



IMPACT OF STUDENTS' ENROLMENT ON ACADEMIC PERFORMANCE IN TANZANIA: A Case of Selected Public Secondary Schools in Mbozi District

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Abstract

This research investigated the impact of rising student enrolment on academic achievement in public secondary schools within the Mbozi District of Tanzania, following the implementation of the fee-free education initiative. The study aimed to evaluate how the increase in enrolment affected teacher: student ratios, class sizes, and educational outcomes, while also suggesting methods to enhance the quality of education.

A mixed-methods approach was adopted, involving 183 participants, comprising 117 students, 56 teachers, four school administrators, and six education officials from four selected secondary schools. Primary data were collected through questionnaires, interviews, and observations, while secondary data were obtained through documentary review of school records and national examination results for 2014 and 2024. Descriptive statistics and thematic analysis were used to interpret the results.

The study found a significant increase in student enrolment, resulting in overcrowded classrooms and high teacher: student ratios, often exceeding the recommended 1:40 standard. Some classes reached ratios as high as 1:88, far surpassing the standard. This was compounded by inadequate infrastructure, a shortage of teachers, and a lack of teaching resources, which adversely affected the quality of education.

Despite these challenges, the study revealed that pass rates for national exams improved in most schools, demonstrating resilience in academic achievement. For instance, one school's Form 4 results rose from 64% to 94%. However, concerns persisted regarding declining education standards due to limited resources. Nevertheless, teachers' dedication and community involvement helped mitigate some negative impacts.

To address these challenges, the study recommends expanding classroom spaces, recruiting more qualified teachers, incorporating digital learning resources, and establishing shift systems. Collaboration among stakeholders is crucial for maintaining educational advancements. Focused strategies, such as enhancing infrastructure, hiring teachers, and incorporating technology, are essential for preserving educational quality as enrolment increases.

In summary, while the fee-free policy has effectively expanded access to education, its long-term sustainability depends on equitable investments in infrastructure, teaching personnel, and educational resources. Implementing focused strategies to enhance infrastructure, hire teachers, and incorporate technology will be vital for preserving educational quality and ensuring the policy's lasting success.

Key words: students enrolment, fee-free education policy, public secondary schools.

1.0 INTRODUCTION

Access to quality education is a fundamental human right and a major factor in socioeconomic development. The world's commitment to education is demonstrated by efforts to increase access to education through the implementation of fee-free education policies. Globally, fee-free education policies align with Sustainable Development Goal 4, which

aims to ensure inclusive, equitable, and quality education by 2030. Countries like Britain, the USA, Canada, Sweden, and Egypt implemented fee-free education as early as the 1950s, viewing it as a strategic investment in human capital for socioeconomic development (UNESCO, 2016). By 2016, 94 out of 107 low- and middle-income countries had legislated fee-free lower secondary education, with countries like Brazil and India adopting similar policies to increase enrolment



(Abdel-Rahman, 2021). While these initiatives improved access, they introduced challenges such as overcrowded classrooms, insufficient teaching resources, and increased teacher workloads, which often hampered education quality (UNESCO, 2021; Yusuf, 2021). These global efforts underline the dual challenge of expanding access while maintaining educational standards.

The United Nations Department of Economic and Social Affairs (2000) and the UNESCO Global Education Monitoring Report (2015) state that countries committed to achieving Education for All (EFA), and the movement for free education gained momentum globally, leading countries like Brazil, India, and South Africa to implement free education regimes. These tactics have often increased enrolment rates and brought about new challenges like overcrowded classrooms, a lack of instructional resources, and an increase in teacher workloads (UNESCO, 2021). Adan and Orodho (2015) claim that illiteracy has a relative and absolute negative impact on a country's ability to support its economy. Therefore, this is why a large number of nations, including the United States, Canada, Sweden, Britain, and Egypt, among others, began funding secondary education in the 1950s.

In Africa, fee-free education policies have significantly increased enrolment, with countries like Ghana, Malawi, Sierra Leone, and Zambia recently abolishing secondary school fees (Gruijters, 2023). Early adopters like Kenya, Rwanda, and South Africa set the precedent for free secondary education, targeting access for underprivileged groups. However, challenges such as overcrowding, inadequate resources, and declining education quality persist. For instance, Olang'o, Malechwanzi, Murage, and Amuka (2021) explored the impact of the Free Day Secondary Education (FDSE) policy on rural public day secondary schools in Kilifi County, Kenya, and found a decline in school mean scores between 2003-2007 and 2013-2017 due to increased enrolments, high teacher: student ratio, and inadequate financial and educational resources.

Additionally, Kamil (2024) studied Ghana's Free Education Policy and challenges related to infrastructure and teaching/learning materials. The study found that the free education policy is linked to issues such as inadequate classrooms, a lack of dormitories, poor infrastructure, increased exam malpractice in schools, poor food quality for students, inadequate classroom furniture, a lack of labs and equipment, insufficient teaching-learning materials like textbooks, a shortage of subject teachers, strained library resources, inadequate water supply, and a lack of restrooms and other hygienic facilities. These issues highlight the importance of aligning resources with enrolment growth to ensure sustainable educational improvements.

On the other hand, Hassan (2022) states that implementing fee-free education policies will boost enrolment in public schools and that greater access to education will result in improved educational outcomes. According to UNESCO (2022), fee abolition for secondary education reduces delayed entry into schooling, incentivizes enrolment, and reduces

dropouts, particularly for girls and children in rural areas. However, inadequate funding and overcrowded classrooms may lower the quality of instruction.

In East Africa, countries like Kenya, Rwanda, and Uganda implemented fee-free education policies to address educational disparities and increase access. In Kenya, the Free Day Secondary Education (FDSE) initiative boosted enrolment but introduced challenges like resource shortages and classroom congestion. Similarly, Rwanda's fee-free policy led to significant enrolment increases but strained resources, with classes exceeding 50 students, negatively affecting teaching and learning outcomes (Christine, 2019). These examples illustrate the region's struggle to balance enrolment expansion with maintaining education quality.

Tanzania introduced the fee-free education policy shortly after independence in 1964 and further emphasized it through the "Education for Self-Reliance" program in 1967 under the Arusha Declaration. This initiative aimed to ensure equitable access to education regardless of socioeconomic status, with the government covering all educational costs, including tuition, textbooks, and fees. Mfaume and Leonard (2020) argue that economic challenges in the 1980s and 1990s forced the government to adopt cost-sharing policies under the Structural Adjustment Programme (SAPs), which shifted educational costs to families, resulting in declining enrolment and retention rates, particularly among low-income households. This shift highlighted the negative impact of cost-sharing on access to education, prompting the need to revisit fee-free education policies.

In 2014, Tanzania reintroduced the fee-free education policy to address declining educational access, especially for underprivileged groups, and align with international frameworks like Sustainable Development Goal 4 (SDG 4). The policy eliminated tuition fees and covered operational costs for public schools, while parents remained responsible for indirect expenses like uniforms and meals. This initiative increased enrolment significantly, with secondary school attendance rising from 1.6 million students in 2015 to over 2 million in 2019 (MoEST, 2020). Despite this success, the rapid surge in enrolment strained the education system, leading to overcrowded classrooms, inadequate resources, and declining teacher: student ratios, raising concerns about maintaining education quality (Lyanga & Chen, 2020). Therefore, balancing enrolment and resources is crucial for increasing students' academic performance.

While the fee-free education policy has improved access to education, sustaining and enhancing quality remain significant challenges. Munisi, Werema, and Namusonge (2018) assessed the impact of the free secondary education policy on the quality of secondary education in Meru District and found that the surge in student numbers has outpaced investments in teachers and resources, resulting in overburdened teachers and diminished student-teacher ratios. Financial constraints further question the policy's long-term sustainability as the government struggles to meet the growing demand for resources to balance enrolment and student performance

(UNICEF, 2021). This highlights the need for adequate investment to balance increased enrolment with education quality.

The study emphasizes examining the relationship between rising enrolment and academic performance, showing that inadequate investment alongside growing student numbers could negatively impact secondary school outcomes in Tanzania. The reintroduction of the Fee-Free Education Policy in 2016 significantly increased secondary school enrolment in Mbozi District but also intensified challenges like overcrowded classrooms, insufficient teachers, limited resources, and poor infrastructure, adversely affecting academic performance (URT, 2017; 2023). Similar issues have been observed nationwide, as noted by Kilima (2020) and Lyanga and Chen (2020). These challenges highlight a national struggle to balance enrolment growth with education quality.

