Competencies**

The performance comparisons for competencies assessed in both FTLE I and II in this subject are presented in Table 123.

Table 123: Performance Comparison in English Language in FTLE Phase I and II by Competencies

SN	Competency	FTLE Phases	Categories of Performance				
			Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Use simple English to communicate in social interactions and settings.	I	15.8	8.4	27.8	28.5	19.5
		II	17.1	9.7	25.7	20.4	27.1
2.	Describe past activities and personal experiences	I	2.0	0.4	4.5	8.6	84.5
		II	8.3	2.8	6.7	7.6	74.5
3.	Engage in simple conversations and transactions on familiar topics.	I	10.3	5.3	19.5	21.8	43.1
		II	8.9	3.6	12.0	20.3	55.3
4.	Express in English in writing, needs, feelings and ideas using appropriate vocabulary	I	8.2	4.4	13.9	19.1	54.3
		II	5.8	2.9	12.1	16.6	62.6
5.	Give and respond to directions/locations using simple English sentences	I	9.4	3.7	10.2	9.6	67.1
		II	10.9	7.7	22.7	23.3	35.4
6.	Identify general and specific information on events in simple written texts she/he encounters	I	3.3	3.4	13.5	20.9	59.0
		II	7.7	2.7	7.3	10.7	71.6
7.	Use English to obtain, process, construct and provide subject matter information in written forms	I	13.3	3.0	21.8	38.6	23.3
		II	9.8	5.1	17.5	23.7	43.9
8.	Use appropriate English pronunciation in a variety of settings	I	8.9	6.3	19.1	20.3	45.3
		II	4.8	3.6	11.8	16.8	63.0
9.	Interact in writing for personal expression and enjoyment	I	7.1	3.3	12.5	17.5	59.6
		II	6.0	11.1	21.2	7.9	53.8
10.	Answer questions on simple readers and report on what they read	I	4.8	1.5	8.8	12.7	72.2
		II	3.3	3.3	12.7	20.1	60.6

Table 123 shows that most students performed unsatisfactorily in six of the 10 competencies assessed. In the four remaining competencies (SN 2, 5, 9 and 10), the students' performance improved. Good performance in this

subject is observed in two competencies: *The use of simple English to communicate in social interactions and settings,* and *the use of English to obtain, process, construct, and provide subject-matter information in written form*. However, students' performance in these competencies dropped by 7.6 per cent and 20.6 per cent in FTLE II, respectively, compared to FTLE I. Therefore, their overall performance in English Language decreased.

5.2.1.4 Physics

Students' performance in Physics, analysed by gender, school locality, and school ownership, is summarised in Table 124.

Table 124: **Students' Performance in Physics by Gender, School Locality, and School Ownership**

Subject	Performance Categories/ Bands (%)	FTLE Phases	Gender		Locality		Ownership	
			F	M	Urban	Rural	Govt	Non-Govt
Physics	Excellent	I	1.1	1.7	1.8	1.2	0.6	9.5
		II	0.3	1.0	1.1	0.3	0.2	5.0
	Very Good	I	1.5	3.1	2.7	1.9	1.4	10.5
		II	0.9	2.9	2.5	1.1	0.8	10.3
	Good	I	7.2	12.2	11.7	8.2	7.5	29.0
		II	4.0	10.7	8.2	5.4	4.7	26.0
	Satisfactory	I	13.1	19.0	17.9	14.6	14.8	24.5
		II	8.5	13.8	11.9	9.6	9.6	20.5
	Unsatisfactory	I	77.1	64.0	65.9	74.1	75.7	26.5
		II	86.3	71.5	76.2	83.5	84.7	38.3

(a) Performance comparisons by gender show that male students outperformed female students in both phases, although overall performance decreased in FTLE II. In FTLE I, 36 per cent of male students scored within the Excellent-to-Satisfactory categories compared to 22.9 per cent of female students. In FTLE II, these proportions declined to 28.5 per cent for males and 13.7 per cent for females. The remaining students—64.0 per cent of males and 77.1 per cent of females in FTLE I, and 71.5 per cent of males and 86.3 per cent of females in FTLE II—performed unsatisfactorily. These figures indicate a drop in performance by 7.5 per cent among males

and 9.2 per cent among females in the second phase. Figure 24 illustrates the performance in Physics by gender.

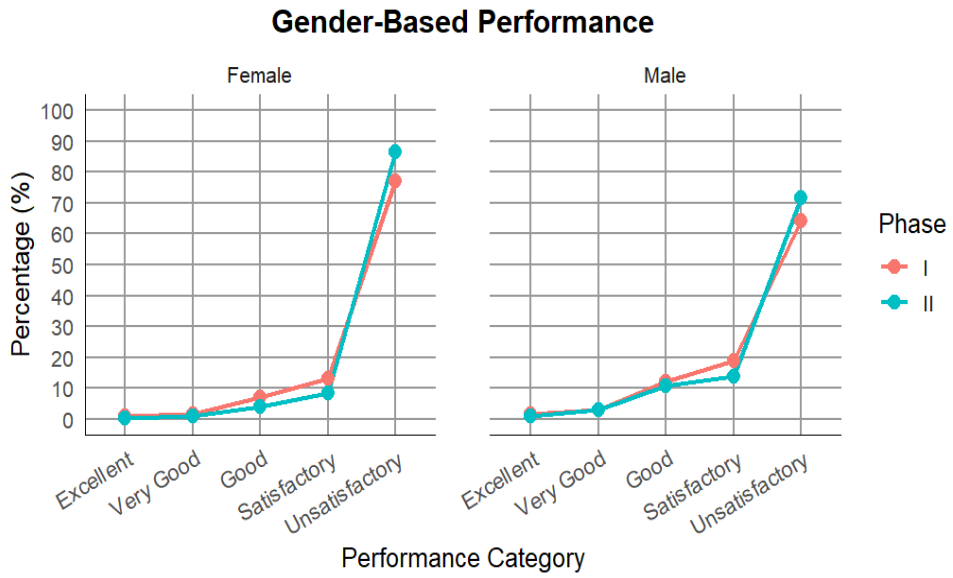

Figure 24: *Students' performance in FTLE I and II in Physics by gender*

(b) When evaluating performance by school locality, students in urban schools generally scored higher than those in rural schools. In FTLE I, 34.1 per cent of urban students and 25.9 per cent of rural students scored in the Excellent-to-Satisfactory range. In FTLE II, these proportions decreased to 23.8 per cent for urban schools and 16.5 per cent for rural schools. The remaining students—65.9 per cent of urban and 74.1 per cent of rural in FTLE I, and 76.2 per cent of urban and 83.5 per cent of rural in FTLE II—were unsatisfactory. Overall, these results show a decline in performance across both urban and rural schools. Figure 25 presents students' performance by school locality.

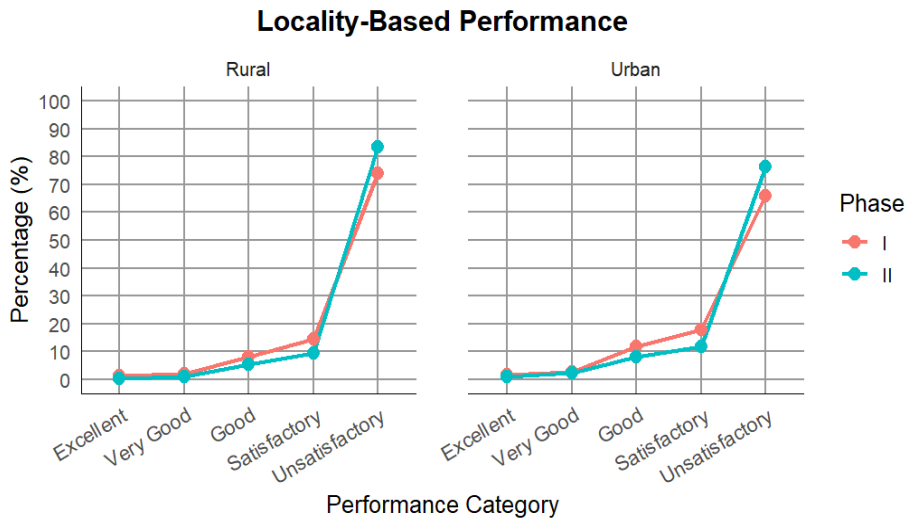

Figure 25: *Students' performance in FTLE I and II in Physics by school locality*

(c) Analysis by school ownership indicates that students from non-government schools outperformed those from government schools in both phases. In FTLE I, 73.5 per cent of non-government students scored in the Excellent-to-Satisfactory range compared to 24.3 per cent of government school students. In FTLE II, these proportions decreased slightly to 61.7 per cent for non-government schools and 15.3 per cent for government schools. The remaining students—26.5 per cent from non-government schools and 75.7 per cent from government schools in FTLE I, and 38.3 per cent from non-government schools and 84.7 per cent from government schools in FTLE II—performed unsatisfactorily. Figure 26 illustrates the differences in performance by school ownership.

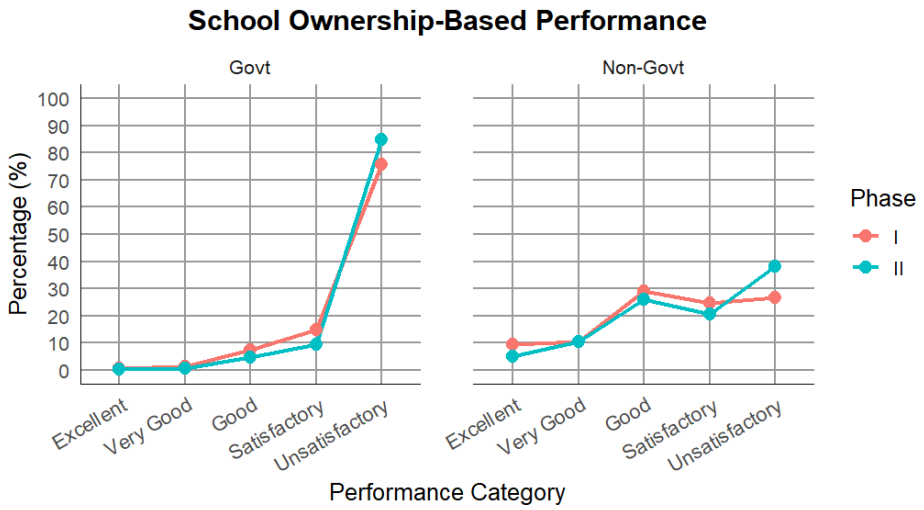

Figure 26: *Students' performance in FTLE I and II in Physics by school ownership*

(d) Comparison of Performance in Physics Competencies

The performance comparison of competencies assessed in both FTLE I and FTLE II in this subject is presented in Table 125.

