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Full Length Research Paper

Impact of Class Size and Students' Academic Performance in Public Secondary Schools in Kwimba District Council, Mwanza –Tanzania

Bernard Peter* and Nestory Ligembe

Department of Educational Foundation, St. Augustine University of Tanzania, Mwanza, Tanzania.

*Corresponding Author E-mail: bernardpeter669@gmail.com; nestoryligembe@gmail.com

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ABSTRACT: This study sought to explore the impacts of class size and students' academic performance in Kwimba District in Mwanza, Tanzania. The objectives were to examine the negative effects of class size on students' academic performance, and the challenges teachers face in managing large class sizes to enhance students' performance in public secondary schools in Kwimba District. The researcher adopted Constructivist Learning Theory and Socio-constructivist to guide the study. Also, it used a mixed research approach in a convergent parallel design to collate and analyze data from the field. In the same vein, the researcher used interviews and questionnaires to get data from the participants. To seek validity and reliability, the instruments were examined through a split-half system to get 0.82 correlation co-efficiency which validated the data collection tools. The process involved both quantitative and qualitative data which later were presented and analyzed through the aid of SPSS. The researcher analyzed qualitative data through content analysis by assigning data into themes, categories, integration, and summarization of the findings for report writing. In examining the negative effects of class size, findings indicated that big or small class size has an impact on students' performance and students do not perform well in big classes as it caused resources to be inadequate, lowers student performance, and ineffective classroom instructions. Also, the study ascertained the challenges teachers encountered in big class sizes, the result showed there are ineffective instruction in the classroom, failure to manage the class effectively and disruption of students in the teaching and learning process.

Keywords; Class size, students' performance, public secondary schools

INTRODUCTION

Tanzania has experienced a high enrolment rate in public schools since 2015 after the Fee-free Basic Education Policy 2014. The situation increased the number of students admitted to public secondary schools.

According to Kwimba district strategic plan, 2016-2021 showed that the number of students enrolled to sit for the standard seven national examinations in 2016 was 6579 (URT,2017).

Likewise, a similar report indicated that the District has only thirty-one (31) secondary schools to accommodate these learners if they could all pass their final primary exams. These data implied that if 90% to 100% could pass their examination and join secondary schools each school has to enroll 212 students to join form one. Despite, the government's efforts to ensure all students passed their basic education still, many secondary schools are suffering from inadequate resources to accommodate the learners and thus resulting in overcrowded classrooms.

Statement of the problem

The curriculum for ordinary level secondary education in Tanzania emphasized that there should be adequate and

well-equipped classrooms in secondary schools. The idea is contrary to the OECD report of 2018 which showed class sizes fell on average by 6% between 2006 and 2014 in the lower secondary school in member countries. Philip (2016) postulated that the number of student enrolment in Kwimba District has increased due to the introduction of fee-free basic education in 2015. This resulted in a massive rise in student enrolment up to 91.1 per cent.

It also raised the demand for more classrooms to accommodate all students. Therefore, despite the increased student enrollment rate, public secondary schools' facilities remained unchanged, leading to overcrowding and congested classrooms. The situation threatens the process of teaching and learning and intensifies the need to have adequate classrooms to solve the problem of the overgrowing student population in secondary schools. Therefore, this study aimed to find out the impact of class size on students' academic performance in Kwimba District-Mwanza, Tanzania.

Significance of the study

This study is beneficial to many educational stakeholders. It can benefit policymakers, heads of schools, teachers and students. Policymakers can benefit from the study in the sense that as they read it can develop knowledge and enable them to create an effective educational policy to manage class sizes in public secondary schools. Also, they can plan for effective strategies to reduce overcrowded classes in schools. Moreover, this study is beneficial to heads of schools and teachers. To the heads of schools, findings may raise awareness and help them prepare for school enrollment and, thus, effectively manage the number of students admitted to schools. For example, heads of schools can control congested classes by becoming proactive in the construction of classrooms in school rather than being reactive after receiving students. Again, for the teachers, they can advise school administrators to solve the challenge of big class sizes by emphasizing fundraising for school construction. Therefore, teachers, will understand the importance of having manageable class sizes and thus promoting student performance in schools.

LITERATURE REVIEW

The empirical literature review was based on the objectives of the study. The researcher carried out a thorough review of scholarly work and thus critical review was done on ascertaining the negative effects of big class sizes on the performance of students and identifying the challenges encountered by teachers to manage large class sizes to promote students' performance in public secondary schools in Kwimba.

The negative effects of class size and students' academic performance

Existing literature showed that varying reasons are justifying the negative effect of big class sizes and the performance of students. Scholars argued large or small class sizes make teachers effective. This is possible especially when teachers are capable to make of follow-up of each learner in the class during the teaching and learning process. (Almulla, 2017) investigated teachers' perception of the effects of class size in Saud Arabian primary schools on teaching. The researcher employed a mixed research approach in survey design to collect and analyze data from the field. Furthermore, questionnaires and semi-structured interviews were adopted to get data from the participants. The result showed that a big class size or small has some impacts on teaching and teachers prefer teaching in a small class size to large class size. Thus, through the eyes of different scholars, experience showed that large classes or overcrowded classrooms affect the quality of education delivered in a school system.

Large class size leads to a high teacher-student ratio. This imbalanced interaction derails and interferes with the effectiveness of the teachers and the actual instructional process. The study adopted a survey with questionnaires as data collection instruments. In as much as this study related to the current study, it did not expose the impact of either small or medium-sized classes on the learners' academic excellence. Furthermore, the reviewed literature did consider the factors that might have performance.

Similarly, Kusi and Manful (2019) carried out a study on class size and academic performance of students in selected Nursing and midwifery training colleges in the central region, of Ghana. The researcher used quantitative and qualitative methods to collate data from the field. Notwithstanding, the researcher used questionnaires and interviews specifically semi-structured interviews to get data from the participants. The findings indicated the relationship between class size and academic performance was inversely related and thus students in large classrooms performed poorly compared to those in small class sizes. The scholars argued that overcrowding of students in a single classroom reduces the effectiveness of the teacher in enhancing an effective instructional process. It was also noted that truancy, unruliness, noise-making, and attention of learners especially the slow learners were factors associated with large class size. Moreover, this study was significantly distinct in its context and case as it focused on midwifery colleges. The two studies also vary significantly in terms of context and objective variables. The current study uncovered these aspects and established the relationship between large class sizes on students' academic achievements in public secondary schools.