In Tanzania, the implementation of the fee-free education policy has significantly increased enrolment in public secondary schools. According to URT (2017) and URT (2023), enrolment in public secondary schools has increased from 1,565,201 students in 2017 to 2,774,947 students in 2023, with the student-teacher ratio rising from 1:40 to 1:70. Reports indicate that enrolment in public secondary schools (Form 1-6) in Mbozi District has increased from 16,286 in 2017 to 24,876 in 2023. However, this sharp rise in enrolment has also brought problems such as overcrowding in classrooms, inadequate teachers, and limited funding, all of which have an impact on the standard of instruction.

Despite the increased enrolment in public secondary schools, which has caused the district to face significant challenges in maintaining educational quality due to limited resources, infrastructure, overcrowding, and teacher overload, a report by NECTA (2021) indicates that national examination pass rates in Mbozi District increased from 70% in 2016 to 86% in 2021.

While research has extensively documented the benefits of fee-free education, there is limited evidence on how increased enrolment affects the quality of learning outcomes. This surge has raised a critical question: to what extent does the increased enrolment resulting from the Fee-Free Education Policy impact academic performance in public secondary schools? This knowledge gap limits policymakers' ability to address potential trade-offs between access and quality. If unaddressed, the issue could lead to a decline in academic performance, undermining Tanzania's progress toward achieving SDG 4. Therefore, this study seeks to investigate the impact of increased enrolment on academic performance in public secondary schools in Mbozi District, providing insights to guide policy adjustments. The crucial question to pose is: to what extent does students' enrolment affect students' academic performance in secondary schools? This study investigates how enrolment affects academic performance in Mbozi District, emphasizing the need for proportional investments in infrastructure, teacher

recruitment, and learning materials to achieve sustainable improvements in education quality.

1.1 General Objective

The main objective of this study was to assess the impact of student enrolment on academic performance in public secondary schools in Mbozi District.

1.1.2 Specific Objectives

The study was guided by the following specific objectives:

- i. To investigate the impact of student enrolment on the teacher student ratio in public secondary schools in Mbozi District.
- ii. To provide recommendations on enhancing academic performance in relation to student enrolment in public secondary schools in Mbozi District.

1.1.3 Research Questions

- i. To what extent does student enrolment affect the teacher: student ratio in public secondary schools in Mbozi District?
- ii. What are the recommendations for enhancing academic performance in response to student enrolment in public secondary schools in Mbozi District?

2.0 LITERATURE REVIEW

2.1 Theoretical Literature Review

The study applied the **Systems Theory of Education as an** appropriate theory and model to explain the impact of enrolment on academic performance in public secondary schools. Systems Theory, developed by Ludwig von Bertalanffy in the 1930s and later applied to education by theorists like Banathy (1968) and Parsons (1951), views education as an interconnected system comprising teachers, students, curriculum, facilities, environment, and policies working towards common goals. Its strength lies in emphasizing the interdependence of these components, showing how changes in one area, such as increased enrolment due to Tanzania's Fee-Free Education Policy, affect others, like teacher: student ratios and infrastructure. The theory underscores the need for coordinated investments in resources and teaching environments to maintain system balance and effectiveness.

While Systems Theory provides a robust framework for understanding the interconnected nature of education, it has limitations in addressing specific issues, such as the relationship between increased enrolment and academic performance in public secondary schools, as highlighted by NECTA (2021). The theory assumes system effectiveness arises from balanced inputs and processes but does not address trade-offs between increased enrolment and quality outcomes. Challenges like insufficient resources, teacher shortages, and overcrowded classrooms, which impact teaching quality and student learning, are overlooked. This study aimed to bridge this gap by analyzing how the success of the Fee-Free Education Policy relies on coordinating these elements effectively.

2.2 Empirical Literature Review

2.2.1 Impact of Students' Enrolment on Teacher student ratio in Public

Secondary Schools

The UNESCO (2015) Regional Review Report highlighted that by 2000, Western Europe and North America had achieved universal primary education, with countries like Cyprus offering free primary and secondary education. Students in Cyprus completed education cycles without dropping out or repeating classes, demonstrating equitable access through fee-free policies. However, the report focuses broadly on enrolment impacts and equity, neglecting the implications of overcrowding and resource constraints on academic outcomes, particularly in rural contexts.

Olang'o, Malechwanzi, Murage, and Amuka (2021) explored the impact of the Free Day Secondary Education (FDSE) policy on rural public day secondary schools in Kilifi County, Kenya. They found a decline in school mean scores between 2003-2007 and 2013-2017 due to increased enrolments, high teacher: student ratios, and inadequate financial and educational resources. The study recommends increasing student capitation, reducing class sizes, and ensuring timely fund disbursement. However, its relevance to Tanzania is limited, as it focuses on Kenya's specific policy dynamics and lacks emphasis on how teacher: student ratios directly influence academic performance.

Bankmeza (2021) analyzed the impact of fee-free education on public secondary schools in Dar es Salaam, Tanzania, finding that enrolment spikes increased the student-teacher ratio and class sizes, negatively affecting teaching quality and learning outcomes. While the study highlights how fee-free education impacts learning resources, such as improved book access, it lacks focus on infrastructural and teacher-related challenges, such as teacher workload and pedagogy, and does not address the distinct challenges faced by rural schools like those in Mbozi District.

Boniphace and Ngusa (2022) examined capitation grants for improving students' learning facilities in Ukerewe District, Tanzania. They found extreme deficits in classrooms, teachers, and other resources, concluding that funding was insufficient to meet educational standards. The study recommends increased government efforts to improve facilities but does not explore how these deficits directly affect student performance, especially in rural schools like Mbozi District.

Christine (2019) studied the impact of Rwanda's free education policy in Huye District, revealing that increased enrolment significantly affected education quality. Large classes of over 50 students, coupled with shortages of classrooms, teachers, and resources, adversely impacted teaching and learning processes. The study recommends increasing resources and teacher training for competence-based curricula. However, its focus on Rwanda limits its applicability to Tanzania, as it does not consider differences in policy implementation or the socio-economic contexts of rural and urban schools.

Bakar and Mwila (2022) examined the impact of high teacher: student ratios on teaching quality in Ubungu Municipality, Tanzania, finding that overcrowding compromised teaching and learning processes. They recommend constructing more schools, adding classrooms, and hiring more teachers. However, the study's urban focus overlooks rural challenges, such as logistical constraints and teacher retention in areas like Mbozi District.

Herbert (2022) analyzed the impact of the fee-free education policy on academic achievement in Mbeya District, noting increased enrolment and attendance but identifying challenges such as furniture and infrastructure shortages, high teacher: student ratios, and teacher workload, which reduced morale. Recommendations include recruiting qualified teachers and involving parents in resource provision. However, the study lacks specificity in addressing rural challenges like those in Mbozi District and does not provide direct evidence linking these issues to academic outcomes.

Schanzenbach (2014) examined the impact of class size on student outcomes in Colorado, finding that smaller classes significantly improve test scores and life achievements, particularly for low-income and minority students. Smaller classes enhance teacher-student interaction, reduce disruptions, and enable effective teaching strategies, while larger classes negatively impact short-term academic performance and long-term human capital development. The study emphasizes class size as a key determinant of learning outcomes but acknowledges limitations in focusing solely on this variable, as other factors like teacher: student ratios, classroom environments, and student motivation also play a role.

Duah *et al.*, (2023) investigated the impact of increased enrolment under Ghana's Free Senior High School (FSHS) policy, revealing significant growth in enrolment but challenges such as classroom and dining hall congestion, inadequate teaching materials, hostel infrastructure, and high student-teacher ratios. While the study recommends multi-stakeholder collaboration to address these issues, it primarily focuses on long-term infrastructure solutions and lacks strategies for short-term mitigation. Its context-specific nature limits direct applicability to Tanzania's education system.

Godda (2018) explored administrative strategies used by public secondary school heads in Tanzania to manage fee-free education. The findings highlighted effective use of standing orders and formal and informal techniques but revealed funding shortfalls that hindered meeting school demands. The study focuses more on administrative methods rather than systemic issues like funding and resource allocation and does not specifically address the impact of increased enrolment on student-class ratios.

Boniphace and Ngusa (2022) assessed the allocation of capitation grants in Ukerewe District, Tanzania, revealing significant classroom deficits, with student-class ratios of 1:70, 1:50, 1:65, and 1:60 compared to the recommended 1:40. While the study provides clear metrics to assess classroom inadequacies, it does not examine other factors

exacerbating high student-class ratios, such as teacher shortages or infrastructure planning.

Ghambi (2023) analyzed the availability and adequacy of Teaching and Learning Resources (TLR) in Iringa Municipal and Arusha District Council, revealing shortages of teachers, classrooms, and essential materials due to increased enrolment. These inadequacies negatively affected students' academic performance. While the study recommends constructing more classrooms and improving resources, it focuses primarily on resource inadequacy without addressing systemic policy frameworks for managing high student-class ratios effectively.