Table 125: Performance Comparison in Phases I and II by Competencies

SN	Competency	FTLE Phases	Categories of Performance				
			Excellent	Very Good	Good	Satisfactory	Unsatisfactory
1.	Practice safety rules in daily life.	I	14.0	5.1	11.6	12.1	57.2
		II	0.9	0.5	4.5	12.9	81.3
2.	Make appropriate measurements of physical quantities.	I	2.7	1.4	4.1	9.6	82.2
		II	3.1	3.0	10.6	15.7	67.6
3.	Apply laws, theories and principles of Physics in daily life.	I	11.0	3.8	12.4	11.4	61.4
		II	4.2	2.9	10.2	8.5	74.1
4.	Use scientific skills to identify the nature and properties of matter.	I	7.6	6.0	21.7	24.5	40.2
		II	1.7	1.4	3.6	5.3	87.9
5.	Apply the laws of reflection of light in daily life.	I	3.0	1.8	4.2	5.2	85.8
		II	3.9	2.1	5.4	6.2	82.5
6.	Apply electricity and magnetism knowledge in daily life.	I	1.1	1.3	8.2	15.4	74.0
		II	2.0	1.8	9.8	12.6	73.8
7.	Apply the concept of turning	I	2.3	1.9	3.1	4.6	88.0

SN	Competency	FTLE Phases	Categories of Performance				
			Excellent	Very Good	Good	Satisfactory	Unsatisfactory
	forces in daily life.	II	0.4	0.6	4.4	9.2	85.4
8.	Use simple machines to simplify work.	I	8.1	2.9	15.1	14.0	59.9
		II	3.4	7.0	11.9	10.0	67.8

Comparison data in Table 125 show that the performance of most students falls under the Unsatisfactory category, ranging from 57.2 per cent to 88.0 per cent across seven (7) of eight (8) competencies assessed in this subject. Moreover, the data show a decrease in students' performance in five (5) of eight (8) assessed competencies, and an increase in three (3) competencies. The data show that, across both phases, students' performance in all assessed competencies was below 50 per cent, except for the *Use of scientific skills to identify the nature and properties of matter* competency on FTLE I, where it reached 59.8 per cent. However, students' performance decreased drastically to 12 per cent in the same competency in FTLE II.

5.2.2 Teachers' Qualifications, Experience, and Grades Attained in Teaching Subjects

5.2.2.1 Teachers' Qualifications

The statistics on teachers' qualifications show that schools in both localities have higher proportions of graduate teachers than in other categories. However, schools in urban areas and non-government schools have more qualified teachers, characterised by a higher proportion of graduate teachers than of teachers with diplomas. In contrast, those in rural areas and those owned by the government have lower proportions of graduate teachers. A comparative analysis of teachers' qualifications by school location and ownership is summarised in Table 126.

Table 126: Teachers' Qualifications

	Rural (%)		Urban (%)		Government (%)		Non-Government (%)	
FTLE PHASE	**I**	**II**	**I**	**II**	**I**	**II**	**I**	**II**
Diploma	44.8	40.7	34.6	30.5	46.3	41.5	27.4	18.2
Bachelor	53.2	57.6	61.2	67.2	51.6	56.5	68.6	79.9
Master	1.3	1.4	2.8	1.9	1.7	1.6	1.6	1.4
PhD	0	0	0.5	0	0.1	0	0.3	0
other	0.7	0.4	0.8	0.4	0.3	0.4	2.1	0.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

(a) School Locality

Table 126 indicates differences in teacher qualification levels between urban and rural schools. In FTLE Phase I, Bachelor's degree holders accounted for 61.2 per cent of teachers in urban schools compared to 53.2 per cent in rural schools, increasing in Phase II to 67.2 per cent and 57.6 per cent, respectively. Over the same period, the proportion of diploma-qualified teachers declined from 44.8 per cent to 40.7 per cent in rural schools and from 34.6 per cent to 30.5 per cent in urban schools. Teachers with Master's or PhD qualifications remained minimal in both localities, consistently below three (3) per cent.

Overall, the findings indicate a positive shift toward higher teachers' qualifications, as reflected in the increase of Bachelor's degree holders and the decline in diploma-holding teachers across all categories. This improvement suggests that teacher qualification levels are gradually rising, potentially contributing to better instructional quality and learning outcomes in subsequent evaluations.

(b) School Ownership

The results reveal apparent differences in teacher qualifications between the two ownership categories and show trends over time. Across both phases, non-government schools consistently have a higher proportion of teachers with Bachelor's degrees compared to government schools. In

FTLE Phase I, 68.6 per cent of teachers in non-government schools had Bachelor's degrees, while only 51.6 per cent of government school teachers had the same qualification. In Phase II, these proportions increased to 79.9 per cent for non-government schools and 56.5 per cent for government schools, indicating a growing advantage for non-government schools in teacher qualifications.

In contrast, a higher proportion of diploma teachers is found in government schools. For instance, in Phase I, 46.3 per cent of teachers in government schools held diplomas, compared to 27.4 per cent in non-government schools. By Phase II, these figures declined to 41.5 per cent and 18.2 per cent, respectively, reflecting a higher proportion of diploma teachers in government schools than in non-government schools.

The proportion of teachers holding master's or PhD degrees is minimal in both ownership categories, remaining below two (2) per cent in most cases, suggesting limited postgraduate representation across the board.

5.2.2.2 Teachers' Teaching Experience

The comparisons of teachers' teaching experience in both FTLE I and FTLE II, with respect to school locality and ownership, are presented in Table 127. The table summarises the distribution of teachers across different experience ranges, highlighting variations between rural and urban schools, as well as between government and non-government schools, for both FTLE I and II.

Table 127: Teachers' Experience by School Locality and Ownership

	Locality				Ownership			
	Rural (%)		Urban (%)		Government (%)		Non-Government (%)	
Teaching Experience (yrs)	Phase I	Phase II	Phase I	Phase II	Phase I	Phase II	Phase I	Phase II
0 - 10	74.7	64.5	25.3	35.5	76.8	77.3	23.2	22.7
11 - 20	61.4	65.2	36.8	34.8	83.5	91.9	16.5	8.1
21 - 30	56.7	49.2	43.3	50.8	60.0	68.9	40.0	31.1
31 - 40	80.0	66.7	20.0	33.3	0.0	66.7	100.0	33.3

(a) School Locality

Table 127 shows that rural and urban schools relatively differ in the distribution of teachers' teaching experience across both FTLE phases. Across all experience categories, rural schools have a higher proportion of teachers with longer experience, while urban schools have more teachers with less experience. For instance, teachers with 11–20 years of experience constitute 61.4 per cent (Phase I) and 65.2 per cent (Phase II) in rural schools, compared to 36.8 per cent (Phase I) and 34.8 per cent (Phase II) in urban schools. Similarly, teachers with 21–30 years of experience are more concentrated in rural schools **(**56.7% in Phase I and 49.2% in Phase II**)** than in urban schools (43.3% in Phase I and 50.8% in Phase II**)**.

Conversely, teachers with 0–10 years of teaching experience were more prevalent in rural than in urban schools in Phase I, accounting for 74.7 per cent and 25.3 per cent, respectively. In Phase II, the proportions were 64.5 per cent in rural schools and 35.5 per cent in urban schools, implying an influx of less-experienced teachers across both localities. Teachers with 31–40 years of experience were concentrated almost entirely in rural schools in Phase I (80%). In Phase II, 66.7% and 33.3% of teachers concentrated in rural and urban, respectively.

Overall, the integrated data indicate that rural schools have historically retained more experienced teachers across most categories, whereas urban schools have a higher share of less-experienced teachers. This trend highlights a disparity in teaching experience by school locality, with rural schools favouring seasoned staff and urban schools showing a relatively younger workforce.

(b) School Ownership

Table 127 shows that, in the 11–20-year teaching experience range, government schools accounted for 83.5 per cent of teachers in Phase I and 91.9 per cent in Phase II, compared to 16.5 per cent and 8.1 per cent in non-government schools, showing a higher concentration of moderate experience teachers in government schools. For teachers with 21–30 years of teaching experience, government schools had 60 per cent in Phase I and 68.9 per cent in Phase II, whereas non-government schools had 40.0

per cent and 31.1 per cent, respectively. In the 0–10-year teaching experience range, government schools recorded 76.8 per cent in Phase I and 77.3 per cent in Phase II. In contrast, non-government schools registered an increase from 23.2 per cent to 22.7 per cent in this parameter, which reflects a growing presence of less-experienced teachers in both school types by Phase II.

Overall, government schools have a higher proportion of teachers with longer teaching experience than non-government schools do, and vice versa.

5.2.2.3 Teachers' CSEE, ACSEE and DSEE Grades

Table 128, 129 and 130 provides an overview of teachers' academic performance, specifically their attained grades at the CSEE, ACSEE and DSEE levels in FTLE I and FTLE II.

Table 128: Teachers' CSEE Grades by School Locality

Locality		CSEE Grades (%)													
		A		B+		B		C		D		E		F	
	FTLE PHASE	I	II	I	II	I	II	I	II	I	II	I	II	I	II
Rural	Physics	4.3	4.7	9.8	10.2	21.0	17.9	57.6	56.2	7.2	11.1	0.0	0.0	0.0	0.0
	English Language	3.0	3.0	6.9	4.3	19.5	18.3	61.9	58.3	8.7	14.9	0.0	1.3	0.0	0.0
	Biology	4.9	3.0	11.5	11.9	20.5	30.6	57.8	51.9	5.3	2.6	0.0	0.0	0.0	0.0
	Basic Mathematics	8.0	5.1	9.2	12.8	22.7	18.7	50.8	54.5	9.2	8.9	0.0	0.0	0.0	0.0
Urban	Physics	7.7	2.3	5.5	4.6	29.7	25.4	45.1	48.5	12.1	19.2	0.0	0.0	0.0	0.0
	English Language	2.8	6.9	8.3	10.8	25.0	23.9	58.3	46.9	5.6	10.0	0.0	1.5	0.0	0.0
	Biology	5.5	8.5	11.0	18.5	33.0	20.0	45.1	47.7	5.5	5.4	0.0	0.0	0.0	0.0
	Basic Mathematics	17.6	5.4	11.0	9.2	29.7	23.8	37.4	56.2	4.4	5.4	0.0	0.0	0.0	0.0

The data show that the overall performance of teachers in both rural and urban schools at the CSEE level was generally high in both FTLE phases I and II, with grades predominantly ranging from A to E.

In rural schools, a significant proportion of teachers scored within the B to C grade ranges across most subjects. In Phase I, 57.6 per cent of rural Physics teachers attained the C grade, and, similarly, 56.17 per cent in Phase II. Biology and Basic Mathematics teachers also mostly scored in the C grade range, with 57.8 per cent and 50.8 per cent, respectively, in Phase I. The proportion of teachers achieving the highest grades (A and B+) in rural schools was generally lower; for instance, only 4.3 per cent of rural Physics teachers scored an A in Phase I, increasing slightly to 4.7 per cent in Phase II.

In urban schools**,** the distribution of grades shows a somewhat different pattern. For Physics, 45.1 per cent and 48.5 per cent of teachers scored grade C in Phases I and II, respectively, lower than in rural areas, but a higher proportion of teachers scored in the A grade range (7.7% in Phase I). Similarly, in Basic Mathematics, urban teachers scored higher in the B and C ranges, with a notable 17.6 per cent achieving grade A in Phase I, although this dropped to 5.4 per cent in Phase II. English Language and Biology teachers in urban schools show an increase in higher grades from Phase I to Phase II, with 6.9 per cent of English Language teachers scoring B+ in Phase II, compared to 2.8 per cent in Phase I.

Across both localities, grades F and E were almost non-existent, indicating very few teachers performed poorly. The highest proportions of lower grades (D and E) were generally below 15 per cent, with slight increases in Phase II in subjects such as Physics and English in rural schools.

In short, although both rural and urban teachers performed strongly overall at the CSEE level across both FTLE phases, urban teachers tended to have slightly higher proportions in the top-tier grades (A and B+) in some subjects, particularly in Phase I. However, the majority of teachers in both rural and urban schools scored in the middle-grade ranges (B and C), indicating generally solid performance.