Michael (2016) reported that students face various

challenges in their learning in big classes as well as teachers when teaching large classes in some Papua New Guinea schools. The results of this study revealed that big class sizes and overcrowded classrooms in most schools were caused by high student enrolment rates after the introduction of fee-free education. This finding insinuated that the government of Ghana launched a policy without a prior arrangement on the logistics of increasing classrooms across the country. An introduction of new educational policies requires proper planning and strategies. As the study pre-empt that fee-free education increases the rate of students' enrolment, it was fitting that the central government of Ghana through the aid of the local government ensure that required resources with the new policy are intact.

The study further revealed that there was a shortage of teachers since the government introduced fee-free education but did not strategize on ensuring that each school had enough classrooms. The reviewed study was of great contribution to the current study though both remained distinctively in terms of the context of the study and methodologies. While the previous study employed quantitative methods with questionnaires only, the current study adopted interviews and questionnaires with mixed research methods.

Cortes et al. (2012) highlighted the fact that class size affects student performance, due to misbehaviour and other disciplinary problems in large classes. The learners in the small classes scored relatively much higher marks than those in the large classes. According to these researchers, learners in smaller classes learned more as they did not experience disruption during lessons. Participation in learning activities and group work in the smaller classes contributed to the higher scores, and resulted in sound discipline, whereas in the larger classes, learners scored lower marks, and disruptive behaviour made it difficult for teachers to manage these classrooms. From their findings, it appeared as if learners in one classroom increased the incidences of disruptive behaviour. If one or more students behave badly, the learning activities of all the learners in the class are influenced.

A survey by Mweru (2010) showed that free primary education by the Kenyan Government in 2003 resulted in an influx of children to schools leading to overcrowded classrooms. Moreover, the social demand for formal education in Nigeria resulted in a surged enrolment rate making teachers have disproportional ratios in their teaching practices. The overcrowded classrooms affected both students' and teachers' attitudes towards the learning process. Even though the study by Mweru was focused on the impact of free primary education, the scholar did not explore the aspects of academic excellence. This gap was covered by the current study by assessing the instructional process and the outcomes of the student academically. A qualitative study by Nirashnee (2015) explored teachers' experiences with overcrowded classrooms in a mainstream school. The researcher adopted a case study design with unstructured questionnaires and observations with teachers. The findings of this study revealed that teachers were stressed by inadequate spaces in classrooms, health safety, limited student-teacher interaction, limitation to the application of various instructional methods, increased workload, and tedious scoring of assignments and exercises administered to the learners. In corroboration with the findings of the current study, it was noted that lack of support from the management, policy implementation, teacher training, professional development, and lack of resources were factors associated with the impact of the class size.

Challenges of big class size on teaching and learning process

A study by Philip (2016) revealed the impacts of overcrowded classrooms on the instructional process included students' noise-making, teacher's failure to attend to each student's need, restriction of teachers' movement in the class, cheating in exams, wastage of time setting orders in class, difficulty in marking students' books and examination scripts, and finally stress for both teachers and students for being in overcrowded classrooms. Even though this study assessed the impact of overcrowded classrooms on the instructional process, it did not state clearly the study variables, that is, the study enumerated the effects of overcrowded classes but did not establish the relationship between those effects and the instructional process. The study would have been strong had it identified the relationship between the impacts of overcrowded classrooms and effective instructional processes.

Moreover, Jennifer's (2010) survey findings on the perceived effect of class size on learners' academic achievement showed a variation in the academic performance of students. The study observed that even though the classes were overcrowded to an extent of having more than 85 students in a single classroom, the majority of them performed well in their exams. This implies that students had different cognitive and concentration abilities and that there were other factors apart from the large class size that contributed to the low academic achievements of some students.

Monks, and Schmidt, (2010) the impact of class size on student outcomes in higher education. Additionally, this paper investigates the importance of student load (total number of students taught across all courses) in educational outcomes. We find that both class size and student load negatively impacted student assessments of courses and instructors. Large classes and heavy student loads appear to prompt faculty to alter their courses in ways deleterious to students.

Jehangir (2012) investigated the impact of overcrowded

classrooms on the academic performance of the students at the secondary level.

The study was descriptive and used questionnaires for data collection. The findings revealed most teachers preferred to teach small classes in size because they are easier to handle. It was also observed large class size affected the instructional process as not every student got the attention of the teachers. It was difficult for the teacher to make a close follow-up for every student hence, the lack of differentiation.

Moreover, the study also discovered that the instructional process was ineffective due to adequate teaching and learning resources at the classroom level. However, the weakness of this study is that it did not relate congestion of the classroom with the effective instructional process, an aspect which was exhaustively covered by the current study.

A similar study on overcrowded classrooms on the effective instructional process was conducted by Maura (2017) which showed that congested classrooms affected learners only on a consecutive promotion to different grade levels. This means that if a student experiences learning in an overcrowded class for 3 to 5 consecutive years, there is a likelihood that the academic excellence of the students will go low.

More so, the study argued that if a student experiences overcrowding just in a single year grade level it does not greatly affect academic performance if the learner has focus and self-drive towards his or her academic endeavours. Rukhsar (2019) reiterated that congested classrooms in public schools have been a perennial challenge that had paused great challenge to the government and the school administrators. Students' overcrowding in classrooms was noted to be caused by a lack of enough classrooms due to inadequate grants given by the government.