Lyimo, Too, and Kipng'etich (2017) examined the impact of fee-free education on instructional materials and physical resources in Arusha District, Tanzania, highlighting classroom overcrowding and its negative effects on teaching. The study recommends government intervention to build more classrooms, expand facilities, and train and hire teachers, particularly in rural areas like Mbozi. However, it is limited in scope, focusing primarily on rural settings and neglecting urban challenges and other factors affecting teaching quality, such as teacher motivation and instructional materials.

2.2.2 Recommendations for Enhancing Academic Performance in Response to Students' Enrolment

Duah *et al.*, (2023) explored how teaching and learning are reacting to the recent increase in student enrolment in Ghanaian Senior High Schools (SHS). The study found that senior high school education in Ghana has experienced tremendous growth following the introduction of the Free Senior High School (FSHS) policy. Several studies have proven that increased student enrolment presents challenges to effective teaching and learning that affect academic performance. It was also found that students' academic performance generally dipped in the introductory years of the FSHS policy, while some improvements were observed from 2019 forward. However, the study revealed that schools experienced classroom and dining hall congestion, inadequate teaching and learning materials, inadequate hostel infrastructure, and a high student-teacher ratio. Due to increased enrolment, the study recommends multi-stakeholder collaboration to salvage the infrastructure deficits and their associated challenges that characterize SHSs in Ghana.

Godda (2018) conducted a study in Tanzania, and the study was descriptive research that employed both qualitative and quantitative research designs. Findings showed that public secondary school heads were leveraging their administrative expertise to run their institutions efficiently by implementing standing orders, formal and informal techniques, and improved fee-free education. Nonetheless, the report highlighted issues such as a lack of funding to meet some of the demands of the schools.

Mbawala (2017) argues that fee-free education has been reported to be successful in several locations across a number of countries. The study's findings reveal adequate teachers, classrooms, textbooks, libraries, laboratories, classrooms, and desks as teaching and learning resources that influence

students' academic performance in examinations. The study recommends that the government, NGOs, and educational stakeholders should support the provision of teaching and learning facilities to improve the academic performance of students. Teachers are encouraged to implement the curriculum using available teaching and learning resources to improve performance in national examinations. Parents/guardians and teachers should also make efforts to maintain cooperation and active engagement to improve the quality of education.

The study by Ghambi (2023) on the contributions of fee-free education in secondary schools towards students' academic progress in Iringa Municipal through a qualitative approach recommended that the government should expand the provision of services because free education has minimized the gap in enrolment between poor and non-poor children in Tanzanian public schools, where the poor are now being more enrolled in schools than it was before. The study suggests different strategies, such as building enough classrooms to accommodate all enrolled students in secondary schools, should be considered. Moreover, the Tanzanian government should provide enough tables and chairs with appropriate ventilation to make learners enjoy the teaching and learning process. Hence, the provision of quality education can be possible.

Lyimo, Too, and Kipng'etich (2017) on the perception of teachers on the availability of instructional materials and physical resources in secondary schools in Arusha District, Tanzania, acknowledge that the quality of secondary school education cannot be separated from the context and circumstances that are found in schools. A number of secondary schools in Tanzania are considered to have a shortage of instructional materials, and some teachers are under qualified and demotivated; classrooms are also overcrowded due to increased enrolment because of the fee-free education policy, which affects teaching negatively. They recommend that the government should build more classrooms, allocate more resources to train and hire teachers, particularly in rural districts like Mbozi. Additionally, they suggest that improving infrastructure, such as building new classrooms and expanding existing facilities, would help to reduce overcrowding.

2.3 Conceptual Frame Work

According to Muya (2018) a conceptual framework organizes study variables and their logical connections, either diagrammatically or narratively. In this study, it visually and theoretically illustrates the relationships between students' enrolment and their impact on students' performance in public secondary schools. It highlights both positive and negative cause-and-effect interactions, considering contextual elements that shape policy implementation, school-level practices, and educational outcomes.

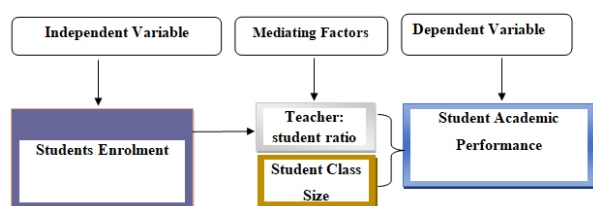


Figure 1: Visual Representation of a Conceptual Framework

Source: Author's Construction (2025)

3.0 METHODOLOGY

The study employed a mixed-methods approach, combining quantitative and qualitative data collection techniques. A sample size of 187 respondents was selected, comprising 117 students, 60 teachers, 4 head heads of schools from four purposively selected public secondary schools, 4 Wards Education Officers and 2 education officers including District Education Officers and District Chief Quality Assurance Officers, 4 Ward education Officer from four selected Ward in Mbozi District. The sampling techniques included simple random sampling for students and teachers, and purposive sampling for key informants who were head teachers and education officers. The study was conducted in four public secondary schools in Mbozi District in Songwe Region, namely; -Vwawa, Mlangali, Myovizi and Simbega secondary school.

Data were collected through questionnaires, interviews, observation methods and documentary review. Quantitative

data were analyzed using descriptive and inferential statistics with SPSS version 23, while qualitative data were analyzed thematically using Nvivo software.

4.0 FINDINGS AND DISCUSSION

This part presents the findings of the study, analyze and discuss the study specific objectives. It also analyses and discusses the findings of the study stated in chapter one. Descriptive statistics was extensively used to summaries the findings. The section is guided by the specific research objectives. In the analysis, the period before FFEP was the year 2014 while period after FFEP is 2024.

4.1 Student Enrolment and Teacher Student Ratio in Public Secondary Schools.

The first specific objective investigated on the impact of students' enrolment on teacher/students ratio and student class size in public secondary schools in Mbozi District. The first question of first specific objective of this study was to examine the impact of student's enrolment on teacher: student ratio.

4.1.1 Students Enrolment in 2014 and 2024

The study collected information regarding enrolled number of students from national examination classes (Form 2 and 4) in each of the visited schools in 2014 and 2024. The analysis started by summarizing the results obtained for the numbers of students for each school for the period before and period after introduction of fee free education policy. The results for secondary school Enrolment are as indicated in Table 4.1.1

Table 4.1.1 Students' Enrolment in 2014 and 2024 for School A

Academic Year		Enrolment of students in 2014			Enrolment of students in 2024			Increased number in percentage
School A	Class	Male	Female	Total	Male	Female	Total	%
	Form 2	155	162	317	164	189	353	36 (11.4%)
	Form 4	83	102	185	87	143	230	45 (24.3%)

Source: Field Data, February, 2025

Table 4.1.1 shows that secondary school A enrolled a total of 317 Form 2 students in 2014 and 353 in 2024. In terms of Form 4, the school had 185 students in 2014 and 230 students in 2024.

The analysis of secondary school A data shows that student enrolment in Form 2 was higher in 2024 than in 2014 for both sexes. The increase in students was 36 (11.4%) in Form 2, while Form 4 had an increased enrolment of 45 (24.3%). This rapid increase in student enrolment in both sexes in Forms 2 and 4 was due to the abolition of fees, as more students were able to attend school by 2024, especially girls. It also improved attendance and reduced student dropouts.

Apart from statistical findings from teachers, which showed that the free education policy has influenced enrolment, more details were qualitatively sought from school heads. In the interview, all headmasters/headmistresses explained that the

general observation of student attendance has improved due to the absence of contributions from parents. There was an increase in the number of students in schools since parents were able to enroll their children in school. Regarding retention, headmasters explained that it was beneficial that education was made free because students no longer had financial impediments to continue schooling.

Results from teachers also supported the document findings, as they reported an increase in student enrolment since the introduction of the fee-free education policy, which has caused overcrowded classes and increased workload for teachers, as well as a shortage of teaching and learning materials due to the limited funds received by respective schools. When asked about the enrolment rate of secondary school A, a teacher said:

Since the implementation of the fee-free education policy, there has been an increase in student enrolment that has negatively affected the quality of education provided. As

stated earlier, the abolition of school fees at the secondary school level appears to have increased student enrolment. As a result, teaching and learning have been compromised by large classes and a shortage of teachers. (Field data, 14 February, 10 am).