Table 129: Teachers' ACSEE Grades by School Locality

Locality	SUBJECT	ACSEE Grades (%)															
		A		B+		B		C		D		E		S		F	
	FTLE PHASE	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II
Rural	Physics	0.4	1.3	1.9	3.4	1.5	7.2	21.2	23.0	33.7	30.2	29.5	26.8	10.6	6.4	1.1	1.7
	English Language	1.4	1.7	3.6	3.4	9.5	14.5	30.8	36.6	29.0	26.0	21.7	14.0	4.1	3.8	-	0.0
	Biology	0.4	0.0	3.8	3.4	8.0	9.4	18.5	25.5	26.9	31.5	37.0	28.5	5.0	1.7	0.4	0.0
	Advanced Mathematics	0.4	0.4	4.0	1.7	7.1	10.2	23.5	23.8	36.3	30.2	20.8	27.2	7.5	6.4	0.4	0.0
Urban	Physics	1.1	3.1	1.1	2.3	10.2	7.7	12.5	17.7	34.1	33.1	27.3	25.4	13.6	10.8	-	0.0
	English Language	1.4	3.1	11.6	6.9	14.5	23.8	31.9	32.3	27.5	22.3	11.6	10.0	1.1	1.5	-	0.0
	Biology	1.2	0.8	3.5	2.3	14.0	9.2	14.0	23.8	26.7	29.2	34.9	27.7	5.8	6.2	-	0.8
	Advanced Mathematics	1.1	0.8	6.7	1.5	9.0	9.2	22.5	25.4	29.2	29.2	23.6	30.8	7.9	3.1	-	0.0

Table 129 shows that, in Physics, 33.7 per cent of rural teachers scored grade D in Phase I and 30.2 per cent in Phase II, whereas 29.5 per cent and 26.8 per cent scored grade E, respectively. Similarly, in Biology, 26.9 per cent and 31.5 per cent of teachers scored D, with 37.0 per cent and 28.5 per cent scoring E across the two phases. The proportion of rural teachers achieving top grades (A and B+) remained very low, ranging from 0.4 per cent to 4.0 per cent across subjects and phases. Grade F was rare but present, with 1.1 per cent to 1.7 per cent of rural Physics teachers and 0.4 per cent of Biology teachers scoring the lowest grade.

In contrast, urban schools show a slightly better distribution of higher grades. For instance, the percentage of teachers with grade A in Physics increased from 1.1 per cent in Phase I to 3.1 per cent in Phase II, whereas in English Language, the number of teachers with grade A rose from 1.4 per cent to 3.1 per cent. Urban teachers also demonstrated higher proportions of the B+ grade, such as 11.6 per cent in English Language and 6.7 per cent in Advanced Mathematics, during Phase I. Nevertheless, most urban teachers still scored in the C to E range, as did those in rural schools. Grade F was nearly non-existent in metropolitan areas across most subjects. Overall, the data show that teacher performance at the ACSEE level in both rural and urban schools was predominantly moderate, with most grades concentrated between C and E during FTLE Phases I and II. In rural schools, a significant portion of teachers scored in the lower passing ranges, particularly grades D and E.

Table 130: Teachers' DSEE Grades by School Locality

Locality	SUBJECT	DSEE Grades (%)													
		A		B+		B		C		D		E		S	
	FTLE PHASE	I	II	I	II	I	II	I	II	I	II	I	II	I	II
Rural	English Language	4.5	4.4	6.4	3.3	15.5	18.7	44.5	59.3	27.3	14.3	1.8	0.0	-	-
	Physics	3.2	2.3	10.1	6.9	12.7	14.6	44.9	48.5	26.6	26.9	1.9	0.8	0.6	0.0
	Biology	6.3	6.7	8.9	14.3	17.9	23.5	48.2	43.7	16.1	10.9	0.9	0.8	1.8	0.0
	Basic Mathematics	9.1	6.0	10.7	12.7	18.2	17.9	43	38.8	15.7	24.6	3.3	0.0	-	-
Urban	English Language	-	11.1	10.7	17.8	35.7	31.1	35.7	28.9	14.3	11.1	3.6	0.0	-	-
	Physics	10.7	4.7	16.1	10.9	10.7	7.8	39.3	45.3	19.6	29.7	3.6	1.6	-	-
	Biology	7.9	9.2	10.5	18.5	10.5	18.5	57.9	41.5	10.5	12.3	-	-	2.6	-
	Basic Mathematics	21.3	3.6	14.9	12.5	19.1	21.4	42.6	46.4	2.1	16.1	-	-	-	-

The data show that, in rural schools, teacher performance was largely concentrated in the C and D grade ranges across FTLE Phases I and II. For instance, in English Language, the proportion of teachers scoring grade C increased from 44.5 per cent in Phase I to 59.3 per cent in Phase II, while those scoring grade D declined from 27.3 per cent to 14.3 per cent. A similar pattern was observed in Physics, where grade C accounted for 44.9 per cent and 48.5 per cent, and grade D remained consistently high at 26.6 per cent and 26.9 per cent across the two phases. In Biology, nearly half of rural teachers scored grade C (48.2 per cent in Phase I and 43.7 per cent in Phase II), whereas grade D declined from 16.1 per cent to 10.9 per cent. Although Basic Mathematics recorded relatively higher proportions of grades A and B+, most teachers still clustered around grades C and D, particularly in Phase I. Across all subjects, the proportion of rural teachers attaining top grades (A and B+) remained low, while grades E and S were minimal, indicating limited extreme underperformance.

In urban schools, the distribution of grades reflects a slightly better performance profile, particularly at the upper grade levels. For example, in English Language, the proportion of teachers scoring grade B+ increased from 10.7 per cent in Phase I to 17.8 per cent in Phase II, while grade C declined from 35.7 per cent to 28.9 per cent. In Physics, grades A and B+ together accounted for 26.8 per cent in Phase I, though this proportion

declined in Phase II. Similarly, Biology recorded relatively higher concentrations at grade C (57.9 per cent in Phase I and 41.5 per cent in Phase II), alongside modest improvements in grades A and B+. Basic Mathematics showed comparatively stronger performance in Phase I, with 21.3 per cent of teachers scoring grade A, although a notable shift toward lower grades was observed in Phase II. Overall, despite urban schools demonstrating higher proportions of A and B+ grades than rural schools, most teachers in both localities remained concentrated in the C to D grade range, suggesting that teacher performance at the DSEE level was predominantly moderate across FTLE Phases I and II.

Table 131: Teachers' CSEE Grades by School Ownership

Ownership		CSEE Grades (%)													
		A		B+		B		C		D		E		F	
	FTLE PHASE	I	II	I	II	I	II	I	II	I	II	I	II	I	II
Government	Physics	4.5	3.1	7.3	7.5	19.7	20.3	59.5	55.6	9.0	13.6	0.0	0.0	0.0	0.0
	English Language	2.8	3.7	5.7	4.7	19.1	18.0	63.0	58.0	9.3	14.2	0.0	1.4	0.0	0.0
	Biology	3.8	4.7	6.5	11.9	24.3	25.8	59.3	53.6	6.1	4.1	0.0	0.0	0.0	0.0
	Basic Mathematics	5.4	4.1	9.6	11.5	22.9	20.3	52.5	56.3	9.6	7.8	0.0	0.0	0.0	0.0
Non Government	Physics	7.7	7.1	14.1	11.4	35.9	21.4	35.9	44.3	6.4	15.7	0.0	0.0	0.0	0.0
	English Language	3.5	7.1	14.0	14.3	28.1	30.0	52.6	38.6	1.8	8.6	0.0	1.4	0.0	0.0
	Biology	9.7	5.7	29.2	24.3	22.2	31.4	36.1	37.1	2.8	1.4	0.0	0.0	0.0	0.0
	Basic Mathematics	24.7	10.0	10.1	11.4	29.2	21.4	32.6	50.0	3.4	7.1	0.0	0.0	0.0	0.0

Table 131 shows that in government schools, the majority of teachers scored in the C grade range across subjects; for example, 59.5 per cent of Physics teachers scored C in Phase I and 55.6 per cent in Phase II, while in Basic Mathematics, 52.5 per cent and 56.3 per cent scored C in Phases I and II, respectively. Higher grades, such as A and B+, were not common among government school teachers, with Physics teachers having 4.5 per cent and 3.1 per cent A grades in Phases I and II, respectively.

In contrast, non-government schools showed somewhat higher proportions of teachers achieving top grades in Phase I. For example, 7.7 per cent of Physics teachers scored A, and 14.1 per cent scored B+ in non-government schools, compared to 4.5 per cent and 7.3 per cent,

respectively, in government schools. However, the percentage of teachers scoring C and D grades was lower in non-government schools; for instance, 35.9 per cent of Physics teachers scored C in Phase I, compared to 59.5 per cent in government schools. Despite this, non-government teachers scored grade D in some subjects in Phase II, such as Physics (15.7 per cent) and English Language (8.6 per cent). Grade F was rare across both ownership types, with small percentages reported only in a few subjects.

Overall, the data suggest that teachers in non-government schools performed slightly better in higher grades during FTLE Phase I. Performance in Phase II showed more balanced results across the two phases.

Table 132: Teachers' ACSEE Grades by School Ownership

Ownership	SUBJECT	ACSEE Grades (%)															
		A		B+		B		C		D		E		S		F	
	FTLE PHASE	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II
Government	Physics	0.7	1.0	1.4	2.7	0.7	6.8	17.4	21.0	35.5	30.8	30.4	27.1	12.7	9.8	1.1	0.7
	English Language	1.7	1.4	3.4	3.4	8.0	16.9	30.0	34.6	29.5	25.4	23.2	14.6	4.2	3.7	-	0.0
	Biology	0.4	0.0	2.7	2.7	5.5	8.5	15.7	23.1	26.3	29.2	42.7	32.2	6.3	4.1	0.4	0.3
	Advanced Mathematics	0.0	0.0	1.7	1.4	4.7	8.8	23.5	24.1	36.3	28.8	23.1	31.9	10.3	5.1	0.4	0.0
Non Government	Physics	0.0	5.7	2.6	4.3	14.5	10.0	25.0	21.4	27.6	32.9	23.7	22.9	6.6	0.0	-	2.9
	English Language	0.0	5.7	15.1	10.0	22.6	21.4	35.8	37.1	24.5	21.4	1.9	4.3	-	0.0	-	0.0
	Biology	1.4	1.4	7.2	4.3	24.6	12.9	23.2	32.9	29.0	37.1	13.0	11.4	1.4	0.0	-	0.0
	Advanced Mathematics	2.5	2.9	13.6	2.9	16.0	14.3	22.2	25.7	28.4	34.3	17.3	14.3	-	5.7	-	0.0

Table 132 shows that in government schools, most teachers scored in the lower-to-middle passing grades, primarily between D and E, across all subjects. In Physics, 35.5 per cent and 30.8 per cent of teachers scored grade D in Phases I and II, respectively, whereas 30.4 per cent and 27.1 per cent scored grade E. Similarly, in Biology, large percentages scored D (26.3% in Phase I and 29.2% in Phase II) and E (42.7% in Phase I and 32.2% in Phase II). The proportion of teachers attaining top grades (A and B+) was very low; for instance, less than 2 per cent of government teachers scored an A in all subjects in both phases. Grade F was rare but present in small percentages, such as 1.1 per cent in Physics in Phase I.

In contrast, teachers in non-government schools showed slightly higher percentages in the better grades, especially in Phase II. For example, 5.7 per cent of non-government Physics teachers scored the A grade in Phase II, compared to only 1.0 per cent in government schools. English Language teachers in non-government schools also had a higher share of B+ grades (15.1% in Phase I) than those in government schools (3.4%). However, a significant number of non-government teachers still scored in the middle to lower passing grades, with many falling into grades C, D, and E. Grade F was rare but more noticeable among non-government Physics teachers, with 2.9 per cent scoring F in Phase II than government teachers.