As a result, teachers find it difficult to control and deliver effectively as resources are inadequate and the teacher-student ratio is high. This imbalance of teacher-students' ratio results in teacher ineffectiveness in ensuring that each learner is adequately attended to; hence, the low academic performance of students. Consequently, when students learn that teachers cannot make close follow-ups, the mischievous students get involved in malpractices such as truancy, absconding lessons, absenteeism, and other disciplinary cases whose outcome is the low academic outcome. The researcher also observed that in schools that had between 30-40 students per class students' performance was relatively higher than their counterparts. This was due to active interaction with the learning resources between the teachers and students, and teachers' close follow-up and differentiation methods facilitated low learning students to improve and catch up in performance with those students who were quick learners. A cross-sectional survey by Kerr (2011) found that large classes make non-serious and non-focused students skip classes, inadequately write lesson notes, and rarely do the assignments and homework. The learning practices that reinforce the knowledge and subject concept such as homework and assignments greatly affect a student's comprehension and retention of the new skills and knowledge. On the other hand, when a student realizes a low grasp of content and especially when examinations are about to take off, most of them play truancy and absenteeism. Kerr (2011) argued most students who do not attend classes regularly miss opportunities to learn from their teachers and their peers, as well as those who attend classes regularly, have a better chance to learn more and internalize the concepts. On the other hand, it is widely accepted that formative and summative assessments at schools require rigorous activities that help learners to gain full mastery of the subject content. Additionally, the interval and timely feedback of the tests administered influence learners positively thereby making them work hard in consultation with both teachers and peers. In line with this, a study by Pedder (2016) examined the impacts of class size and students' congestion in classrooms on formative and summative assessments in secondary schools. The study found out that with large class sizes and overcrowded classrooms teachers could not effectively engage students in rigorous formative and summative assessments regularly and as a result often students were left unoccupied. As such the current study sought to find out strategies that teachers employed to make sure that formative and summative assessments were rigorously conducted despite the challenges of large class sizes in public secondary schools.

Different scholars have elaborately critiqued and debated the recommendable class size that would facilitate effective instructional skills thereby enhancing the academic performance of learners. Across the globe scholars such as Nirashnee (2015); Cortes et al. (2012); Olaleye et al. (2017); and Chingos and Whitehurst (2011) have tried to establish the relationship between class size and effective learning and learning outcomes. Thus, contextually, many studies were conducted outside Kwimba which raised the need to contextualize the study in the district. Nevertheless, studies such as Cortes (2012), Mweru (2010), Jennifer (2010), Monks and Schmidt (2010), Jehangir (2012), Kerr (2011), Adede (2012), Kufi (2013), and Mulryan-Kyne (2010) have been conducted for a long time which intensifies the need to have current research. This is because of changes that might have happened for the time being due to changes in education policy and the establishment of various programs to manage students' enrolment in schools. Therefore, this study examined the impact of class size and students' academic excellence in Kwimba District-Mwanza, Tanzania. The research aimed at seeking how the changes in education, for example, fee-free education policy has been managed to overcome the congested classrooms in the district.

METHODOLOGY

This study was mixed research whereby qualitative and quantitative methods were used to obtain data from respondents in a convergent parallel design. Creswell and Plano (2007) asserted that the combination of the two methods provides a better understanding of the research problem. Also, the researcher employed both purposive and non-purposive sampling techniques to select 88 participants from students, teachers, heads of school and DEO. Moreover, questionnaires and interview guides were used as the instruments of data collection. In the process of data collection validity and reliability of data collection tools were checked to seek if they could measure the required content. After data collection, analysis of quantitative data was done with the aid of computer software known as Statistical Package for Social Science (SPSS). Likewise, qualitative data were analyzed through content analysis by assigning data into categories, themes, integration and summarization then interpreted together. Finally, ethical standards for conducting educational research such as acknowledging sources of materials, privacy, and safety of participants were observed.

RESULTS AND DISCUSSION

This study intended to examine the impact of class size and students' academic performance in secondary schools. The objectives were to ascertain the negative effects of big class size on students' performance and to identify the challenges of big class size on the teaching and learning process. Participants involved were teachers, students, heads of school and the DEO for secondary schools in Kwimba. Questionnaires were addressed to the students and teachers while interview protocol was employed to heads of schools and DEO to get data.

The negative effects of class size on students' performance

The first study objective examined the negative effects of big class size on students' academic performance in Public Secondary Schools in the Kwimba district. The researcher used questionnaires and interview guides to collect data from the respondents to seek the negative effects of large class sizes in public secondary schools in the Kwimba District. The study targeted to seek whether the classes had a high, moderate, or low number of students. Through questionnaires, teachers and students were asked whether there were appropriate class sizes in public schools in Kwimba. The result showed that 86 % of teachers responded with "Yes" while 92% of students argued that there were inappropriate class sizes in the district as indicated in (Figure 1)

The result in (Figure 1) pointed out that there were overcrowded classrooms in Kwimba. The situation accelerates poor academic performance in the district. Also, participants were asked to state whether inappropriate class size can affect negatively the performance of students in school. The result showed that both students and teachers agreed it can hinder students' performance. In teachers, 80% of the participants responded with "Yes" while students indicated 85.1% that congested classrooms affect their performance in class. Also, some participants 20.0% of teachers and 14.9% of students respectively were either unaware or reluctant about the effects of overcrowded classes. The findings implicated that congested classrooms prohibit effective classroom instruction. This is possible because students cannot be able to have the opportunity to interact in the learning process. The result was contrary to the constructivism learning theory as postulated by Marias (2016) that the main concern of constructivism is the dynamism of learning that takes an active process and enables learners to construct meaning of what they interact with thereby transforming self-constructed comprehension with the environment. Thus, effective classroom instruction requires an appropriate number of students that can be manageable by a teacher.

In the same vein, participants were asked to give the negative effects of big class size on students' performance in schools. Participants argued that performance becomes poor, ineffective classroom instructions, and teaching and learning resources become inadequate as shown in (Figure 2).