Therefore, teachers' reports justify the relevance of school enrolment reports, which also showed increased enrolment. Moreover, secondary school B recorded a high number of students in 2024 than in 2014. The results are indicated in Table 4.1.2

Table 4.1.2 Students' Enrolment in 2014 and 2024 for School B

Academic Year		Enrolment of students in 2014			Enrolment of students in 2024			Increased number in percentage
School B	Class	Male	Female	Total	Male	Female	Total	%
	Form 2	56	52	108	62	93	155	47 (43.5%)
	Form 4	28	34	62	34	40	74	12 (19.3%)

Source: Field Data, February, 2025

Table 4.1.2 indicates that secondary school B had 108 Form 2 students in 2014 and 155 students in 2024, an increase of 47 (43.5%). In terms of Form 4, the school had 62 students in 2014 and 74 in 2024, an increase of 12 (19.3%). These records suggest that the implementation of fee free education policy has contributed to increased enrolment in both classes for both male and female students, which generally affects education quality due to overcrowded classes, as schools have a higher demand for classrooms and teachers.

On the other hand, an increase in student enrolment was also seen in secondary school C in 2024 compared to 2014. The results are indicated in Table 4.1.3.

Table 4.1.3 Students' Enrolment in 2014 and 2024 for School C

Academic Year		Enrolment of students in 2014			Enrolment of students in 2024			Increased number in percentage
School C	Class	Male	Female	Total	Male	Female	Total	%
	Form 2	48	84	132	64	97	161	22%
	Form 4	26	26	52	31	35	66	27%

Source: Field Data, February, 2025

Table 4.1.3 shows that secondary school C enrolled 132 Form 2 students in 2014 and 161 students in 2024, an increase of 29 (22%). In terms of Form 4, the school had 52 students in 2014 and 66 students in 2024, an increase of 14 (26.9%). This increased enrolment had a direct impact on the number of students per class.

These records indicate that the school faced an increased student enrolment, especially in the Form 2 class, which had a large number of students. Although the enrolment increase in Form 4 was not drastic in 2024, it is sufficient to justify the impact of the fee-free education policy, as parents and guardians were able to enroll their children in secondary schools due to the abolition of school fees, which previously acted as an obstacle to student enrolment, attendance, and access to quality education.

Furthermore, increased student enrolment was recorded in secondary school D in 2024 compared to 2014. The results are indicated in Table 4.1.4.

Table 4.1.4 Students' Enrolment in 2014 and 2024 for School D

Academic Year		Enrolment of students in 2014			Enrolment of students in 2024			Increased number in percentage
School D	Class	Male	Female	Total	Male	Female	Total	%
	Form 2	86	106	192	87	125	212	20 (10.4%)
	Form 4	31	50	81	56	68	124	43 (53%)

Source: Field Data, February, 2025

Table 4.1.4 presents that secondary school D had a total of 192 (86 male and 106 female) Form 2 students in 2014, but

the number increased to 212 (87 male and 125 female) students in 2024, representing an increase of 20 (10.4%). In Form 4, the school had 81 (31 male and 50 female) students in 2014, while the number increased to 124 (56 male and 68 female) in 2024, representing an increase of 43 (53%).

The analysis of secondary data shows that student enrolment in school D increased in both classes, with more students enrolled in 2024 than in 2014. This was due to the friendly school environment created by the abolition of school fees, which led to a rapid increase in student enrolment. The study found that the abolition of school fees in secondary schools made learning easier, and teachers and learning materials were more available, which are essential for both students and teachers in the process of acquiring new knowledge and delivering skills.

Findings show that after the implementation of the fee-free education policy, more students were enrolled in school, especially girls. The headmaster of secondary school D remarked that parents no longer had pretensions to avoid students from attending classes, as was the case before. The government was commended for its efforts to improve access to education and retention of students through the abolition of fees and contributions in schools.

The headmaster from secondary school D had this to say:

We keep on enrolling students while infrastructures and other facilities are not increasing. We have big challenges with books, few classrooms, not enough laboratories, and in classes, there are no chairs and desks for students. In most of our classrooms, you can see more than 60 students with very few desks inside. (Field data, 19 February, 14 pm).

Ward Education Officer also reported that:

The fee-free education policy intended to provide more opportunities for parents to bring their children to schools. (Field data, 19 February, 15 pm).

Education officers unanimously affirmed that the fee-free education policy has resulted in an increase in student enrolment. However, they added that schools experienced many challenges related to a shortage of learning materials, classrooms, furniture, and absence of standard laboratories and libraries. Other effects related to the increased number of students were a shortage of teachers.

The results from all schools A, B, C, and D indicate that student enrolment has increased in all schools due to the abolition of fees, which improved student attendance and reduced dropouts, particularly in rural areas. These reports indicate that school enrolment has increased significantly, with notable improvements for both male and female students.

Moreover, most schools reported higher student numbers, which in turn affected the capacity of school resources for better academic performance and quality education in general. These findings suggest that eliminating fees has reduced dropout rates, especially in rural areas, leading to increased enrolment and attendance in secondary schools. However, this growth should be supported by enhanced resources, such as more qualified and motivated teachers, better access to textbooks, and adequate classrooms and laboratories.

These findings align with Herbert (2022), who analyzed the impact of the fee-free education policy on academic achievement in Mbeya District, noting increased enrolment and attendance but identifying challenges such as furniture and infrastructure shortages, high teacher: student ratio, and teacher workload, which reduced morale of work.

Additionally, the significant rise in enrolment, particularly among rural girls, supports Hassan (2022) and UNESCO (2022) on the benefits of fee-free policies. Similar to Ghana's Free SHS challenges (Duah *et al.*, 2023), Tanzania experienced enrolment growth but appeared to manage resources more effectively in Mbozi.

The findings also align with Tweve (2019), who found a notable rise in enrolment due to the fee-free education program but recognized implementation challenges, such as inadequate funding and insufficient study spaces. The study recommended timely provision of resources and infrastructure expansion to mitigate the program's negative impacts on student-teacher ratio and student-class size to support academic performance.

Therefore, the study reveals that the fee-free education policy has increased student enrolment, leading to overcrowded classrooms, teacher shortages, and insufficient teaching and learning materials, ultimately affecting the effective teaching and learning process.

4.1.2 Teacher Student Ratio in 2014 and 2024

The study collected information regarding the teacher: student ratio from national examination classes (Form 2 and 4) in each of the visited schools in 2014 and 2024 by identifying the number of students and the number of teachers teaching national examination classes. The results obtained for secondary school A are indicated in Table 4.1.5.

The study collected information regarding teacher students ratio from national examination classes (Form 2 and 4) in each of the visited schools in 2014 and 2024 by identifying number of students and number of teachers teaching national examination classes. The results obtained for secondary school A are as indicated in table 4.1.5

Table 4.1.5 School A Teacher student ratio in 2014 and 2024

Year	Teacher: students ratio in2014					Teacher: students ratio in 2024			
Name of School	Class	No. of students	No. of teachers	No. of streams	TSR	No. of students	No. of teachers	No of streams	TSR
	Form 2	317	7	4	1:79	353	8	4	1:88

School A	Form 4	185	7	3	1:62	230	8	4	1:58
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Source: Field Data, February, 2025

Table 4.1.5 indicates that in 2014, secondary school A had a higher teacher student ratio of 1:79 in Form 2 and 1:62 in Form 4. The data also indicates that in 2024, the teacher: student ratio was 1:88 in Form 2 and 1:56 in Form 4. Therefore, school A shows that national examination classes in this school had a higher teacher student ratio that exceeded the recommended ratio of 1:40, even before the implementation of the fee-free education policy.

The study noted that documentary data align with field reality because teachers reported functional overcrowded classroom conditions with large class sizes, lack of resources, and shortage of infrastructures. Teachers also reported having other workloads from non-national examination classes, which made teaching difficult. The teacher: student ratio is a critical issue affecting the quality of education.

One teacher from secondary school A responded through an interview, saying:

We teach in overloaded classes with more than 45 students, which affects effective teaching and learning. Not only that, but we also don't teach only Form 2, 4, and 6, but also teach other classes, which affects effectiveness in teaching and attending to students. (Field data, 14 February, 12 pm).

Another teacher from the same school said:

It was good that education was made free because students no longer have to continue with schooling without any financial barrier. However, every good thing has side effects, as after the fee-free education policy, the number of students surpasses the resources available in schools, such as classes and teachers. (Field data, 14 February, 14 pm).

In addition, the head of secondary school A reported an over teacher student ratio in the school, responding that the teacher: student ratio exceeds the accepted ratio of 1:40. The

headmistress said that they are forced to combine students from two streams into one stream during sessions to cover the gap of shortage of science subject teachers and also to simplify work rather than one teacher teaching the same topic in many classes many times. During the interview, she further said:

Public secondary schools are faced with unequal distribution of teachers and insufficient classrooms that contribute to overcrowded classes. It's a challenge to provide quality education under these conditions. It is understood that most schools, including ours, combine more than 45 students in one classroom due to a shortage of classrooms. (Field data, 14 February, 13 pm).