Overall, the results indicate that teacher performance at the ACSEE level was generally moderate, with most teachers scoring in the middle-to-low passing categories. Non-government schoolteachers showed a slight advantage in the highest grades compared to government schoolteachers, though there remains considerable room for improvement across both ownership types.

Table 133: Teachers' Grades by School Ownership

School Ownership	SUBJECT	DSEE Grades (%)													
		A		B+		B		C		D		E		S	
	FTLE PHASE	I	II	I	II	I	II	I	II	I	II	I	II	I	II
Non government	English Language	15.4	36.36	30.8	27.27	23.1	27.27	15.4	9.09	7.7	0.00	7.7	0.00	-	-
	Physics	3.2	4.00	29	12.00	16.1	4.00	32.3	40.00	16.1	40.00	3.2	0.00	-	-
	Biology	6.7	14.29	20	28.57	20	14.29	40	35.71	13.3	7.14	-	0.00	-	-
	Basic Mathematics	23.1	14.81	15.4	11.11	15.4	18.52	38.5	33.33	3.8	22.22	3.8	0.00	-	-
Government	English Language	2.4	4.00	4.8	6.40	19.2	22.40	45.6	52.80	26.4	14.40	1.6	0.00	-	-
	Physics	5.5	2.96	8.7	7.69	11.5	13.61	45.4	48.52	26.2	26.04	2.2	1.18	0.5	-
	Biology	6.7	7.06	8.1	14.71	15.6	22.35	51.9	43.53	14.8	11.76	0.7	0.59	2.2	-
	Basic Mathematics	10.6	3.68	11.3	12.88	19	19.02	43.7	42.33	13.4	22.09	2.1	0.00	-	-

The results indicate that teacher performance in non-government schools showed a relatively stronger presence of higher grades, particularly in English Language and Basic Mathematics, across FTLE Phases I and II. In English Language, the proportion of teachers scoring grade A increased

markedly from 15.4 per cent in Phase I to 36.36 per cent in Phase II, while grades B+ and B together consistently accounted for more than half of the results across both phases. In Biology, grades B+ and C dominated, with 40.0 per cent of teachers scoring grade C in Phase I and 35.71 per cent in Phase II, alongside a noticeable share of top grades. Similarly, Basic Mathematics recorded relatively high proportions of grade A in Phase I (23.1 per cent), although a shift toward grades C and D was observed in Phase II. Despite this comparatively stronger performance, most non-government school teachers were still clustered around grades B to D, particularly grade C, while grades E and S were minimal across subjects.

In contrast, government schools exhibited a heavier concentration of teachers in the middle to lower grade ranges, especially grades C and D, across all subjects and both phases. For example, in English Language, more than half of the teachers scored grade C in Phase II (52.80 per cent), while grade D declined from 26.4 per cent in Phase I to 14.40 per cent in Phase II. A similar pattern was evident in Physics, where grades C and D together accounted for over 70 per cent of the results in both phases. In Biology and Basic Mathematics, grade C remained dominant, with modest proportions of grades A and B+ recorded across phases. Overall, although government schools recorded slight improvements in higher grades in Phase II, teacher performance under both ownership categories remained predominantly moderate, with most results concentrated between grades C and D, and very limited representation at the extreme lower grades (E and S).

5.2.3 Curriculum Competencies' Coverage Relative to Students' Performance

Comparison of curriculum coverage in terms of competencies and students' performance is based on the general coverage of each subject across both evaluation phases (FTLE I and II), and then on school ownership and school locality.

5.2.3.1 Curriculum Competency Coverage and Students' Performance in Four FTLE Phase I and II Subjects

Comparisons of coverage of the curriculum competencies and students' general performance, school ownership and school locality in both FTLE

Phases I and II were conducted based on the four subjects of Biology, English Language, Basic Mathematics and Physics, evaluated in both FTLE I and II, as follows:

5.2.3.1.1 Biology subject

Comparisons of coverage of the curriculum competencies and students' general performance, school ownership and school locality in the Biology subject, both in FTLE Phases I and II, are as follows:

(a) General performance

The comparison results for the general curriculum coverage with students' general performance in FTLE I and FTLE II in the Biology subject are presented in Table 134.

Table 134: Competency Coverage with Students' Performance in Biology

SN	Competency	Coverage (%)		Students' Performance (%)	
		Phase I	Phase II	Phase I	Phase II
1.	Demonstrate appropriate use of biological knowledge, concepts, principles and skills in everyday life.	98.4	99.7	31.23	57.75
2.	Demonstrate appropriate preventive measures and precautions against common accidents, infections and other related health problems.	98.9	99.3	56.42	45.14
3.	Use of scientific procedures and practical skills in studying Biology.	98.8	98.7	64.11	81.49
4.	Group organisms according to their similarities and differences.	98.6	99.0	29.34	37.93
5.	Use of basic biological concepts, principles and skills to evaluate the roles of various physiological processes in plants and animals.	98.2	97.4	25.51	31.79
6.	Appreciate nature and ensure sustained interaction of organisms in the natural environment.	98.4	91.5	41.99	62.42
7.	Use of biological practical skills in studying various physiological processes in plants and animals	97.3	82.0	45.1	16.19

Table 134 shows that competency skill coverage was generally high in both phases of FTLE I and II. However, the percentage of students' performance was higher in most competencies in FTLE II than in FTLE I, ranging from 16.10 to 81.49 per cent and from 25.51 to 64.11 per cent, respectively. The competency with the higher percentage of students' performance in both FTLE I and FTLE II was the use of scientific procedures and practical skills in studying Biology, at 64.11 and 81.59 per cent, respectively. Conversely, students' performance in the competency of *Using biological practical skills to analyse various physiological processes in plants and animals* dropped drastically from 45.1 per cent in FTLE I to 16.19 per cent in FTLE II.

(b) School Ownership

The comparison results for curriculum coverage versus students' performance in Biology by school ownership are shown in Table 135.

Table 135: Curriculum Competency Coverage versus Students' Performance in Biology

SN	Competency	Phase	Government		Non-Government	
			Coverage (%)	Students' Performance (%)	Coverage (%)	Students' Performance (%)
1.	Demonstrate appropriate use of biological knowledge, concepts, principles and skills in everyday life.	I	98.5	27.2	97.5	72.7
		II	99.6	54.7	100	89.7
2.	Demonstrate appropriate preventive measures and precautions against common accidents, infections and other related health problems.	I	99.1	53.4	97.5	87.3
		II	99.4	41.5	99.1	84.0
3.	Use of scientific procedures and practical skills in studying Biology	I	98.9	61.8	97.5	87.4
		II	98.4	80.3	100	93.8
4.	Group organisms according to their similarities and differences	I	98.8	25.6	97.5	68.1
		II	98.8	34.7	100	72.8
5.	Use of basic biological concepts, principles and skills to evaluate the roles of various physiological processes in plants and animals.	I	98.2	21.8	98.8	63.7
		II	96.8	28.4	100	67.8
6.	Appreciate nature and ensure sustained interaction of organisms in the natural environment.	I	98.5	38.6	97.5	76.1
		II	90.4	60.1	96.3	87.6
7.	Use of biological practical skills in studying	I	97.4	42.6	96.3	71

SN	Competency	Phase	Government		Non-Government	
			Coverage (%)	Students' Performance (%)	Coverage (%)	Students' Performance (%)
	various physiological processes in plants and animals	II	80.5	12.5	88.9	55.1

Table 135 shows that the percentage of competency coverage was high in all phases in both government and non-government schools, ranging from 71 to 93.8 per cent and from 96.3 to 100 per cent, respectively. However, the percentage of competency coverage was higher in the non-government schools than in government schools in both phases of FTLE I and FTLE II. Moreover, student performance was higher in non-government schools, ranging from 55.1 to 93.8 per cent, than in government schools, which ranged from 12.5 to 80.3 per cent, in both FTLE I and FTLE II. Implicitly, non-government schools generally account for better results than government schools.

(c) School Locality

The comparison results of curriculum coverage relative to students' performance in Biology by school locality are shown in Table 136.

Table 136: Curriculum Competency Coverage versus Students' Performance in Biology by School Locality

SN	Competency	Phase	Rural		Urban	
			Coverage (%)	Students' Performance (%)	Coverage (%)	Students' Performance (%)
1.	Demonstrate appropriate use of biological knowledge, concepts, principles and skills in everyday life.	I	98.9	28.4	95.0	36.9
		II	100.0	55.4	99.0	61.4
2.	Demonstrate appropriate preventive measures and precautions against common accidents, infections and other related health problems.	I	99.7	54.9	94.0	59.4
		II	99.8	42.0	98.6	50.2
3.	Use of scientific procedures and practical skills in studying Biology.	I	99.8	63.4	92.0	65.5
		II	99.5	80.9	99.0	82.4

SN	Competency	Phase	Rural		Urban	
			Coverage (%)	Students' Performance (%)	Coverage (%)	Students' Performance (%)
4.	Group organisms according to their similarities and differences.	I	99.7	28.8	92.0	30.4
		II	99.0	36.7	99.0	39.9
5.	Use of basic biological concepts, principles and skills to evaluate the roles of various physiological processes in plants and animals.	I	99.5	24.4	90.0	27.7
		II	98.0	29.8	99.0	35.1
6.	Appreciate nature and ensure sustained interaction of organisms in the natural environment.	I	99.4	39.7	92.0	46.2
		II	92.6	61.1	89.3	64.5
7.	Use of biological practical skills in studying various physiological processes in plants and animals.	I	98.6	43.9	89.0	47.5
		II	82.7	14.2	80.6	19.4

Table 136 indicates notable differences in competency coverage and student performance between rural and urban schools in both FTLE I and II. The data show that rural schools achieved higher coverage (98.6% to 99.8%) than urban schools (89.0% to 95.0%) in FTLE I, yet student performance was lower in rural schools (24.4% to 63.4%) than in the urban ones (27.7% to 65.5%). However, in FTLE II, coverage was more balanced, with urban schools (80.6 to 99.0%) and rural schools (82.7 to 100%). However, performance was slightly better in urban schools (19.4 to 82.4%) than in rural schools (14.2 to 80.9%). Implicitly, although rural schools cover more competencies than urban schools, their students' performance is lower than that of urban school students.

5.2.3.1.2 English Language Subject

Comparisons of curriculum competency coverage versus students' general performance, school ownership and school locality in the English Language subject in both phases I and II of FTLE are as follows:

(a) General Performance

Comparison of the curriculum competency coverage versus students' general performance results in the English Language is depicted in Table 137.

Table 137: Competency Coverage versus Students' Performance in the English Language Subject

SN	Competency	Coverage (%)		Students' Performance (%)	
		Phase I	Phase II	Phase I	Phase II
1.	Use simple English to communicate in social interactions and settings.	99.9	99.8	80.5	72.93
2.	Describe past activities and personal experiences	91.5	97.0	15.5	25.47
3.	Engage in simple conversations and transactions on familiar topics.	97.4	98.3	56.9	44.67
4.	Express in English in writing, needs, feelings and ideas using appropriate vocabulary.	95.3	98.7	45.7	37.41
5.	Give and respond to directions/locations using simple English sentences.	93.8	98.6	32.9	64.63
6.	Use English to obtain, process, construct and provide subject matter information in written forms.	91.9	97.0	54.7	56.10
7.	Interact in writing for personal expression and enjoyment.	88.8	94.4	40.4	42.81
8	Answer questions on simple readers and report on what they read	83.7	96.2	27.8	39.37

Table 137 indicates that the competency coverage in the English Language was high in both evaluation phases. The students' performance in the competencies was satisfactory, except for the competency *Describe past activities and personal experiences*, which had very low performance rates of 15.5 per cent in FTLE I and 25.5 per cent in FTLE II. However, the coverage of this competency was very high, 91.5 per cent and 97 per cent for FTLE I and FTLE II, respectively. Moreover, the findings reveal an improvement in students' performance in this competency in FTLE II compared to FTLE I.