Poor performance

Big class bear upon teacher's instruction and thus performance become low as shown below. Figure 1 shows that 73.6% of classroom teachers and 82.1% of secondary school students at Kwimba District reported that class size was high and led to poor performance. Moreover, 26.4% of teachers and 17.9% of students reported that big classes do not cause poor performance. This is contrary to the majority 73.6 % of teachers and 82.1% of students who pointed out that there were big class sizes that affected the performance of the students in public secondary schools in Kwimba. This finding implies that poor academic performance in Kwimba was a result of overcrowded classrooms. Based on the response of the respondents it is clear that there was a high teacher-student ratio which led to an unmanageable large class size which hindered the effective instructional process and thus poor academic performance in the District. High teacher-student ratio and unmanageable large class size in classrooms reduce teachers' capacity to enhance effective instructional process which in turn hinders students' academic performance as well as

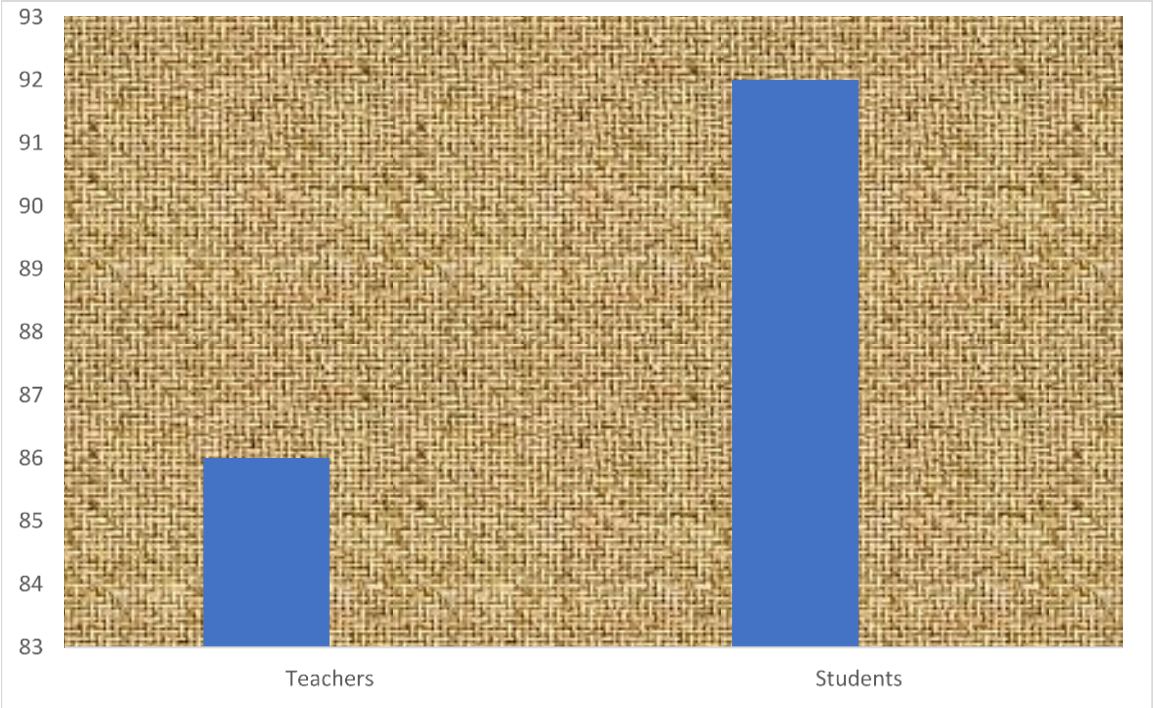

Figure 1: Participant's response on appropriate class sizes
Source: Field Data, 2020

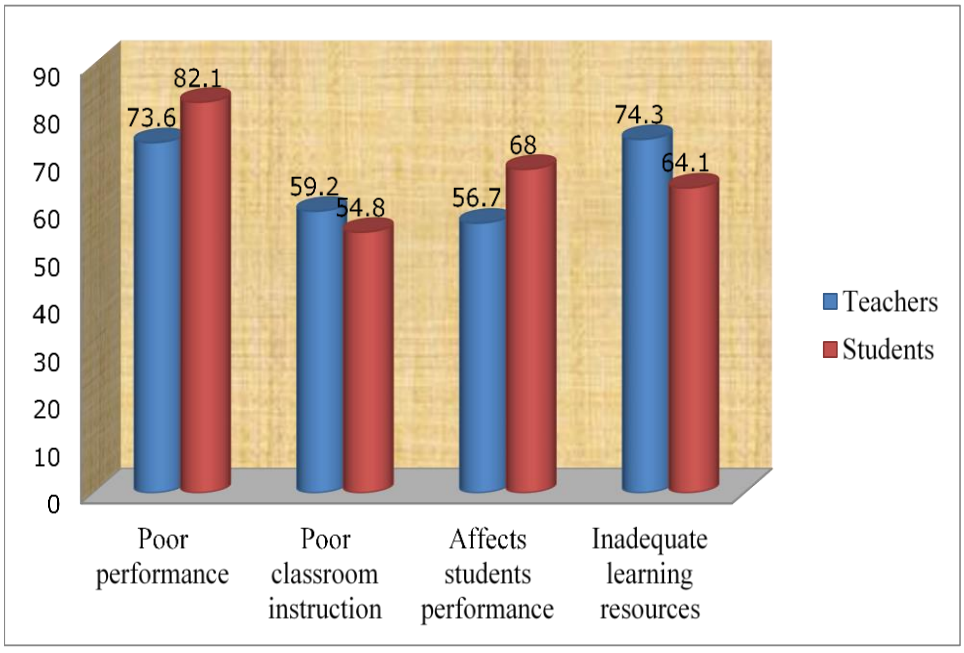

Figure 2: Effects of big Class Size on student's performance (Teachers n = 30; Students n=54)
Source: Field Data (2020).

quality education in the district. These findings were similar to Education Sector Performance Report, (2017/2018) which revealed teachers in Tanzania teach students that exceed classroom capacity. Some classes were packed with students as many as 86 in a single classroom. Also, Mweru (2010) stated that the