The real situation was also observed, as school A was found to have overcrowded classes, where one class accommodated more than 45 students, as evidenced by data from enrolment documents and official records for the number of students, streams, and number of teachers, which showed a high teacher: student ratio.

The results indicate that in both 2014 and 2024, the teacher student ratio exceeded the recommended ratio of 1:40, as documents and most field staff reported a high teacher: student ratio due to increased student enrolment. The real situation is that in 2024, the teacher student ratio increased, which has some negative impact on the teaching and learning process for better student performance, since it overloads the workload on teachers. Therefore, from documentary review, it was noted the school faces insufficient teachers and classrooms, resulting in an exceeding teacher student ratio. This has a negative impact on the quality of education provided to students.

Moreover, the research was also conducted in secondary school C. The results are as indicated in Table 4.1.6.

Table 4.1.6 School B Teacher student ratio in 2014 and 2024

Year	Teacher- students ratio in 2014					Teacher- students ratio in 2024			
Name of School	Class	No. of students	No. of teachers	No of streams	TSR	No. of students	No. of teachers	No of streams	TSR
School B	Form 2	108	6	2	1:54	155	7	2	1:78
	Form 4	62	6	1	1:62	74	7	1	1:74

Source: Field Data, February, 2025

Table 4.1.6 indicates that in 2014, secondary school B had a teacher: student ratio of 1:54 and 1:62 for Form 2 and Form 4, respectively. In 2024, the school had a teacher: student ratio of 1:78 and 1:74, which exceeds the Ministry of Education and Vocational Training's recommended ratio of 1:40.

Comparing the two years' data on teacher: student ratio, it is evident that as the number of student enrolments increased, the teacher: student ratio also increased, despite the increased number of teachers from 6 teachers in 2014 to 7 teachers per class in 2024. This highlights the challenge of maintaining an optimal teacher: student ratio despite efforts to increase the number of teachers. Therefore, this forced the school

administration to allocate students into fewer streams because the available classrooms did not correspond to the number of students. This was also evidenced by one school teacher through an interview, who said:

Our school has a very large number of Form 2 students, while the number of available classrooms and teachers is low. That's why we had a class of more than 70 students in 2024, and the student number has increased in the 2025 academic year. So, it is very difficult for a teacher to interact with students during the teaching process in such a large class. (Field data, 17 February, 10 am)

The school B Head Master said:

Government and community efforts to build classes are not enough compared to the increasing number of students. The situation is critical, and teachers need to be supported to manage these large classes effectively. The situation is worse

for Form 1 classes, since their number is too large, while constructed classes do not correspond to enrolled students, hence affecting teachers in class management during the teaching process. (Field data, 17 February, 10 am)

Therefore, from documentary review it was observed results of overcrowded classes and large teacher: student ratios, it is clear that school B faces significant challenges in providing quality education due to inadequate resources. It is clear that school B faced a large teacher: student ratio of 1:78 and 1:74 in Form 2 and Form 4, respectively, in 2024, which in turn led to a poor teaching and learning environment for both teachers and students, potentially negatively impacting national examination results.

Research was also conducted at secondary school C. The results are as indicated in Table 4.1.7.

Table 4.1.7 School C Teacher: student ratio in 2014 and 2024

Table 11.11: School C Teacher: student ratio in 2014 and 2024									
Academic Year	Teacher: students ratio in 2014					Teacher: students ratio in 2024			
Name of School	Class	No. of students	No. of teachers	No of streams	TSR	No. of students	No. of teachers	No of streams	TSR
School C	Form 2	132	6	2	1:66	161	7	2	1:81
	Form 4	52	4	1	1:52	66	7	1	1:66

Source: Field Data, February, 2025

Table 4.1.7 shows that in 2014, secondary school C had a teacher: student ratio of 1:66 and 1:52 in Form 2 and Form 4, respectively. In 2024, the school had a teacher: student ratio of 1:81 in Form 2 and 1:66 in Form 4. These ratios are significantly higher than the recommended ratio of 1:40. These records indicate that even in 2014, the teacher: student ratio was high in all classes, but the situation worsened in 2024, with teachers having to interact with 81 Form 2 students in a class, exceeding the recommended ratio by 41 students.

Interviewed teacher from secondary school C said:

The number of students has been increasing, leading to a high teacher: student ratio of more than the recommended limit of 1:40, which makes it difficult for teachers to manage classes. (Field data, 18 February, 10 am).

The school headmaster was also interviewed. He said there was of addition number of classrooms, teachers, and resources but they not correspond to the increased number of students. The secondary school headmaster said:

The establishment of fee-free education has not yet dealt with the problems of teachers, but to the contrary, it has worsened their workload and overcrowded classes. (Field data, 18 February, 10 am).

The increased enrolment has put a strain on the school's resources, highlighting the need for more classrooms and teachers. Admitting that the number of students has increased, the workload for teachers has similarly gone up, and classes

are crowded despite the government's efforts to build new schools and classrooms.

In addition, the headmaster of secondary school C said:

Parents no longer make excuses to keep their children from going to school. In fact, the government received praise for the increased efforts made to increase student retention and access to education by doing away with school fees and donations. However, the government should also ensure that enough teachers are employed and more classes are added to solve the issue of overcrowded classes. (Field data, 18 February, 14 pm).

This indicates that Form 2 and Form 4 classes in secondary school C in 2014 and 2024 had an excessive number of students per teacher, frequently exceeding Tanzania's suggested ratio of 1:40. The school is struggling to accommodate the growing student number, highlighting the need for more classrooms and teachers. Although more students were enrolled thanks to the government's fee-free education policy, the school is struggling due to insufficient classrooms. More classes are needed to address this, particularly in Forms 2 and 4, to lessen congestion and enhance the teacher: student ratio and learning environment. These results represent many public secondary schools in Tanzania, highlighting a broader issue. Therefore, the study reports that the fee-free education policy has a significant negative effect on the student-teacher ratio.

Furthermore, research was conducted at secondary school D. The results are as indicated in Table 4.1.8.

Table 4.1.8 School D Teacher student ratio in 2014 and 2024

Year	Teacher students ratio in 2014					Teacher students ratio in 2024			
Name of School	Class	No. of students	No. of teachers	No of streams	TSR	No. of students	No. of teachers	No of streams	TSR
School D	Form 2	192	6	3	1:64	212	7	4	1:53
	Form 4	81	6	2	1:41	124	7	2	1:62

Source: Field Data, February, 2025

In comparison to the recommended ratio of 1:40, Table 4.1.8 indicates that in 2014, secondary school D had a teacher: student ratio of 1:64 and 1:41 in Form 2 and Form 4, respectively. In 2024, the school's teacher: student ratio in Form 2 was 1:53 and 1:62 in Form 4 respectively.

The results indicate that the teacher: student ratio of 1:64 in Form 2 in 2014 was high, despite increasing the number of teachers to 7 in 2024, the ratio remained high at 1:53. It also shows that due to the increased number of students, the teacher: student ratio in Form 4 increased from 1:41 in 2014 to 1:62 in 2024.

The findings mean that, in both 2014 and 2024, school D faced a larger teacher: student ratio in Form 2, despite the increased number of teachers. The shortage of teachers and insufficient number of classrooms remained a significant challenge. For example, a total of 212 Form 2 students were accommodated in only three streams, leading to 53 students per stream, meaning that one teacher had to attend to all students per session. In 2014, the Form 4 class had a required ratio since enrolled students were accommodated in 2 streams. However, in 2024, the increased student enrolment without a corresponding increase in the number of classrooms and teachers led to a ratio of 62 students per teacher.

Findings from all schools A, B, C, and D generally indicate that in 2014 and 2024, Form 2 and Form 4 classes had a high teacher: student ratio, frequently exceeding Tanzania's suggested limit. The government's fee-free education policy increased student enrolment, but schools struggled to accommodate the growing number of students due to insufficient classrooms and teachers. This could be resolved by hiring more teachers, particularly for Form 2 and Form 4, which would lessen overcrowding and enhance the teacher-to-student ratio and learning environment.

From these responses, it is clear that there were few classrooms added in 2024, but the increase was coupled with an increased number of students, hence the teacher: student ratio increased. An increased number of students per class means an increase in students per teacher, which is a sign of deterioration in the quality of education. The study also noted that in both periods, the teacher: student ratio was above the recommended ratio, but the situation was much worse in 2024.

These findings align with Boniphace & Ngusa (2022), who found that due to the implementation of the fee free education

policy, the teacher: student ratio increased, and schools in Ukerewe had overcrowded classes of 1:70 due to infrastructure gaps. Bakar & Mwila (2022) also reported that official ratios masked classroom congestion in Ubungu, where teachers struggled with large groups. This highlights the need for targeted investments in classrooms, teachers, and technology to ensure equitable quality education.