(b) School Ownership

Comparison results of curriculum coverage versus students' performance in the English Language by school ownership are shown in Table 138.

Table 138: Curriculum Competency Coverage versus Students' Performance in English Language

SN	Competency	Phase	Government		Non-Government	
			Coverage (%)	Students' Performance (%)	Coverage (%)	Students' Performance (%)
1.	Use simple English to communicate in social interactions and settings.	I	99.8	79.0	100	95.4
		II	99.8	70.9	99.8	94.4
2.	Describe past activities and personal experiences	I	90.5	11.4	100	89.6
		II	97.3	21.1	95.1	71.8
3.	Engage in simple conversations and transactions on familiar topics.	I	97.1	53.7	100	89.6
		II	98.5	41.2	97.6	81.3
4.	Express in English in writing, needs, feelings and ideas using appropriate vocabulary	I	94.7	41.7	100	86.8
		II	98.5	33.5	95.1	78.8
5.	Give and respond to directions/locations using simple English sentences	I	93.2	28.7	98.8	76.6
		II	98.5	62.0	100	92.6
6.	Use appropriate English pronunciation in a variety of settings	I	90.9	51.8	100	83.9
		II	97.3	32.8	95.1	81.3
7.	Interact in writing for personal expression and enjoyment	I	87.8	36.5	97.5	80.2
		II	95.1	43.1	91	80.3
8.	Answer questions on simple readers and report on what they read	I	82.3	23.7	95	70.6
		II	96.9	35.8	92.7	77.1

Table 138 indicates that, in FTLE I, content coverage was higher (95%–100%) in non-government schools than in government schools (82.3%–99.8%). Likewise, students' performance was higher in non-government schools, ranging from 70.6 to 95.4 per cent, than that of government schools, which ranged from 23.7 to 79.0 per cent. Similar results are evident in FTLE II, with non-government schools having higher competency coverage and students' performance ranging from 71.1 to 94.4 per cent, compared to government schools, which had a range of 21.1 to 70.1 per cent. These differences notwithstanding, content coverage was high in both types of schools, with that of non-government schools ranging from 91 to 100 per cent and that of government schools from 95.1 to 99.8 per cent.

Implicitly, although content coverage was high in both government and non-government schools, students' performance was higher in non-government than in government schools.

(c) School Locality

Comparison results of curriculum coverage versus students' performance in the English Language by school locality are shown in Table 139.

Table 139: English Language Curriculum Coverage versus Students' Performance by School Locality

SN	Competency	Phase	Rural		Urban	
			Coverage (%)	Students' Performance(%)	Coverage (%)	Students' Performance (%)
1.	Use simple English to communicate in social interactions and settings.	I	100	78.6	99.1	84.2
		II	99.8	70.9	99.8	94.4
2.	Describe past activities and personal experiences	I	91.0	12.1	94.5	22.3
		II	97.3	21.1	95.1	71.8
3.	Engage in simple conversations and transactions on familiar topics.	I	97.2	53.8	99.1	63.1
		II	98.5	41.2	97.6	81.3
4.	Express in English in writing, needs, feelings and ideas using appropriate vocabulary	I	94.6	40.8	99.1	55.6
		II	98.5	33.5	95.1	78.8
5.	Give and respond to directions/locations using simple English sentences	I	93.0	29.7	98.2	39.4
		II	98.5	62.0	100	92.6
6.	Use appropriate English pronunciation in a variety of settings	I	91.6	52.2	93.6	59.6
		II	97.3	32.8	95.1	81.3
7.	Interact in writing for personal expression and enjoyment	I	88.2	37.0	92.7	47.2
		II	95.1	43.1	91.0	80.3
8.	Answer questions on simple readers and report on what they read	I	83.3	23.3	86.2	36.8
		II	96.9	35.8	92.7	77.1

The data show that, in FTLE I, competency coverage in this subject was marginally higher in rural schools (83.3 to 100%) than in urban schools (86.2 to 99.1%), and the students' performance was higher in urban schools (22.3 to 84.2%) than in rural schools (12.1 to 78.6%). On the other hand, in FTLE II, competencies' coverage was slightly higher in urban (94 to 100%) than in rural schools (94.5 to 99.8%), and student performance was higher in urban (30.4 to 76.6%) than in rural schools (22.4 to 70.6%).

These results suggest that although both rural and urban schools achieve high levels of competency coverage, students' performance was higher in urban than in rural schools.

5.2.3.1.3 Basic Mathematics Subject

Comparisons of competency coverage versus students' general performance in Basic Mathematics, by school ownership and school locality, across FTLE Phases I and II, are presented as follows:

(a) General Performance

The comparisons of curriculum competency coverage versus students' general performance in Basic Mathematics are shown in Table 140.

Table 140: Competency Coverage versus Students' Performance in Basic Mathematics

SN	Competency	Coverage (%)		Students' Performance (%)	
		Phase I	Phase II	Phase I	Phase II
1.	Distinguish different types of numbers and solve problems	71.2	99.1	22.14	29.11
2.	Convert units	76.7	98.8	16.5	33.63
3.	Estimate and compute numbers accurately	85.4	99.1	16.44	18.17
4.	Do scale drawing and geometrical transformations	84.6	95.1	13.93	12.01
5.	Solve problems on perimeters and areas	91	97.9	8.92	11.21
6.	Factorise and solve problems	95.6	98.8	10.5	14.72
7.	Solve problems on ratios, profit and loss, and simple interest	96.9	98.8	20.5	23.97
8.	Draw graphs and interpret linear equations	96.3	97.9	18.7	9.99
9.	Find relationships among logarithms, exponents and radicals	98.5	97.1	13.3	12.69

Table 140 shows that competency coverage was generally high in both phases, ranging from 71.2 to 98.5 per cent in the FTLE I and from 88.3 to 99,1 per cent in the FTLE II. Additionally, the data show improvement in competency coverage, as it was higher in FTLE II than in FTLE I for this

subject. On the other hand, the percentage of students' performance in most of the competencies was low, ranging from 10.5 to 22.14 per cent in FTLE I and from 8.01 to 33.63 per cent in FTLE II. The competencies with the lowest percentage of students' performance were *Factorise and solve problems* in FTLE I (10.5%) and *Draw graphs and interpret linear equations* in FTLE II (9.99%). Although the percentage of competency coverage was high in both assessment phases, students' performance was generally low.

(b) School Ownership

Comparison of competency coverage versus students' performance in Basic Mathematics by school ownership is shown in Table 141.

Table 141: Basic Mathematics Curriculum Competency Coverage versus Students' Performance

SN	Competency	Phase	Government		Non-Government	
			Coverage (%)	Students' Performance (%)	Coverage (%)	Students' Performance (%)
1.	Distinguish different types of numbers and solve problems.	I	67.0	18.5	93.8	59.5
		II	98.9	25.7	100	65.2
2.	Convert units.	I	73.1	13.9	96.3	43.6
		II	98.5	30.4	100	68.4
3.	Estimate and compute numbers accurately.	I	83.1	13.1	97.5	50.3
		II	98.9	14.8	100	53.8
4.	Do scale drawing and geometrical transformations.	I	82.2	10.9	97.5	45.3
		II	94.5	8.9	98.2	45.6
5.	Solve problems on perimeters and areas.	I	90.0	6.2	96.3	34.8
		II	97.8	8.2	98.2	43.2
6.	Factorise and solve problems.	I	95.2	8.4	97.5	32.2
		II	98.7	11.8	99.1	46.4
7.	Solve problems on ratios, profit and loss, and simple interest.	I	96.8	17.0	97.5	56.8
		II	98.9	20.5	98.2	61.2
8.	Draw graphs and interpret linear equations.	I	96.1	15.7	97.5	49.6
		II	97.8	7.4	98.2	38.0
9.	Find relationships among logarithms, exponents and radicals.	I	98.6	11.3	97.5	33.7
		II	97.1	10.3	97.4	38.6

Table 141 reveals that the percentage of competency coverage in Basic Mathematics between government and non-government schools in both FTLE I and II is very high. However, only a slight difference in the rate of

competency coverage emerges between government and non-government schools in both FTLE I and II. Students' performance in non-government schools ranged from 32.2 to 59.5 per cent, and from 6.2 to 17 per cent, in government schools for FTLE I. Subsequently, in FTLE II, non-government school students' performance levels ranged from 38.6 to 68.4 per cent, and that of government school students ranged from 7.4 to 30.4 per cent.

These results suggest that, although the percentage of competency coverage was high in both government and non-government schools, the associated rate of students' performance was higher in non-government than in government schools.

(c) School Locality

The comparison of competency coverage versus students' performance in Basic Mathematics in terms of school locality is shown in Table 142.

Table 142: Basic Mathematics Competency Coverage versus Students' Performance by School Locality

SN	Competency	Phase	Rural		Urban	
			Coverage (%)	Students' Performance (%)	Coverage (%)	Students' Performance (%)
1.	Distinguish different types of numbers and solve problems.	I	66.5	18.6	89.5	29.1
		II	99.0	26.9	99.1	32.6
2.	Convert units.	I	71.8	14.7	96.2	20.0
		II	99.1	30.1	98.3	39.3
3.	Estimate and compute numbers accurately.	I	82.2	14.4	98.1	20.5
		II	99.1	16.0	99.1	21.6
4.	Do scale drawing and geometrical transformations.	I	82.7	12.4	92.4	17.0
		II	95.8	10.5	94	14.4
5.	Solve problems on perimeters and areas.	I	89.2	7.8	98.1	10.5
		II	97.2	8.8	99.1	15.0
6.	Factorise and solve problems.	I	94.5	9.6	100	12.3
		II	98.9	13.6	98.7	16.6
7.	Solve problems on ratios, profit and loss, and simple interest.	I	96.4	18.7	99.0	24.2
		II	98.6	22.0	99.1	27.1
8.	Draw graphs and interpret linear equations.	I	96.1	17.7	97.1	20.8
		II	97.2	8.7	99.1	12.1
9.	Find relationships among logarithms, exponents and radicals.	I	98.3	12.8	99.0	14.4
		II	97.2	11.3	97	14.9

Table 142 reveals that, in FTLE I, competency coverage was higher in urban schools (89.5 to 100%) than in rural schools (71.8 to 98.3%). However, the differences in student performance in competencies were smaller in rural schools (7.8 to 18.7%) than in urban schools (10.5 to 29.1%). In contrast, in FTLE II, competency coverage was nearly equal across urban (88.0–99.1%) and rural schools (85.5–99.1%), indicating improvement in rural school competency coverage. However, the percentage of students' performance was lower, ranging from 8.7 to 30.1 per cent in rural schools than in urban schools (12.1 to 39.3%), indicating that despite the competencies being nearly at parity in both rural and urban schools, students' performance was higher in urban than in rural schools.

5.2.3.1.4 Physics Subject

Comparison of Physics competency coverage versus students' general performance in terms of school ownership and school locality in both FTLE phases I and II is as follows:

(a) General Performance

The comparison of competency coverage versus students' general performance in Physics is shown in Table 143.