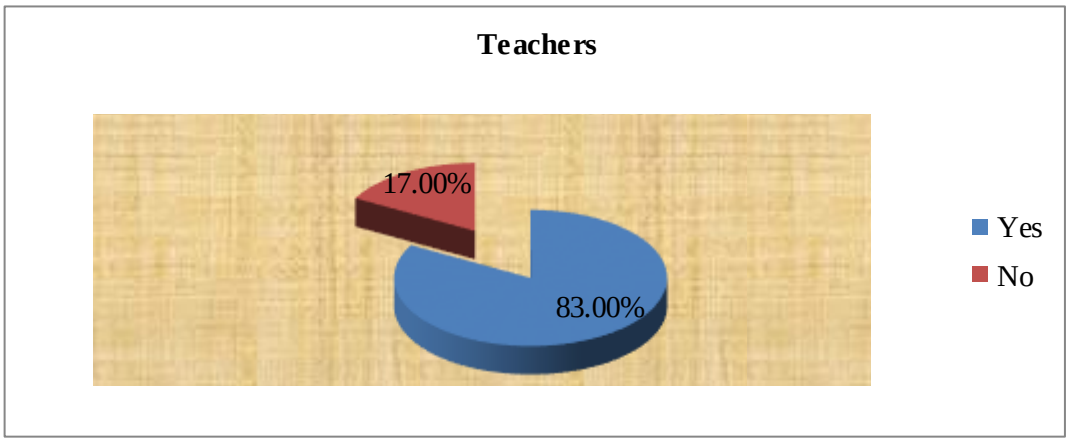

Figure 3: Perception of teachers on the Effects of Large Class Size (n = 30)
Source: Field Data 2020.

introduction of free primary education in Kenya resulted in a large influx of children in schools leading to overcrowded classrooms. The findings reflected what was noted in 2016 by policymakers' reports on the result of the introduction of free basic education in Tanzania where an influx of students in schools overlapped teachers.

Poor classroom teaching and learning instruction

In the same vein, Figure 3 showed that 59.2% of teachers and 54.8% of students pointed out that poor classroom instruction has been noticed in huge classes. This is contrary to the small class size in which effective teachers manage during the teaching and learning process. The findings also, indicated that 40.8% of teachers and 45.2% of students neglected that ineffective teaching and learning in class is caused by a high number of students in the class. The findings could mean that some teachers use extra efforts to provide instruction in the classes where students are congested. Respondents showed that big class size is a threat to effective classroom instruction in the teaching and learning process. Nevertheless, during the interview, the participants argued that there were big class sizes in Kwimba which resulted in ineffective teaching and learning process. The interviewee emphasized;

We have so many students compared to the number of infrastructures we have. Some of the classes have more than 100 students. The available facilities and infrastructures are not enough to accommodate the students we have. According to the United National Educational Scientific and Cultural Organization (UNESCO), a single class is supposed to have only 25 students in class. This has contributed a lot to the failure of students in examinations because teachers could not be differentiated and support every student to ensure full comprehension of the subject content (Interview 19, October 2020).

The finding implied that teachers faced difficulties in teaching huge classes and that students lacked adequate learning resources to support their academic excellence. In such a situation, teachers were unable to engage students and have control over students' learning activities and monitoring. Besides, a large class size could easily lead to the quick spread of an outbreak of various diseases which could compromise the health of both the teachers and students. The findings were in line with Michael (2016) who reiterated that in most public schools, there are challenges with large class sizes of 70 students and above. The scholar further noted that in such a scenario both students and teachers could not move around the classroom freely during lessons if the lesson demanded role play or a demonstration. It was found that class sizes had increased in the schools because there were no additional classrooms built to cater to the increased number of students enrolled. Akero (2017) also averred that when students are overcrowded in the classroom, there is a high chance and possibility for students to abscond lessons, play truancy, and absenteeism.

Having ascertained and established that there was an unmanageable large class size in public secondary schools, the study further delved to determine whether the large class size affected students' academic performance negatively or positively. To explore the contention, teachers' opinions were sought. Their responses were analyzed and summarized in (Figure 2).

Large class size affects student's performance

Figure 3 indicates that 17% of secondary school teachers

reported that large class size did not affect students' academic performance while the majority 83% of teachers reported that large class size in Kwimba District affected students' academic performance. Probably the variation in respondents' responses was due to their different years of experience in teaching. Based on the demographic information of the respondents, the majority of the teachers had a working experience of 10 years and above while the minority had less than 5 years. This finding concurred with Juliana et al. (2016) who reported that large classes or overcrowded classrooms affect the quality of education delivered in the school system. Teachers find it difficult to manage and teach effectively in large classes. Likewise, students lack concentration and fail to grasp the subject content because the teachers would not monitor every student closely; hence poor academic excellence.

Inadequate teaching and learning resources

Also, the findings in (Figure 1) indicated that 74.3% of teachers asserted that a big class size results in inadequate teaching and learning materials while 64.1% of students revealed that learning resources became inadequate when there is a high number of students in the class. This entailed that the presence of many students in the class requires a lot of resources for learning which the majority of public secondary schools do not manage. In the same line of view, Nirashnee (2015) added that large class size affects students' academic excellence because of poor teaching and learning conditions. Students lack adequate learning resources and teachers' extra reinforcement on students' academic endeavours. Also, the findings showed that 25.7% of teachers and 35.9% of students respectively, showed that big class size does not cause inadequate teaching and learning resources. This implied that in some circumstances the government do not provide adequate learning resources in school compared to the number of students enrolled in schools. This situation leads to inadequate teaching resources and affects students learning. In addition, Nirashnee (2015) identified conditions that affect students' academic excellence as inadequate classroom space, issues related to safety and health, minimal learner-teacher interaction, disruptive behaviours, teachers' emotional and psychological problems, increased workload, and inadequate teaching time. These factors lower students' academic excellence in schools.

The researcher further analyzed the data obtained from the qualitative instruments. The data showed that large class sizes in public secondary schools affected negatively students' academic excellence. Teachers identified that poor students' academic excellence in their respective schools was caused by large class sizes and other factors which were held constant by the researcher during the interview. The researcher was interested to establish the reliability by comparing with the researcher recorded one of the respondents quoting:

The large class size in my school is very high; students do not perform well because the infrastructure does not correlate with the number of students. There is a shortage of chairs, desks, classes, books, and laboratory types of equipment. Very few students perform well in the National Examinations but the majority of them score division zero (Interview, 20 October 2020).