The high teacher: student ratio in Mbozi aligns with Bakar & Mwila (2022), who found that Ubungo Municipality schools averaged 1:60, leading to reduced individualized instruction and higher teacher workload. However, the study contrasts with Christine (2019), who reported that Rwanda's free education policy maintained a 1:50 ratio through aggressive teacher recruitment. The findings highlight the importance of context-specific solutions to address teacher: student ratio challenges.

These findings also concur with studies in Ukerewe by Boniphace & Ngusa (2022) where severe overcrowding and infrastructure gaps persisted, highlighting regional disparities in policy implementation. The study underscores the need for policymakers to address these disparities and ensure equitable access to quality education.

In summary, the study found that the enrolment of students resulting from the implementation of the fee-free education policy had adverse consequences on the learning process. Teachers' workload increased due to the increased number of students, while the number of teachers remained the same, compromising the quality of education.

4.2 Recommendations on Enhancing Academic Performance in Response to Students' Increased Enrolment in Public Secondary Schools

The third objective of this study was to provide recommendations on enhancing academic performance in relation to students' enrolment in public secondary schools in Mbozi District. Respondents were asked several variables on this objective which are presence of proper measures taken by government and other stake holders in response to increased students enrolment, and rating measures proposed to be taken on enhancing academic performance in response to increased enrolment.

4.2.1 Students and Teachers on Measures Being Taken to Address Increased Students' Enrolment

In objective three respondents both students and teachers were asked to respond whether proper measures are being taken by government and other education stakeholders to address enrolment challenges for better academic performance.

Responses was limited to “yes” or “no”. Results are indicated in Table 4.2.1

Table 4.2.1 Students and Teachers on Measures Being Taken to Address Increased Students’ Enrolment

Respondents’ Responses	Yes	%	No	%	Total
Students	112	96	5	4	117
Teachers	48	80	8	20	56

Source: Field Data, February, 2025

The findings in Table 4.2.1 show that 112 (96%) students reported that the government and other education stakeholders take measures in response to increased student enrolment for better academic performance. Among the measures mentioned by students were building new classrooms and employing teachers. Only 5 (4%) students responded that fewer measures are taken in response to increased enrolment in secondary schools. This indicates that measures are being taken in response to increased enrolment, particularly with the current education funding system (FFEP), which helps school management allocate funds and resources properly and timely.

On the other hand, the data reveals that 48 (80%) teachers agreed with the efforts of the government and other education stakeholders in ensuring that school resources and infrastructure respond to increased student enrolment for better academic performance. They mentioned the addition of new schools to enroll students who would have otherwise been enrolled in a single school, building classrooms, employing new qualified teachers, and parents contributing desks for new students. However, 12 (20%) teachers were not satisfied with the measures taken, citing that despite the construction of new classrooms, which helped to allocate students into new streams and reduce class congestion, there are still not enough teachers. The teachers' responses indicate that measures are being taken in response to increased enrolment, but they are still insufficient, particularly in terms of the number of teachers and classrooms.

The respondents also highlighted the problem of infrastructure in their respective schools through interviews. A teacher from Secondary School B said:

We cannot say that no efforts are being taken by the government. Under President Samia Suluhu Hassan, new classrooms are being added, but more classrooms and teachers are still needed because student enrolment increases every year. So, we are enrolling students while infrastructure and other facilities are not increasing. We have significant challenges with books, few classrooms, no laboratories, and insufficient chairs and desks for students. (Field data, 17 February, 12pm).

The responses show that the government and other stakeholders take measures to ensure a balance between infrastructure, teachers, books, and other resources with enrolled students. However, despite these efforts, challenges persist, including a shortage of classrooms and teachers.

The findings from the headmasters and headmistresses of the four selected public secondary schools indicate that they all agree that measures are being taken by the government and other education stakeholders to ensure that school infrastructure and teaching and learning facilities are available for better student academic performance. Despite the challenges persisting in public secondary schools due to increased enrolment, the data shows that the government and other stakeholders take measures to improve student academic performance and quality education in general.

Furthermore, interviews with education officers justified that the government takes measures in response to increased student enrolment for better academic performance by mentioning programs such as building more classrooms, introducing new schools, and recruiting more qualified teachers. One education officer stated:

Since the implementation of fee free education policy, the number of students in most public secondary schools in Mbozi District has increased, as it has opened access to education for many students graduating from primary schools. This increase in enrolment has also increased the demand for schools in terms of classrooms, teachers, libraries, desks, books, and all other education-related facilities for better academic performance. In response to these challenges, the government has increased the number of classrooms, laboratories, desks, and recruited new teachers to reduce the large teacher: student ratio and class size, thereby improving the quality of education. (Field data, 17 February, 15pm).

The responses from students, teachers, heads of schools, and education officers provide evidence that increased enrolment has raised the attention of the government, parents, and other stakeholders to build new classrooms and schools. However, a few teachers and students reported negatively, indicating that despite the efforts taken by education stakeholders, classes are still overcrowded due to increased enrolment. Therefore, this calls for more and stronger measures, particularly increasing infrastructure and recruiting more teachers in response to student enrolment for better academic performance.

This observation is supported by the view of UNESCO (2020), which states that programs aiming to increase enrolment can also effectively achieve excellent education by considering the conditions of learners, the learning environment, and lesson materials. A study by Mbawala (2017) also suggests that government, non-governmental organizations, and educational stakeholders should encourage the provision of teaching and learning facilities to boost students' academic performance. Therefore, this study recommends that teachers should also be concerned with performance metrics and curriculum implementation to improve academic achievement. Additionally, involving parents and community members in school-related issues, allocating sufficient funds, and hiring qualified teachers are better solutions for improving students' academic performance.

4.2.2 Recommended Measures to be taken to Address Challenges of Increased Students' Enrolment

Students, teachers, head of school, and education officers were asked on their agreement with proposed measures to address increased enrolment challenges for academic performance. The analysis of respondents were discussed as follows:

4.2.2.1 Students' Recommendations on Measures to be taken for Enhancing Academic Performance

Students were asked on their agreement with proposed measures to address enrolment challenges for academic performance. The responses were based on building additional classes, recruiting more qualified teachers, investing on digital teaching and learning tools and introducing shift programs. Table 4.2.2 indicates the results:

Table 4.2.2 Students 'Responses on Measures to be taken for Enhancing Academic Performance

Proposed Measures to be taken	Recommended	%	Not recommended	%
Building additional classes	110	94	7	6
Recruiting more qualified teachers	117	100	0	0
Investing in digital teaching and learning	109	93	8	7
Introducing shift programs	27	23	90	77

Source: Field Data, February, 2025

Table 4.2.2 present's student's responses on recommended measures to be taken for enhancing academic performance in public secondary schools. Its analysis and discussion are as follows:

4.2.2.1.1 Students' Recommendations on Building Additional Classes

Table 4.2.1 indicates that the majority of students, 110 (94%), recommended building more classrooms to reduce overcrowded classes and the large teacher student ratio. The field findings highlight a strong need for more classrooms as a means of addressing the shortage. On the other hand, a few students, 7 (6%), did not recommend building additional classrooms as a means of improving academic performance.

These responses suggest that schools have a high demand for more classrooms to reduce overcrowding, with more than 45 students per class. This would also help reduce large class

sizes, improving the teaching and learning environment in all selected schools. This, in turn, would support smooth learning for better academic performance and quality education, particularly in urban secondary schools where classes are often severely overcrowded. The findings are consistent with previous studies that acknowledge overcrowding as a result of difficulties in classroom management and high workloads for teachers. Therefore, the addition of new classrooms should be a major concern for the government and other stakeholders.

Findings are supported by Bakar & Mwila (2022), who linked large classes to diminished teaching quality in Tanzanian urban schools, and Ghambi (2023), who suggested that building enough classrooms to accommodate all enrolled students in secondary schools should be a consideration in strategies to improve students' academic progress. Moreover, the Tanzanian government should provide adequate tables, chairs, and proper ventilation to make learners enjoy the teaching and learning process, thereby enabling the provision of quality education.

The high workload is consistent with Olang'o *et al.*, (2021), who found teacher burnout in Kenya under similar policies. Therefore, building more classrooms is crucial. Notably, with a smaller teacher: student ratio and student-class size, teacher workloads are reduced, leading to more effective teaching and improved academic performance. Hence effective teaching for improved academic performance.