Table 143: Physics Competency Coverage versus Students' General Performance

SN	Competency	Coverage (%)		Students' Performance (%)	
		Phase I	Phase II	Phase I	Phase II
1.	Practice safety rules in daily life.	98.3	98.9	42.83	18.78
2.	Make appropriate measurement of physical quantities.	97.7	99.3	59.76	32.45
3.	Apply laws, theories and principles of Physics in daily life.	97.7	98.9	38.59	25.87
4.	Use scientific skills to identify nature and properties of matter.	97.6	98.6	17.84	12.10

SN	Competency	Coverage (%)		Students' Performance (%)	
		Phase I	Phase II	Phase I	Phase II
5.	Apply the laws of reflection of light in daily life.	97.8	98.2	14.17	17.54
6.	Apply electricity and magnetism knowledge in daily life.	98.4	99.4	26.04	26.21
7.	Apply the concept of turning forces in daily life.	98	97.2	11.96	14.63
8.	Use simple machines to simplify work.	97.4	97.9	40.14	32.25

Table 143 indicates a high level of Physics competency coverage in both FTLE I and FTLE II, ranging from 97 per cent to 99 per cent, respectively. Despite this high coverage, students' achievement across most competencies was generally unsatisfactory, ranging from 11.97 to 59.76 per cent in FTLE I and from 12.10 to 32.25 per cent in FTLE II. The competency with the lowest percentage of students' performance was *Applying the concept of turning forces in daily life* (11.96%) in FTLE I and *Use scientific skills to identify nature and properties of matter* (12.10%) in FTLE II. The data further reveal a decline in 5 of the 8 assessed competencies in FTLE II. In other words, students' performance was higher in FTLE I than in FTLE II.

(b) School Ownership

Comparison data for curriculum competency coverage versus students' performance in Physics in terms of school ownership are shown in Table 144.

Table 144: Physics Curriculum Competency Coverage versus Students' Performance by School Ownership

SN	Competency	Phase	Government		Non-Government	
			Coverage (%)	Students' Performance (%)	Coverage (%)	Students' Performance (%)
1.	Practice safety rules in daily life.	I	97.4	14.3	100	54.4
		II	99.1	14.9	98.3	59.9
2.	Make appropriate measurement of physical quantities.	I	97.6	35.0	98.8	75.8
		II	99.6	29.0	98.3	68.9
3.	Apply laws, theories and principles of Physics in daily life.	I	98.1	40.3	100	69.2
		II	99.1	22.3	98.3	63.7
4.	Use scientific skills to identify nature and properties of matte.r	I	97.3	57.1	100	86.7
		II	98.7	8.5	98.3	50.5
5.	Apply the laws of reflection of light in daily life.	I	97.6	10.2	100	54.5
		II	98.2	13.5	98.3	60.9
6.	Apply electricity and magnetism knowledge in daily life.	I	98.2	22.6	100	61.5
		II	99.9	22.8	100	62.7
7.	Apply the concept of turning forces in daily life.	I	97.8	9.1	100	41.6
		II	96.5	11.7	100	46.0
8.	Use simple machines to simplify work.	I	97.5	36.9	100	73.4
		II	97.3	28.8	100	69.6

Table 144 indicates that, although Physics competency coverage was consistently high for both government and non-government schools, the latter exhibited slightly higher coverage rates than the former. In FTLE I, the non-government schools' coverage ranged from 98.8 to 100 per cent, and that of government schools ranged from 97.2 to 98.2 per cent. Similarly, in FTLE II, coverage ranged from 98.3 to 100 per cent in non-government schools and from 96.5 to 99.9 per cent in government schools.

In FTLE I, non-government school students' performance ranged from 41.6 to 86.7 per cent, and from 9.1 to 57.1 per cent for their counterparts in government schools. In the FTLE II, performance ranged from 46.0 to 69.6 per cent in non-government schools, and from 8.5 to 29.0 per cent in government schools.

These findings suggest that although curriculum coverage is nearly at parity across government and non-government schools, students' performance is higher in non-government than in government schools.

(c) School Locality

Comparison data of Physics curriculum competency coverage versus students' performance in terms of school locality are shown in Table 145.

Table 145: Physics Curriculum Competency Coverage versus Students' Performance by School Locality

SN	Competency	Phase	Rural		Urban	
			Coverage (%)	Students' Performance (%)	Coverage (%)	Students' Performance (%)
1.	Practice safety rules in daily life.	I	99	16.5	89.5	20.6
		II	98.9	16.6	99.1	22.3
2.	Make appropriate measurement of physical quantities.	I	99.1	26.3	88.6	43.1
		II	99.4	30.1	99.1	36.3
3.	Apply laws, theories and principles of Physics in daily life.	I	99.7	41.1	89.5	46.2
		II	98.9	23.3	98.9	29.9
4.	Use scientific skills to identify nature and properties of matter.	I	98.9	55.6	89.5	68
		II	98.3	10.3	99.1	15.0
5.	Apply the laws of reflection of light in daily life.	I	99	13.1	90.4	16.3
		II	97.7	15.3	99.1	21.1
6.	Apply electricity and magnetism knowledge in daily life.	I	99.1	14.4	93.4	29.4
		II	99.8	24.1	100	29.6
7.	Apply the concept of turning forces in daily life..	I	99	11	92.1	13.9
		II	96.0	12.0	99.1	18.9
8.	Use simple machines to simplify work	I	97.4	40.4	97.4	39.7
		II	97.2	30.1	99.1	35.8

The table indicates that competency coverage was generally high in both rural and urban schools. However, rural schools showed slightly higher coverage in FTLE I (97.4 to 99.7%) than urban schools (88.6 to 97.4%). The students' performance was higher in urban schools, ranging from 13.9 to 68.0 per cent, than in rural schools, which ranged from 11.0 to 55.6 per cent. In FTLE II, competency coverage was higher in urban schools (98.9 to 100%) than in rural schools (96.0 to 99.8%). The percentage of students'

performance was higher in urban schools, ranging from 15.0 to 36.9 per cent, than in rural schools, which ranged from 10.0 to 30.1 per cent. This implies that students' performance was higher in urban than in rural schools.

Generally, the analysis of competency coverage in both FTLE I and FTLE II shows the highest coverage of above 90 per cent in both government and non-government schools, and across rural and urban schools. However, in some cases, the competency coverage of government and rural-based schools is slightly higher than that of non-government and urban-based schools. Conversely, students' performance was higher in non-government and urban schools than in their counterparts in government and rural schools.

5.2.4 Comparison of Teaching and Learning Gaps Identified in FTLE Phases I and II

The teaching and learning gaps identified both in FTLE I and FTLE II are related to teachers' job satisfaction, students' mastery of the language of instruction, teaching methods, use of teaching aids, adequacy of laboratory equipment, the learning environment, integration of Learning Management Systems (LMS), and the role of Internal School Quality Assurance (ISQA).

Although FTLE II identified a wider range of teaching and learning gaps, the comparative analysis is based on the gaps that appeared in both FTLE I and II, as follows:

5.2.4.1 Teachers' Job Satisfaction

Teachers' job satisfaction is compared by school locality and school ownership, indicating the extent of satisfaction, ranging from a "large extent" to "not at all."

(a) Teachers' Job Satisfaction by School Locality

The comparison of the extent of teachers' job satisfaction between FTLE I and II, by school locality, is shown in Table 146.

Table 146: Teachers' Job Satisfaction by School Locality

	Rural		Urban	
FTLE Phase	**I (%)**	**II (%)**	**I (%)**	**II (%)**
Large extent	41.4	42.6	41.2	46.0
Moderate extent	45.4	50.7	45.9	48.1
Small extent	1.2	5.6	0.8	5.1
Not at all	12.0	1.0	12.1	0.8

Table 146 indicates that, in both FTLE I and II, most of the rural and urban teachers were highly satisfied with their job, as the extent of satisfaction in rural schools ranged from "large extent" (41.4% in FTLE I and 42.6% in FTLE II) to "moderate extent" (45.4% in FTLE I and 50.7%). Similarly, in urban schools, job satisfaction ranged from "large extent" (41.2% in FTLE I and 46% in FTLE II) to "moderate extent" (45.9% in FTLE I and 48.1% in FTLE II). Moreover, the findings reveal that most teachers are generally satisfied with their teaching job in both rural and urban areas because only a few teachers in rural schools (12 % in FTLE I and 1% in FTLE II) and in urban schools (12% in FTLE I and 0.8% in FTLE II) reported being unsatisfied. Overall, the extent of satisfaction was greater in FTLE II than in FTLE I. Implicitly, a significant improvement in the extent of teachers' job satisfaction, as indicated by the difference between the FTLE I and FTLE II data. This suggests that the interventions used to address the identified gaps in FTLE I were highly effective in boosting satisfaction. Thus, continued implementation of the interventions is needed to ensure that all teachers are satisfied with their teaching jobs.

(b) Teachers' Job Satisfaction Based on School Ownership

The extent of teachers' job satisfaction based on school ownership is shown in Table 147.

Table 147: Teachers' Job Satisfaction by School Ownership

	School Ownership (%)			
	Government		Non – Government	
FTLE Phase	**I**	**II**	**I**	**II**
Large extent	38.4	57.2	50.9	40.7
Moderate extent	47.3	40.1	39.6	52.1
Small extent	1.2	2.6	0.6	6.1
Not at all	13.0	0.2	8.9	1.1

Table 147 indicates that, in FTLE's Phase I and II, the extent of teacher's job satisfaction was high in both government and non-government schools as the majority (38.4% in FTLE I and 57.2% in FTLE II) of the government schools' teachers indicated "large extent" and (47.3% in FTLE I and 40.1%) fall under moderate extent category. Similarly, among teachers in non-government schools, the extent of satisfaction ranged from the large extent category (50.9% in FTLE I and 40.7% in FTLE II) to the moderate extent category (39.6% in FTLE I and 52.1% in FTLE II). However, the findings revealed that satisfaction was higher in the FTLE II, ranging from 2.6 to 57.2 per cent in government schools and from 6.1 to 52.1 per cent in non-government schools, compared to 1.2 to 47.3 per cent in government schools and 0.6 to 50.9 per cent in non-government schools in the FTLE I.

The results further indicate an improvement in teachers' job satisfaction in government schools, as the "large extent" responses increased from 38.4 per cent in FTLE I to 57.2 per cent in FTLE II. Meanwhile, the reactions of those "not satisfied at all" dropped from 13.0 per cent in FTLE I to 0.2 per cent in FTLE II. In contrast, for non-government schools, "the large extent" responses rose from 50.9 per cent in FTLE I to 40.7 per cent in FTLE II, while the "no at all" category declined from 8.9 per cent in FTLE I to 1.1 per cent in FTLE II. In other words, FTLE II has registered a higher satisfaction level among government schoolteachers than among non-government schoolteachers.

5.2.4.2 Adequacy of laboratory facilities

The adequacy of laboratory facilities was also compared based on school locality and school ownership.

(a) School Locality

Table 148 presents data on the adequacy of laboratory facilities in FTLE I and II based on school locality.

Table 148: Adequacy of Laboratory Facilities by School Locality

	School Locality (%)			
	Rural		Urban	
FTLE Phase	**II**	**II**	**I**	**II**
Large	14.9	12.6	23.8	18.9
Moderate	51.4	44.8	51.0	35.3
Small	22.5	30.2	15.8	36.1
Not at all	11.2	12.4	9.4	9.7
	100	**100**	**100**	**100**

Table 148 shows that the adequacy of laboratory facilities varies across school localities and phases of FTLE. In rural schools, 14.9 per cent reported large adequacy in FTLE I and 12.6 per cent in FTLE II, while urban schools showed higher percentages, with 23.8 per cent in Phase I and 18.9 per cent in Phase II. Moderate adequacy was most common: rural schools at 51.4 per cent in Phase I and 44.8 per cent in Phase II, and urban schools at 51.0 per cent in Phase I and 35.3 per cent in Phase II. Small adequacy increased in Phase II, rising from 22.5 per cent to 30.2 per cent in rural schools and from 15.8 per cent to 36.1 per cent in urban schools. Rural schools with no laboratory facilities were reported at 11.2 per cent in FTLE I, and 12.4 per cent in FTLE II, and urban schools with no laboratory facilities were 9.4 per cent in FTLE I and 9.7 per cent in FTLE II.