The data further showed that there was poor students' academic performance due to a non-supportive learning environment. This was contributed by a shortage of classes and a lack of support from the communities in which the schools were located. Cortes, et al., (2012) argued that large class size affects student performance, due to misbehaviour and other disciplinary problems associated with the congestion of students of different gender in one classroom. The learners in the small classes scored well compared to big classes. In general, students in smaller classes learned more as they did not experience disruption during lessons and the teacher had time to make close follow-ups and reinforce them on the subject content matter to boost slow learners. To explore this aspect in detail, during the interview the researcher was interested to seek the results of form four final exams from the subjects. The information was purposively meant for data triangulation. The respondents argued:

Of course, students' result from previous years was not as good as was expected. This is because sometimes teachers were unable to attend to all students to address their weaknesses in learning. Generally, a high number of students in the class is a problem for teachers. (Interviewee, 2020).

The findings implied that teachers had a heavy workload and were sometimes forced to use teaching methods that were ineffective on particular topics because of the large class size. Likewise, it showed that teaching and learning resources were inadequate for the teachers and students to accommodate all learners in the class. The situation may affect the performance of the student in school.

Challenges for Management of Large Class size

The second research objective sought to identify challenges for the management of large class sizes in enhancing effective instructional processes in Public Secondary Schools in the Kwimba District. In seeking the challenges, the researcher used structured interviews with district education officers and heads of schools as well as questionnaires for teachers and students to

Table 1: Challenges for Management of big class size (Teachers n = 30; Students n=54).

Challenges for big class size	Teachers		Students	
Responses	**Frequency**	**Per cent**	**Frequency**	**Per cent**
Inadequate resources	9	30%	7	14%
shortage of infrastructures	6	20%	15	30%
Ineffective teaching and learning	6	20%	11	22%
Poor stakeholders' participation	9	30%	17	34%
Total	30	100%	54	100%

Source: Field Data, 2020

collect data. Respondents were asked to state whether there are the challenges associated with big class sizes and the performance of students in school. The results from both teachers and students indicated that there are challenges. When they were asked to give out the challenges the findings indicated inadequate learning resources, inadequate infrastructures, ineffective teaching and learning, and student disruption as presented in (Table 1).

Inadequate resources

Table 1 indicates that 30% of secondary school teachers and 14% of secondary school students identified challenges associated with the big class as inadequate teaching and learning resources. The increase in students' enrolment especially after the launch of free basic education in Tanzania has led to the influx of students in public secondary schools leading to a large class size.

The data showed that the high enrolment rate of students in schools causes students to be congested in the small classes. The free education policy has increased the enrolment of secondary school students but the government has failed to construct new classes to accommodate these students. This situation leads to congestion in classes and a scramble for learning resources by students. Students are forced and squeezed to be accommodated in the same classes – a practice that is not healthy. The government ought to put in place first the required resources like books and other facilities in the classrooms based on the number of students enrolled to accommodate them accordingly. Inadequate learning resources may lead students to poor performance in school.

Olaleye et al. (2017) in their study argued that there was a shortage of infrastructural facilities and an increase in students' enrolment by 97.3% which caused congestion of students in the classrooms. In concord with Olaleye et al. (2017) reported that the effect of an increasing number of enrolments in secondary education is observed in students' performance in examinations. Going from the average class of 56 to a class size of 89 would decrease the mark by 9% of the observed variation in marks for a given student.

The data gathered showed that a large number of students enrolled in public secondary schools in Tanzania have led many schools to experience inadequate classes for students to sit in the required ratio. Students were observed being forced to sit in small classes leading to a discomfort learning process.

Additionally, the researcher also analyzed the information obtained from interviews and focus group discussions on the same variable. The data showed that the high number of students being posted by the government to various public secondary schools led to student overcrowding in the classrooms and thus compromised the quality of education. During the interviews session one of the respondents was recorded saying:

Previously, before the free basic education policy, students' transition rates were very low compared to the current situation. Many students have been enrolled in secondary schools since 2016 but there are no new classes constructed to accommodate them. This has led to poor curriculum implementation and has been reflected in candidates' academic excellence at national examinations which have recorded poor achievements. Therefore, it is true that the high enrolment rate of students in public secondary schools in Kwimba District has caused a large class size and poor students' academic excellence (Interviewee, October 2020).

Additionally, the data collected through interviews indicated that the high enrolment rate of students in public secondary schools led to large class size, and hence, a high teacher – students' ratio. Public secondary schools in Kwimba District were overcrowded because there was a shortage of infrastructures and facilities such as classes and instructional materials. The study conducted by Cortes et al., (2012) identified that smaller classes are very important in improving academic performance. Participation in learning activities and group work in the smaller classes contribute positively towards the higher scores, and result in sound discipline; whereas in the larger classes, learners scored lower marks, and disruptive behaviour made it difficult for teachers to manage these classrooms. From their information, it appeared that large numbers of learners in one

classroom increased the incidences of disruptive behaviour. If one or more students behave badly, the learning activities of all the learners in the class were influenced.

Shortage of infrastructures

Data obtained from questionnaires showed that 20 % of teachers' respondents and 30% of students' respondents reported that shortage of infrastructure was a factor related to class size. The shortage of adequate school infrastructure led to the influx of students in the few classes available making it difficult for teachers to effectively manipulate the instructional process. Instead of this finding, Adede (2012) emphasized school infrastructure as the basic element in schools that facilitate curriculum implementation at the school level. School infrastructure includes classrooms, laboratories for the science practical, the halls and open fields for games, games equipment, dormitories, sanitation facilities, and others.

It is in the classrooms that the day-to-day formal teaching and learning take place. In the libraries, learners get the opportunity to conduct their studies or research as the resource materials are found therein; it is in the fields that extra-curricular activities take place; learners and teachers need to be housed in the school and at the same time need sanitation facilities like toilets, waste disposal services, and clean water, etc. For this reason, school infrastructure plays significantly a crucial component to ensure successful education. However, schools vary in terms of the infrastructures, there is a high demand to emphasize the provision of adequate infrastructures to facilitate effective learning and provision of quality education.

Zipporah (2013) strongly emphasized that to make learners score high grades in examinations, there must be adequate and well-spaced classrooms which must be easy for an individual teacher to control; adequate and ample spacing in the libraries; adequate science laboratories; adequate water and sanitation facilities and adequate participation in co-curricular activities. Therefore, students' academic performance relates to the availability of infrastructures such as classrooms and laboratories and the maximum utilization of these facilities for better learning outcomes.