4.2.2.1.2 Students' Recommendations on Recruiting More Qualified Teachers

This question aimed to determine whether teachers were in high demand at schools. Table 4.2.1 shows that all students, 117 (100%), strongly agreed that more teachers are needed to address the shortage of teachers in public secondary schools due to increased enrolment. This indicates a significant gap in the availability of teachers, particularly in effective teaching and learning, which is crucial for students' overall academic performance.

In addition, recruiting more qualified teachers would increase teacher-student interaction during the teaching and learning process, ultimately enhancing students' academic experience. This finding is supported by Lyimo, Too, and Kipng'etich (2017), who studied the perception of teachers on the availability of instructional materials and physical resources in secondary schools in Arusha District, Tanzania. They acknowledged that the quality of secondary school education is closely tied to the context and circumstances found in schools.

Many secondary schools in Tanzania face a shortage of qualified and demotivated teachers, particularly in rural districts. The study recommends that the government allocate more resources, provide training, and recruit more teachers to address this issue. These measures are practical, as improving the teaching staff through training and hiring more qualified teachers would help reduce overcrowding in single classes and enhance the overall quality of education.

4.2.2.1.3 Students' Recommendations on Digital Teaching and Learning Tools

Table 4.2.1 indicate that 109 (93%) students recommended investing in digital teaching and learning tools. This suggests that incorporating digital tools in secondary schools could be a functional solution to address the challenges posed by increased enrolment. On the other hand, only 8 (7%) students did not recommend investing in digital teaching and learning tools, possibly due to concerns about technological competence and poor power connectivity in rural schools.

These responses provide evidence that students believe investing in digital teaching and learning tools can facilitate effective learning. Digital learning tools enhance teaching and learning by increasing engagement, providing access to information, and fostering collaboration. Examples of such tools include interactive whiteboards, educational apps like Kahoot! And Quizlet, learning management systems (LMS) like Google Classroom, and online collaboration tools. These tools can improve student outcomes, making learning more dynamic and personalized, and potentially leading to increased enrolment by creating a more engaging and accessible learning environment.

These findings align with Ovcharuk *et al.*, (2020), who emphasized the importance of digital learning tools in ensuring sustainable development and democratization of education in European countries. They argued that learning tools should be adaptable to the audience, providing feedback mechanisms that help students understand their strengths and weaknesses and find their own paths to success. Indeed, today's teachers should prioritize technological aspects in the teaching and learning process to be relevant and effective.

4.2.2.1.4 Students' Recommendations on Introducing Shift Programs

Table 4.3.1 shows that, majority of students 90 (77%) were against with the idea of introducing shift programs. Introducing shift programs was met with resistance from students who preferring full-day learning. This reveals that, students does not prefer on shift programs rather than other measures while few of them were interested as only 27 (23%) recommended that introducing shift programs can be helpful.

Overall, the findings underscore the urgent need for infrastructure expansion that will help on increasing classrooms hence improving students-class size which seen as a big problem in Mbozi District, resource allocation and teacher recruitment, was emphasized while also reflecting divergent views on shift programs and digital solutions.

4.2.2.2 Teachers, Heads of Schools and Education Officers' Recommendations On Measures to be taken for Enhancing Academic Performance

Teachers, heads of schools and education officers were asked on their agreement with proposed measures to address enrolment challenges for academic performance. Results are indicated in Table 4.2.3

Table 4.2.3 Teachers' Responses on Proposed Measures for Enhancing Academic Performance (n=56)

Proposed Measures to be taken	Recommended	%	Not recommended	%
Building additional classes	46	82	10	18
Recruiting more qualified teachers	52	93	4	7
Investing on digital teaching and learning	48	86	8	14
Introducing shift programs	50	89	6	11

Source: Field Data, February, 2025

Table 4.2.3 above presents teachers' recommendations on measures to be taken for enhancing academic performance in public secondary schools. Its analysis and discussion are as follows:

4.2.2.2.1 Teachers' Recommendations on Building Additional Classes

Table 4.2.3 indicates that 46 (82%) of teachers recommended adding more classrooms to secondary schools, citing that the existing classes are insufficient to accommodate the large number of students due to the implementation of the Fee-Free Education Policy (FFEP), which has resulted in overcrowded classes. In contrast, 10 (18%) of teachers did not recommend building additional classrooms, reporting that the existing classes are sufficient.

These findings highlight the urgent need for infrastructure improvement, particularly in terms of classrooms. Teachers are directly affected by the challenges of teaching overcrowded classes, including a heavy workload, difficulties in class management, and negative impacts on students' academic performance. As one teacher from Secondary School A noted during an interview:

A class with many students affects the entire teaching and learning process. It impacts the comfort of staying in class for learning. To address congested classes, the government should build more classrooms, as the current pace of construction does not reflect the enrolment rate in most secondary schools. (Filed data, 14 February, 11 am).

The study also conducted interviews with heads of schools and education officers, who similarly recommended building additional classrooms in public secondary schools due to the insufficient number of classrooms to accommodate the large student population. These findings suggest that heads of schools and education officers are also burdened by the

shortage of classrooms resulting from increased student enrolment.

The findings are supported by Lyimo, Too, and Kipng'etich (2017) and Ghambi (2023), who emphasized the need for building more classrooms. Ghambi study on the contributions of fee-free education to students' academic progress in Iringa Municipality highlighted infrastructure inadequacies, such as insufficient classrooms and high student teacher ratios, which negatively affect academic performance. The study recommends expanding services, addressing resource shortages, and maintaining optimal teacher: student ratios to improve education quality.

The recommendation to build additional classrooms is further supported by Kamil (2024), who notes that without proportional investment in teachers and infrastructure, quality declines. Lyimo *et al.*, (2017) also recommend constructing more classrooms, especially in remote area schools, and improving existing facilities to reduce overcrowding. Duah *et al.*, (2023) suggest multi-stakeholder collaboration, aligning with the study's call for government-NGO partnerships in resource provision.

Overall, the findings emphasize the critical need for infrastructure development, particularly in terms of classrooms, to address the issues of high student-class size and overcrowded classrooms, ultimately enhancing academic performance.

4.2.2.2.2 Teachers' Recommendations on Recruiting More Qualified Teachers

Data from Table 4.2.3 indicates that the majority of teachers, 52 (93%), recommended recruiting more qualified teachers, while 4 (7%) showed less enthusiasm for this recommendation. Despite some teachers not recommending the recruitment of more teachers, the findings suggest that teachers are aware of the burden of overcrowded classes, heavy workloads, and challenges in class management due to the shortage of teachers in schools. Therefore, employing more teachers is essential.

Furthermore, the study conducted interviews with heads of schools and education officers, and the findings revealed that both groups suggested recruiting new qualified teachers to address the shortage of teachers in public secondary schools. These findings indicate that heads of schools recognize the need for more teachers, as some schools face a shortage of teachers that exceeds the shortage of classrooms. For example, Secondary School D had unused classrooms because students were combined into fewer streams to overcome the shortage of teachers, particularly for science subjects. As one head of school noted:

We are facing a shortage of teachers, especially for science subjects. Therefore, we would like to see more qualified teachers employed to overcome the problem of high teacher: student ratios. (Field Data, 14 February, 11 am).

After analyzing the study findings, the researcher discussed the results as follows. It was noted that the teacher: student ratio has increased due to the rise in student enrolment and the

shortage of teachers. The study acknowledged that the Fee-Free Education Policy has the potential to improve education quality but has also caused challenges, including a shortage of teachers to balance the increased student population. Therefore, recruiting more qualified teachers is highly recommended to enhance academic performance.

The study also discussed that having enough teachers in schools makes learning easier. Teachers are crucial for the process of acquiring new knowledge and delivering skills. A shortage of teachers results in a poor learning process, poor academic performance, and the absence of quality education for students, ultimately leading to low-quality future professionals.

The findings concur with Kamil (2024), who stated that without proportional investment in teachers and infrastructure, quality declines. The study confirms global trends of overcrowding and teacher shortages but challenges assumptions that enrolment growth always harms performance. Instead, it suggests contextual resilience, such as Tanzania's improving pass rates, and emphasizes the need for targeted investments in classroom building, teachers, and technology for digital teaching tools.

Mbawala (2017) agrees with these findings, stating that fee-free education has been effective in numerous countries. According to the study's findings, sufficient teachers need to be employed to improve teaching and learning, ultimately enhancing students' performance. Mwinuka (2016) found that the student-teacher ratio in rural areas was 50:1, while in urban areas, it was 30:1, highlighting the need for more teachers in rural areas. The study recommended continuous teacher training and incentives to motivate teachers and attract them to teaching and providing quality education.

Therefore, recognizing the importance of qualified teachers for better academic performance and quality education, this study argues that quality academic performance can only be achieved if teachers are motivated, trained, and recruited by the government, given their significant responsibility, despite working in challenging environments, particularly in rural areas with poor social services.