The data indicate that urban schools generally had better laboratory facilities than rural ones. The adequacy declined from 14.9 per cent in FTLE I to 12.6 per cent in FTLE II in rural schools, and from 23.8 per cent in FTLE I to 18.9 per cent in FTLE II in urban schools.

The data suggest that, while urban schools generally have better laboratory facilities than rural ones, both localities faced a decline in adequacy from Phase I to Phase II. This trend could negatively impact the quality of science education, especially in rural areas, where the gap is already wider.

(b) School Ownership

Table 149 presents data on the adequacy of laboratory facilities in FTLE I and II by school ownership:

Table 149: Adequacy of Laboratory Facilities by School Ownership

	Government		Non-government	
FTLE Phase	**I**	**II**	**I**	**II**
Large	10.6	9.8	39.4	36.2
Moderate	51.6	43.1	50.4	34.4
Small	25.2	13.3	5.5	3.4
Not at all	12.6	33.8	4.7	26
	100	**100**	**100**	**100**

Table 149 indicates that government schools generally had more moderate laboratory facilities in FTLE I (51.6%) than FTLE II (43.1%), with a sharp rise in schools reporting no laboratory facilities at all (from 12.6% to 33.8%). In contrast, in non-government schools, the percentage of the large extent category is higher (39.4%) in FTLE I and (36.2%) in FTLE II, though they also experienced a decline in moderate extent category of facilities (from 50.4% to 34.4%) and a notable increase in schools lacking facilities altogether (from 4.7% to 26%).

The findings indicate that non-government schools appear to be better equipped with adequate laboratory facilities than government schools, and both government and non-government schools show a decline in the adequacy of laboratory facilities over time, with government schools being more affected.

5.2.4.3 Gaps in Teaching Methodology

The gaps in FTLE I and II regarding teaching methodology are shown in Table 150.

Table 150: Teaching Methodologies in FTLE I and FTLE II

	Response (%)	
Methodologies	**FTLE I**	**FTLE II**
Lecture	4.9	5
Interactive lecture	23.5	27.7
Directed discussion	22.4	23.2
Problem-based learning	8.7	9.6
Project-based learning	2.5	3.1
Case-based learning	2.2	2.3
Experimentation	12.7	7.9
Questions and answers	23.1	21.2
Total	**100**	**100**

Table 150 indicates that the percentage of teachers using learner-centred teaching methodologies in both FTLE I and FTLE II is higher than the percentage using the lecture method. The rate of use of the lecture method was 4.9 per cent for FTLE I and 5.0 per cent for FTLE II. The remaining percentages are for learner-centred teaching methods in which interactive lecture (23.5% to 27.7%) and directed discussion (22.4% to 23.2%) had the highest percentage in both FTLE I and FTLE II, respectively. The findings from both FLTE I and FTLE II indicate a shift from the traditional lecture method to more learner-centred teaching.

5.2.4.4 Gaps in Applying Teaching Aids

The gaps in FTLE I and FTLE II regarding teaching aids are presented in Table 151.

Table 151: Use of Teaching Aids

	Responses (%)	
FTLE Phases	**I**	**II**
Large extent	26.5	27.8
Moderate extent	61.2	60.7
Small extent	11.3	10.3
Not at all	1.1	1.2
Total	**100**	**100**

Table 151 reveals a consistent pattern of moderate utilisation of teaching aids in FTLE I and FTLE II, at 61.2% and 60.7%, respectively. It was also revealed that the percentage in the large-extent category is high, ranging from 26.5 per cent in FTLE I to 27.8 per cent in FTLE II. This suggests that the percentage of use of teaching aids was almost the same across all categories in both FTLE I and FTLE II.

5.2.4.5 Distance from Home to School and Its Effect on Teaching and Learning

The comparisons were also made for students, teachers, and heads of schools regarding the distances they travel from home to school in both the FTLE I and II assessments, which affect students' learning. Table 152 presents the participants' responses on the distance from home to school in both assessment sessions:

Table 152: Distance from Home to School

Category	Residence Type	Response (%)	
		Phase I	Phase II
Students	Boarding	11.1	9.9
	Hostel	9.5	9.5
	Day scholars	79.4	80.6
	Total	**100**	**100**
Teachers	Within the school compound	25	24.3
	Near the school compound	37.9	40.5
	Far from the school compound	37.1	35.2
	Total	**100**	**100**
Head of school	Within the school compound	53.2	50.8
	Near the school compound	26.6	27.9
	Far from the school compound	20.2	21.3
	Total	**100**	**100**

Table 152 shows that, in both phases, the majority of students were day scholars (79.4% in FTLE I and 80.6% in FTLE II). In contrast, boarding students decreased slightly from 11.1 per cent to 9.9 per cent, and hostel residents remained constant at 9.5 per cent. On the other hand, among teachers, 25 per cent lived within the school compound in FTLE I compared to 24.3 per cent in FTLE II, those near the school compound increased from 37.9 per cent to 40.5 per cent and those far from the compound declined from 37.1 percent to 35.2 per cent; for heads of school, 53.2 per cent resided within the compound in Phase I and 50.8 per cent in Phase II, 26.6 per cent lived near the compound rising to 27.9 per cent. In comparison, those far from the compound increased slightly from 20.2 per cent to 21.3 per cent. The data indicate that the percentage of day scholars is higher (79.4% in FTLE I and 80.6% in FTLE II) than the percentage of boarding students (11.1% in FTLE I and 9.9% in FTLE II).

A high percentage of day scholars indicates performance disparities relative to boarding and hostel students, as they face more challenges than their counterparts, which affect their educational progress. Therefore, strategies to support day scholars, such as constructing hostels and additional boarding schools, are crucial.

5.2.4.6 Use of the Learning Management System

The comparisons of the use of the Learning Management System (LMS) are presented in Table 153.

Table 153: LMS Application in Learning

SN	Extent of Adequacy	Phase I (%)	Phase II (%)
1.	Large extent	10.4	14.8
2.	Moderate extent	42.1	58.9
3.	Small extent	13.3	20.5
4.	Not at all	34.2	5.7

Table 153 shows that the adequacy of LMS use is higher in FTLE Phase II than in Phase I. In Phase I, 10.4 per cent of users reported usage to a “large extent”, 42.1 per cent to a “moderate extent”, 34.2 per cent indicated “not at all”, and 13.3 per cent to a “small extent.” Comparatively, in Phase II, there was a notable increase to 14.8 per cent for **“**large extent,” 58.9 per cent for “moderate extent,” 20.5 per cent for “small extent”, and only 5.7 per cent for “not at all.” This implies a growing familiarity, acceptance, and reliance on the LMS as an assessment tool. However, the increase in “small extent” and the presence of the “not at all” category indicate the need for further training and support to maximise the adoption of the LMS in schools.

5.2.4.7 Language of Instruction Challenge

Among the challenges teachers face in teaching is English Language incompetency. This was the most frequently cited challenge by the teachers consulted in both phases (88.2% in FTLE I and 52.3% in FTLE II).

Table 154 presents the comparisons of the extent to which teachers use the language of instruction during the teaching and learning process in both FTLE I and FTLE II.

Table 154: Use of Language of Instruction

SN	Language used	Responses (%)	
		Phase I	Phase II
1.	Both English and Kiswahili	40.2	27.85
2.	English	59.7	60.3
3.	Kiswahili	0.1	11.85
	Total	**100**	**100**

Table 154 shows that English remained a dominant language of instruction with a slight increase from 59.7 per cent in FTLE I to 60.3 per cent in FTLE II. Subsequently, the use of both English and Kiswahili together has declined from 40.2 per cent in FTLE I to 27.85 per cent in FTLE II. Meanwhile, the use of Kiswahili alone rose significantly from 0.1 per cent in FTLE I to 11.85 per cent in FTLE II. The sharp rise in Kiswahili usage in this case might stem from its being one of the assessment subjects in the FTLE II. This finding implies that English is the dominant language in the teaching and learning environment.

5.2.4.8 Internal School Quality Assurance Team Effectiveness

Comparisons of teachers' views on the extent to which their respective School Internal Quality Assurance Team (ISQAT) renders support during instructional activities are shown in Table 155:

Table 155: Teachers' Views on ISQA Support Effectiveness

		Responses (%)	
SN	Extent of Support	Phase I	Phase II
1.	Large	29.4	25.5
2.	Moderate	52.6	49.9
3.	Small	14.7	14.5
4.	Not at all	3.3	10.1
	Total	**100**	**100**

Data in Table 155 indicate that a higher percentage of teachers' views on the effectiveness of the ISQA fall into the moderate category (52.6% in FTLE I and 49.95% in FTLE II). The percentage of teachers who felt supported declined from 29.4 per cent in FTLE I to 25.5 per cent in FTLE II. However, the percentage who felt there was no support at all increased, from 3.3 per cent in FTLE I to 10.1 per cent in FTLE II. Implicitly, the ISQA's effectiveness was generally higher in FTLE I than in FTLE II.

5.2.4.9 Teaching and Learning Environment

The comparison of the views of heads of schools and parents on the overall condition of the teaching and learning environments within both school and home settings in FTLE Phases I and II were as follows.

(a) Heads of Schools' Responses

Table 156 compares the views of heads of school asked to outline the strategies and interventions implemented in their schools to promote a conducive environment for effective teaching and learning.

Table 156: Heads of Schools' Responses on the Teaching and Learning Environment

SN	Teaching and learning Environment	Responses (%)	
		Phase I	Phase II
1.	The school has a safety/security plan.	84.5	85.9
2.	The school has a special programme to identify students who are in danger of dropping out.	90.4	93.9
3.	The school has a suggestion box.	86.4	0.9
4.	The school has improved the follow-up process for students at risk of dropping out.	91.5	0.9
5.	The school has a mechanism for handling students' complaints.	97.2	1
6.	The school collaborates with the community in dealing with issues related to violence against children and gender-based violence.	93.5	1
7.	Guidance and counselling	-	1

The data reveal that, in FTLE I, institutional support systems were higher than in FTLE II. There were high percentages of schools reporting safety/security plans (84.5%), dropout prevention programmes (90.4%), suggestion boxes (86.4%), follow-up processes (91.5%), complaint mechanisms (97.2%), and community collaboration against violence (93.5%). However, in FTLE II, the percentages of provision of services have declined for most services, except for safety/security plans (85.9%) and dropout identification programmes (93.9%). Moreover, guidance and counselling appear for the first time in Phase II, though at a minimal level (1%). Although some structural measures were sustained or enhanced, the broader mechanisms for student engagement, support, and community collaboration weakened, as FTLE II's results illustrate.

(b) Parents' Responses

Table 157 presents parents' views on the availability of enabling learning environments at home.

Table 157: Parents' Response on the Availability of Enabling Learning Environments at Home

S/N	Item	Responses (%)	
		Phase I	Phase II
(i)	Availability of light	89.5	90.7
(ii)	Availability of chairs	76.2	74
(iii)	Availability of tables	74.8	75.9
(iv)	Availability of textbooks	58.9	53.2
(v)	Availability of a Positive Emotional Supportive Environment	70.8	71

Table 157 shows that the enabling learning environment at home was high in both FTLE I and FTLE II. Although the availability of other resources has improved, including the availability of light, ranging from 89.5 per cent in FTLE I to 90.7 per cent in FTLE II, the availability of textbooks has declined from 58.9 per cent in FTLE I to 53.2 per cent in FTLE II. This situation may hinder effective home learning despite other resources being maintained. The data show that, overall, the positive emotional supportive home environment has slightly improved, from 70.8 per cent in FTLE I to 71 per cent in FTLE II. This situation suggests that, while households continue to

provide basic infrastructure, access to core learning materials, such as textbooks, has declined.