Moreover, during the interview, the findings showed that most of the schools especially those found in rural areas have been challenged with a shortage of infrastructures. One of the interviewees said:

This is one of the biggest schools in Kwimba District but the increase of students in the past three years has caused us to have the insufficient infrastructure. We have a shortage of classrooms. This forces us to put more than 100 students in a class. This affects negatively students' academic performance because teachers fail to manage the class and teach well in a class of more than 100 students (Interviewee, 19th October 2020).

Similar sentiments were echoed by one of the respondents during another interview session who argued that inadequate learning resources in schools affect the instructional process. When the respondent was asked by the researcher to put more light on his take, this is what he had to say:

The government has failed to ensure the effective implementation of the free education policy. The government has caused the admission of learners into secondary education to go very high compared to the last 5 years. However, the same government has done completely nothing to ensure that thousands of learners who are enrolled in secondary education get adequate learning materials. For example, I have 512 students but I don't have a library, there is no established laboratory, teachers' staffroom, teaching materials are inadequate, and I have few teachers which escalate the high teacher-student ratio. It is very difficult for me as the school administrator to play my role effectively in curriculum implementation since the government has failed me. Failure to effectively implement the curriculum as a result of late completion or sometimes incompletion of the syllabus has greatly contributed to the poor academic excellence of learners in their national examinations (Interview, 22nd October 2020).

The data in (Table 1) indicated that the schools in Kwimba had inadequate infrastructures, especially after the introduction of a free basic education policy whereby the number of secondary school students increased beyond the school capacity. This finding concurred with the findings of the study conducted by Peter et al (2019) which showed that the problem of infrastructure is being experienced worldwide. Governments and societies around the world strive to improve their education systems and ensure that all children and youths have the opportunity to go to school and acquire the knowledge and skills needed to have healthy and productive lives. Key inputs to the education system, such as curricula, teachers, and education infrastructure, help to improve the quality of education. The quality of education infrastructure, specifically its appropriate educational planning and design with a focus on child development, has been widely discussed in recent years.

In line with the aforesaid discourse, Tanzania is not left out from this serious educational challenge globally – the inadequacy of infrastructures. Students in secondary schools in Kwimba do not perform well due to overcrowded classes and inadequate infrastructures. This condition led to an ineffective instructional process. The effect of this is directly observed because the number of students in Tanzania who score division zero

is very high when compared to those who score division one. Thus, large class size affects students' academic excellence in Kwimba District. In elaboration to this theme, one of the respondents had the following to emphasize during the interview session:

It is very ridiculous for the government to expect students to sit for practical examinations and pass, yet the same government has not provided the necessary resources to facilitate the teaching and learning of practical lessons by students. For example, in my school, students learn the theoretical aspect of practical lessons. This is because we don't have laboratories and even apparatus and chemicals for conducting practical lessons. This results from inadequate funds disbursement by the government which cannot cater for the construction and purchase of such materials and infrastructures. This experience makes the instructional process ineffective and compromises the academic excellence of students (Interview, 27th October 2020).

The above quotation is supported by Michael (2016) who reiterated that practical lessons especially in sciences help learners to understand and master the concept with a lot of ease and vigour. The lack of such lessons paralyzes academic achievement. Hence, the government should ensure that all schools have well-equipped laboratories and libraries to improve students' academic performance.

Ineffective teaching and learning

Another factor identified as ineffective teaching and learning methods. Table 1 indicated that 20 % of teachers and 22 % of students reported that large classes caused ineffective teaching and learning methods in which teachers use lecture methods to deliver classroom instruction. The schools with a high number of students sitting in a single classroom made teachers ineffective in their teaching. The data further indicated that teachers failed to plan well for inappropriate class sizes and thus teachers do prefer using lecture methods in teaching and instructing students. The condition affects the provision of quality education. This was because teachers cannot manage to organize and supervise the students effectively in learning.

However, the school administration ought to be creative and influential enough to engage the school board members, parents, and other education stakeholders to solicit funds to subsidize the funds from the government by providing other resources required for effective teaching and learning. School administrators with high skills and administrative knowledge use their skills to influence prominent people and organizations to support the provision of quality education in their schools.

The status of public secondary schools in the Kwimba district experience adequacy in almost every aspect of curriculum implementation is an indicator of ineffective school management or incompetency of the school administrators to hold the positions they were in. The researcher further observed during the field visits that all the schools had enough land which was lying idle. This land could have been put into productive activities such as the establishment of income-generating activities to get more funds to fix the construction of more classrooms, and hence, a reduction in overcrowding in classrooms. Similarly, the heads of schools ought to make necessary arrangements and appeal to the office responsible for staffing to get more teachers employed in their schools. This could reduce the highly overwhelming teacher-students' ratio; this would make the teaching and learning process effective which in turn would make students obtain high academic excellence.

In corroboration with Al-Munnir (2018), the supervisory role is one of the functions of a school head that has been and continues to be a challenging aspect of administration in secondary schools. This challenge involves a continuous process of assisting teachers to improve their instructional performance under the professional code established by the Ministry of Education. Supervision is very important in schools to ensure that the standards set by the ministry are adhered to and not only the institutional goals but also the national goals are met. If supervision is enhanced, then the teachers' job performance shall be monitored and timely effective corrective measures to be implemented to ensure the improvement of teacher competencies and general professional growth. Instructional problems can be easily detected through observations and appraisals.

In triangulation of data from the questionnaires, the researcher also used interview guides to explore further the factors affecting the instructional process in public secondary schools in the Kwimba district. The findings detected in the interview showed that school management did not afford the construction of infrastructures. This indicated that the government increased the number of students in schools without considering the available infrastructures. Therefore, school management failed to construct new classes without support from the government and other education stakeholders such as the community and private sectors. During the interview with the respondents, one of them resented that:

We are not supposed to be blamed because of the shortage of classes in schools because we receive funds from the central government which is planned to do a specific activity. Local government leaders and other educational leaders must give us funds or convince the community to construct school infrastructures. We do not have extra sources of income to foster such needs. (Interview, 20 October 2020).