4.2.2.2.3 Teachers' Recommendations on Digital Teaching and Learning Tools

Data indicates that the majority of teachers, 48 (86%), suggested investing in digital learning to facilitate teaching and learning for both teachers and students. In contrast, 8 (14%) of teachers did not recommend digital teaching and learning tools due to the unsupportive environment, particularly in rural schools where most schools lack electricity. The findings suggest that digital teaching and learning tools may be helpful in facilitating the teaching and learning process in large classes.

However, in contrast to teachers, interviews with heads of schools and education officers revealed that they were not as enthusiastic about investing in digital learning to facilitate teaching and learning in congested classes. Their concerns centered on costs, infrastructure, lack of technological skills,

and the unsupportive environment in rural schools. As the headmaster of Secondary School B, located in a rural area, noted:

Our school's capacity, economic status, and technological level do not support digital teaching tools due to many challenges, such as unreliable connectivity and teachers' limited technological proficiency. (Field Data, 17 February, 12 pm).

Education officers who did not recommend digital teaching and learning tools cited the unsupportive environment in rural secondary schools, particularly the lack of electricity and technological infrastructure. They also highlighted concerns about costs, infrastructure, and lack of technological skills, especially in rural areas. One education officer cautioned that while digital tools could enhance engagement, their implementation might be premature due to these barriers:

Investing in digital teaching tools such as e-learning platforms, tablets, projectors, and internet could be beneficial for enhancing teaching and learning, but I don't recommend it for now due to its costs and infrastructure. Rural schools often lack reliable power and internet connectivity, and many teachers are not tech-savvy. (Field data, 14 February, 15 pm).

Overall, the findings underscore the importance of digital teaching and learning, despite resistance from education officers. This study sees the urgency of investing in digital teaching and learning tools in schools, particularly with adequate electricity supply in rural secondary schools. Technology integration is urgently needed to address overcrowding and sustain perceived academic gains.

The importance of digital teaching and learning tools is supported by Ovcharuk *et al.* (2020), who analyzed the use of digital learning tools in teachers' professional activities to ensure sustainable development and democratization of education in European countries. The study emphasized the need for learning tools that are adaptable to the audience and provide feedback mechanisms to help students understand their strengths and weaknesses.

Findings also align with Kamil (2024), who stated that without proportional investment in teachers and infrastructure, quality declines. The study suggests contextual resilience, such as Tanzania's improving pass rates, and emphasizes the need for targeted technology investment for digital teaching.

Therefore, investing in digital tools for teaching and learning should be strongly suggested, especially in urban areas where many schools are congested due to increased enrolment since the implementation of the Fee-Free Education Policy in Tanzania.

4.2.2.2.4 Teachers' Recommendations on Introducing Shift Programs

Table 4.2.3 indicates that the majority of teachers, 50 (89%), suggested introducing shift programs to divide congested classes for better teaching and learning, while 6 (11%) did not recommend shift programs, seeing them as having minimal contribution to facilitating students' academic performance.

The data shows that shift programs may be another solution for overcrowded classes, but teachers' suggestions contradict with students who do not recommend introducing shift programs.

In contrast, heads of schools and education officers showed positive responses to introducing shift programs to address congested classes. However, students strongly disagreed, preferring full-day learning. Therefore, it is essential to involve all stakeholders, including students, parents, and teachers, before introducing shift programs.

Overall, the findings from both respondents underscore the urgent need for infrastructure expansion, resource allocation, and teacher recruitment, while also reflecting divergent views on shift programs and supplying more qualified teachers. The study calls for concrete steps to address overcrowding and sustain perceived academic gains, including infrastructure expansion, teacher recruitment, adequate supply of instructional resources, and technology integration. Shift programs receive mixed support, suggesting they are less favored than other solutions, especially among students who strongly oppose the programs and prefer full-time class learning.

Data indicates that, majority of teachers 48 (86%) suggested on investing on digital learning so as to facilitate teaching and learning for them and for students. while 8 (14%) not recommends on digital teaching and learning tools due unsupportive environment for digital teaching and learning tools especially in rural schools. The reasons for not recommending was that, most of schools in rural area are not connected by electricity power. Findings from respondents reveals that digital teaching and learning tools may be helpful on facilitating teaching and learning process in large classes.

On other hand, contrary to teachers, from interview with heads of schools and education officers, suggestions was not much on investing on digital learning so as to facilitate teaching and learning in congested classes, their concern was on costs, infrastructure, and lack of technological skills and unsupportive environment for applying digital tools especially in rural schools. Most of schools in rural area are not connected by electricity power.

On digital teaching tools, concerns was on costs, infrastructure, and lack of technological skills especially for secondary school B which found in rural area. This reported by secondary school B head master through interview once said:

Our school capacity, economic status and technological level does not support digital teaching tools because is associated with many challenges such as unreliable connectivity and teachers' limited technological proficiency. (Field data, 17 February, 12 pm).

It was noted that, education officers who didn't recommended on digital teaching and learning tools contrary to other stakeholders (students and teachers) had a reasons of unsupportive environment for applying digital tools especially in rural secondary schools. They argued that, most of schools in rural

area are not connected by electricity power. Additionally, on digital teaching tools, concerns was on costs, infrastructure and lack of technological skills especially for secondary schools found in rural area. Educational officers highlighted challenges such as unreliable connectivity and teachers' limited technological lagging behind.

One education officer cautioned that while digital tools could enhance engagement, their implementation may be premature due to these barriers. This recommended by one among the education officer through interview when said;

Investing on digital teaching tools such as e-learning platforms, tablets, projectors, and internet could be better for enhancing teaching and learning more engaging, but I don't recommend it for now due to its costs and infrastructure, rural schools often lack reliable power and internet connectivity, many teachers are not tech-savvy as many teacher use the provided tablets for their own use. (Female ward education officer). (Field data, 14 February, 15 pm).

Overall findings underscore the importance of digital teaching and learning despite of resistance from education officers. This study see the argent of investing on digital teaching and learning tools in schools but this should go with adequate supply of electricity power in rural secondary schools. Technology integration are urgently needed to address overcrowding and sustain perceived academic gains.

Importance of teaching and learning digital tools supported by Ovcharuk *et al.*, (2020) who analyzed the use of digital learning tools in the teachers' professional activities to ensure sustainable development and democratization of education in European countries. The study argued that, it is important that the learning tools are adaptable to the audience, and provide a feedback tool that better understands one's strengths and weaknesses, and that students can find their own paths to success.

Findings also align with Kamil (2024) who said that, without proportional investment in teachers and, quality declines. It suggests contextual resilience for example, Tanzania's improving pass rates and give emphasis to the need for targeted technology investment for digital teaching. Therefore, in order to make the teaching and learning process enjoyable for students, it is a work up call for every stakeholders responsible for education to make sure that challenges facing secondary schools since the introduction of fee free education policy are mitigated as a result, high-quality education can be offered, and one of the methods should be integrating teaching and learning process with technology. Therefore, investing digital tools in teaching and learning should be strongly suggested especially in urban area where many schools are congested with increased enrolment since the implementation of fee-free education policy in Tanzania.

5.0 CONCLUSION

This study aimed to assess the impact of students' enrolment on academic performance in public secondary schools in Mbozi District, Tanzania, following the implementation of the fee-free education policy. The study concludes that while the

fee-free education policy has significantly increased enrolment in public secondary schools in Mbozi District, it has also strained resources, leading to overcrowded classrooms and high teacher student ratios. Addressing infrastructure deficits, teacher shortages, stakeholders emphasized the need for additional classrooms, recruiting more qualified teachers, investing in digital tools and e-learning resources was also recommended and building more classrooms to reduce overcrowding was a top recommendation.

6.0 SUGGESTIONS AND RECOMMENDATIONS

To mitigate the negative effects of increased enrolment and sustain academic performance, the following actions are recommended basing on the findings of the study:

- i. Constructing additional classrooms to reduce overcrowding and adhere to the recommended student-class ratio of 1:40.
- ii. Upgrading existing facilities, including libraries, laboratories and desks to accommodate the growing student population.
- iii. Recruiting more qualified teachers to lower the teacher: student ratio and improve individualized attention.
- iv. Providing continuous professional development for teachers to enhance their capacity to manage large classes effectively.
- v. Investing in digital teaching tools and e-learning resources to supplement traditional teaching methods and reduce reliance on physical infrastructure.
- vi. Strengthen partnerships between the government, NGOs, and local communities to mobilize resources and support school infrastructure projects.
- vii. Encourage parental involvement in providing non-tuition resources, such as uniforms and learning materials, to alleviate financial burdens on schools.

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