5.2.5 Evaluation on the Recommendations from Participants in FTLE I and II

This section provides a comparative analysis of the recommendations from participants in FTLE I and II. The findings highlight challenges in the teaching and learning environment and recommend actions to address them. The following are the recommendations that featured in both FTLE I and II.

5.2.5.1 Enhancement of Educational Infrastructure

FTLE I shows that the percentage of schools with laboratory equipment was high, with 51.3 per cent falling into the “moderately adequate” category and 17.3 per cent into the “largely adequate” category. However, 20.6 per cent of teachers reported that the services were available to a “small extent,” and only 10.7 per cent reported that the laboratory services were not available. It was also found that the conducive environments with safety measures, dropout prevention programmes, complaint systems, and strong community collaboration on child and gender-based violence ranged from 84.5 per cent to 97.2 per cent. In contrast, FTLE II revealed strong calls from students (49.8%) and parents (34.0%) for improved classrooms, offices, laboratories, libraries, furniture, and toilets.

Implicitly, although the findings of the FTLE I indicate that government efforts have led to improved teaching and learning conditions through infrastructure construction and other service improvements, the findings of FTLE II call for more efforts to be exerted to invest in infrastructure to ensure adequate facilities in schools.

5.2.5.2 Strengthening Teacher Recruitment, Training, and Professional Development

Recommendations in FTLE I emphasised improving classroom practices through different teaching strategies, stronger use of learner-centred approaches, and addressing subject-specific teacher shortages. However, FTLE II focused on systemic measures such as teacher recruitment, qualifications, and continuous professional development.

Therefore, the recommendations from the two studies reveal a progression from those for solving immediate instructional challenges to those that can provide long-term improvement in systemic capacity in education.

5.2.5.3 Enhancing Student Welfare and Support Services

Participants in FTLE I emphasised the importance of sustaining career guidance and counselling programmes in schools, as these initiatives foster self-knowledge, educational and occupational exploration, and motivate both male and female students to work hard toward their aspirations. On the other hand, in FTLE II, the participants emphasised enhancing students' welfare and guidance services to address social, emotional, and academic challenges, thereby improving engagement, attendance, and performance. Survey findings revealed that 24.3 per cent of students, particularly from urban schools, stressed the need for stronger welfare, guidance, and support services. Implicitly, the recommendations given by the participants of both FTLE I and FTLE II emphasise the availability of practical guidance and counselling services, mentorship, and welfare programmes to foster students' academic, social, and psychological well-being.

5.2.5.4 Integration of ICT into the Educational Process

FTLE I highlighted the importance of strengthening school infrastructure, such as buildings and facilities, to establish a supportive learning environment, with ICT resources considered part of this foundation. In contrast, FTLE II advances the discussion by emphasising the integration of ICT into education as a transformative approach that not only bridges the digital divide between rural and urban schools but also promotes interactive learning and equips teachers and students with essential digital competencies for the 21st century. Although FTLE I focuses on creating the physical conditions necessary for effective learning, FTLE II highlights the pedagogical and technological dimensions, embedding digital tools into teaching, learning, and administration to foster equity, innovation, and sustainable educational advancement.

Therefore, the government, in collaboration with other educational stakeholders, should implement the recommended measures to strengthen basic education by enhancing teaching and learning effectiveness, student

welfare, and community engagement. This will improve learning outcomes and build a more inclusive and accountable education system.

CHAPTER SIX

CONCLUSIONS, RECOMMENDATIONS AND INTERVENTIONS

6.1 Introduction

This chapter presents the key conclusions drawn from the study, offers recommendations based on its findings and suggest interventions for improvements. The chapter first introduces the conclusions, followed by the recommendations, finally required interventions for improvement.

6.2 Conclusions

The study highlights persistent inequalities in students' achievement across subjects and school contexts, pointing to factors beyond curriculum delivery that influence learning outcomes. Although curriculum coverage appears adequate in all school categories, the marked variation in performance suggests the influence of broader structural and contextual conditions.

Differences associated with gender, school ownership, and locality indicate that learning outcomes are shaped by unequal access to supportive learning environments and teacher capacities. The stronger performance observed in non-government and urban schools aligns with their comparatively higher levels of teachers' qualifications, underscoring the central role of teacher quality in promoting students' success.

Overall, the findings reinforce the need for comprehensive strategies that address the conditions under which teaching and learning occur. Enhancing teachers' competency, ensuring the equitable deployment of qualified staff, and mitigating contextual disadvantages, particularly in rural and government schools, are essential to improving the consistency and equity of student performance nationwide.

6.3 Recommendations

Despite various performance differences and continued educational investments, however, based on the findings of this study, the following recommendations are provided to improve performance:

(i) As the performance in Basic Mathematics, Civics and Physics was notably low, SQA should enhance monitoring and evaluation to promote activity-based, interactive teaching to boost learning outcomes and improve students' performance.

(ii) To improve the performance of Basic Mathematics, Science subjects, and Civics the Government through the Ministry of Education, Science and Technology should put more strategies for deploying more teachers for these subjects.

(iii) Most of the students identified the use of English language in learning as a challenge. Heads of Schools, in collaboration with English Language teachers, should make intervention programmes to ensure students improve their communication abilities. This will enable students to use English effectively in their learning. Additionally, the Form One English Course Orientation Programme should be reinforced in all schools, especially in government schools, where English is a challenge.

(iv) Parental involvement in students' learning should also be encouraged to ensure participation of parents/guardians in students' learning, for early intervention to be sought when students face challenges during their learning at school.

(v) Responsible authorities for teachers' recruitment should ensure equitable distribution of teachers in both rural and urban schools to eliminate performance disparities between urban schools and rural schools.

(vi) During the evaluation, students suggested improvement in the provision of teaching and learning resources to schools. Thus, Heads of Schools and Ward Education Officers should ensure the accessibility of these resources to students and oversee their proper usage.

(vii) Continuous professional development for teachers should be enhanced regularly to ensure that they update their teaching skills, especially among government school teachers, who generally use teacher-centred methods. In contrast, teachers in non-government schools predominantly use student-centred methods.

(viii) As the use of laboratories is minimal in some schools, more practical laboratory activities should accompany the teaching of science subjects to improve learning outcomes.

6.4 Interventions

Based on the recommendation of this study, the following interventions should be taken.

6.4.1 Improving Performance in Basic Mathematics, Civics and Physics

(a) School Quality Assurers (SQA) should enhance monitoring and evaluation to promote activity-based, interactive teaching to boost learning outcomes and improve students' performance. This can be achieved through:
   (i) Monitoring by making continuous supportive supervision. They should schedule regular classroom visits and observe full lessons where possible.
   (ii) Monitoring whether teachers effectively use instructional materials such as use of charts, models, real objects, or digital tools.
   (iii) Providing immediate constructive feedback to teachers. After observations they should highlight specific areas for improvement and suggest practical strategies for interactive teaching.
   (iv) Tracking student learning evidence. They can do this through review of students' exercise books, analysis of continuous assessment results, monitoring student participation and engagement.

(b) The Ministry of Education, Science and Technology in collaboration with Prime Minister's Office, Regional Administration and Local Government should deploy Mathematics, Science subjects and Civics teachers. Also, they should be motivated so as to improve students' performance in these subjects. Areas for motivation may include;
   (i) Scholarships and sponsored teacher education by providing full scholarships or stipends to top secondary school graduates who choose teacher training programs; and create bonded scholarships where beneficiaries commit to teaching in public schools for a number of years.

   (ii) Professional development and continuous learning. This can be done through providing Continuous Professional Development (CPD) programs; and offer international exchange programs and research opportunities.

(iii) Improve working conditions by reducing teacher-student ratios; ensuring adequate teaching resources, laboratories, and digital tools; and improving school infrastructures.

6.4.2 To Improve Students' English Language Use

Heads of Schools in collaboration with English language teachers should implement programs aimed at improving students' communication abilities (listening, speaking, reading and writing). Such interventions should include:

(a) Creating school-based English clubs where students practice speaking and interacting in English outside normal classroom lessons;

(b) Organising structured debate clubs and speech competitions at school or inter-school levels;

(c) Promoting reading culture by encourage extensive reading through structured reading programs;

(d) Providing additional support to students who struggle with English;

(e) Using drama, role-play, and simulations to improve English language speaking; and

(f) Integrating technology to improve communication skills. For instances: educational videos and podcasts, language learning apps, digital storytelling activities.

6.4.3 Ensuring Participation of Parents/Guardians in Students' Learning

Schools should promote involvement of parents/guardians through practical activities such as:

(a) Organize parent-teacher scheduled meetings to discuss students' performance and learning needs. However, they should use the meetings to collaboratively plan strategies to support the students. Also, encourage parents to share insights about their children's behaviour and learning at home;

(b) Invite parents to participate in school events, classroom activities, and decision-making committees. This helps them feel connected to the school and more aware of their children's learning progress; and

(c) Work with parents, counsellors, and support staff to provide early interventions such as tutoring, counselling or special support programs.

6.4.4 Ensure Equitable Distribution of Teachers in Both Rural and Urban Schools

Responsible Ministries for education should use a combination of policy, incentives, training, and management interventions including:

(a) Providing incentive packages for rural teachers such as free or subsidized housing;

(b) Improve working and living conditions for rural schools such as school facilities and teaching resources, internet and electricity access, and transportation networks; and

(c) Career development opportunities for rural school teachers. Teachers in rural areas should have equal or greater access to professional growth such as regular training and workshops, distance learning programs, and scholarships for further studies.

6.4.5 Improve Accessibility of Teaching and Learning Resources to Schools

Heads of Schools and Ward Education Officers should:

(a) Mobilize resources from the government, parents, community, Non-Government Organisations (NGOs), and development partners to supplement available teaching and learning materials;

(b) Distribute textbooks and learning materials fairly among students and teachers, ensuring that all classes have adequate access;

(c) Regularly supervise teachers to ensure teaching and learning resources are used effectively during lessons;

(d) Keep proper records and inventories of all teaching and learning materials available in the school;

(e) Ensure safe storage of books, equipment, and other materials to prevent damage or loss; and

(f) Encourage teachers and students to create low-cost teaching aids using locally available materials.

6.4.6 Enhance Continuous Professional Development for Teachers

The Ministries responsible for education should:

(a) Regularly organize Continuous Professional Development (CPD) programs, workshops, and seminars to help teachers update their teaching methods, subject knowledge, and classroom management skills;

(b) Enhance Teacher Resource Centres (TRCs) so that teachers can easily access teaching materials, professional literature, and training opportunities. These centres also serve as places for professional collaboration among teachers;

(c) Promote continuous professional development programmes that requires teachers to participate regularly in professional development activities such as short courses, refresher training, and educational conferences;

(d) Provide capacity building to teachers on School Based Assessment and use of assessment feedback for remediation; and

(e) Enhance technology for professional learning such as online training platforms, webinars, and digital learning programs that allow teachers to upgrade their skills regardless of location, especially those in rural areas.

6.4.7 Enhance Use of Laboratories

Schools should ensure laboratories are well-equipped with necessary apparatuses, chemicals, and materials for experiments in subjects such as Physics, Chemistry, and Biology. However, teachers and students should be encouraged to use laboratories regularly for practical activities to improve their mastering of science competences

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