A similar report was also recorded during the interview when one of the respondents came out strongly accentuating that:

It is very difficult for the school leaders to improve the school learning conditions. This is because the government has given several restrictions. Parents are no longer willing to make monetary contributions toward the improvement of school infrastructure. Funds we get for the school's budget are always running at a deficit. Now tell me where to get more money to construct classes and purchase adequate resources? (Interview, 19th October 2020).

The aforementioned findings concurred with Sijjo (2012) who reported that The Ministry of Education and Vocational Training (MoEVT) and the Prime Minister's Office for Regional and Local Government Authority (PMORLGA) should provide capitation grants to schools on time. Also, MoEVT and PMORLGA should allow SMTs to collect money from all stakeholders for solving the shortage of teaching and learning facilities and materials. Lastly, more mandates should be given to DEOs and School Inspectors to control the resources found at schools in their districts.

Poor Stakeholders' participation

Data in (Table 1) reveals that 30% of teachers and 34% of students noted that class size was being affected by poor stakeholders' participation in the construction of school infrastructures. This implied that there were minimal involvement and participation of education stakeholders in the Kwimba District to facilitate the construction of educational infrastructures in public secondary schools. This eventually contributed to a shortage of classes which led to students' congestion in the classroom. It was discovered that a single class had more than 100 students. The large class size challenges students' academic excellence. The findings by Zipporah (2013) concurred with the current study findings that improved students' academic performance is associated with more adequate and well-spaced classrooms, adequate and ample spacing in the libraries, adequate science laboratories, and adequate water, and sanitation facilities. Therefore, poor participation of educational stakeholders in the construction of school infrastructures in Kwimba District has resulted in large class sizes, ineffective instructional processes, and consequently poor students' academic performance.

Abubakari and Al-hassan (2016) in their study found that stakeholders in Zongo communities supported the basic educational service delivery, even though they had a different attitude towards what it means to provide quality education and the logistics involved in the execution of resource mobility and utility.

Concerning what was discovered by Abubakari and Al-hassan (2016), the current study's findings were contrary to the findings of Abubakari and Al-hassan (2016) in that it discovered that educational stakeholders in Kwimba District do not support well the construction of school infrastructures. Most of the secondary schools in the Kwimba district were facing a shortage of classes. This forces school management to put more than 100 students in a single class. Furthermore, the findings during the interview demonstrated that there is poor participation of educational stakeholders in the construction of school infrastructures. An interviewee elaborated that:

As an educational leader, I involve educational stakeholders in the construction of school infrastructures but most of them do not participate. The free basic education policy has affected much of their involvement in the construction of school infrastructures. Stakeholders believe that education is provided freely, the government provides everything, there is no need in contributing to the schools which are owned by the government and they believe that the government is financing the schools for everything (Interview, 20th October 2020).

The data collected through interviews showed that educational stakeholders do not fully participate in the construction of school infrastructures in public secondary schools in the Kwimba District. Educational stakeholders have a negative perception that schools receive adequate funds from the government which should cater to all the needs of a school. Therefore, they have to construct classes to overcome the increase of students in schools by using government funds and not tasking other stakeholders.

It is true that the fee-free education policy has affected and somewhat make several people retreat from offering support to schools. During the interviews, a similar sentiment was reiterated by one of the respondents:

It was too early for the government to communicate to its citizens that it has launched fee-free education for all. The government will provide all the necessary implements to ensure that students get equity and quality education. However, this is not what is on the ground. Schools receive adequate funds which do meet the school annual budget. The government should, therefore, announce to the public areas that the public should provide support to the provision of quality education. This may mobilize different stakeholders such as parents to make informed support towards the establishment of laboratories, libraries, and classes (Interview, 23rd October 2020).

The above findings concurred with Frillness (2015) who emphasized that stakeholder's participation, involvement, Ownership, and commitments to the project

implementation help to bring sustainability to intervention or initiatives, hence most of them emphasize on stakeholder-driven approach if an intervention wants to maintain its presence after the exit of donor support.

Consequently, the community at large and prominent education stakeholders should embrace the need to support various educational requirements at the school level. Some stakeholders are in contact with funding agencies and other educational support schemes. Such positions should be utilized accordingly to support schools that experience great deficits in holistic implementation of the curriculum. Not only should the stakeholder participate by supporting the construction of infrastructures but also the mobilization and acquisition of the teaching and learning materials. The provision of adequate and most current materials for effective curriculum implementation is also key to the improvement of students' academic performance that should be facilitated by the educational stakeholders.

Therefore, from the above findings under the second objective on the factors leading to large class sizes at Kwimba District, the researcher discovered that the main factors that led to large and unmanageable class sizes were a large number of students enrolled, limited school infrastructures including classes, ineffective school management and poor stakeholders' participation in the construction of school infrastructures.

Conclusion

The conclusions of the study were based on the findings of the study. Hence, about the first research objective, the researcher concluded that there was a large class size in public secondary schools in the Kwimba district. Due to the disproportionate teacher-students' ratio, students lacked concentration during the instructional process, hence, low grasp and retention of the subject matter which eventually leads to the poor academic excellence of students. Besides, a manageable class size enables teachers to utilize accordingly the instructional facilitation methods as opposed to a large class size which may lead to the use of the lecture method as the key instructional facilitation method and unsuitable for students. On the other hand, in the second research objective which sought to identify challenges associated with large class size in enhancing effective instructional process in public secondary schools, the researcher concluded that there was no proper preparation by the government to ensure that the increased enrolment rate of students meets the required teaching and learning facilities and resources. Generally, based on the study phenomenon and upon the scrutiny of the study findings based on the objectives, the researcher inferred a conclusion that large class size leads to an imbalanced teacher-students' ratio which eventually results in poor students' academic excellence.

Recommendations

Based on the study findings the researcher recommended the following to be done for effective management of big class sizes to enhance students' performance in secondary schools.

The government and the policymakers should plan for resources to be used by the students before their enrolments. This can help to minimize the challenges of inadequate resources for learning and thus promote performance.

Also, other educational stakeholders such as corporate social responsibility, parents and the community should work in collaboration with heads of schools to construct more classes in schools to intervene in the situation in schools.

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