



Factors Constraining Purchasing of Teaching and Learning Materials in Public Primary Schools in Dar Es Salaam-Tanzania

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Abstract

Despite the importance for enhancing teaching and learning materials in public schools, its vital role has been limited by number of constraints. This study explores factors constraints the purchases of teaching and learning materials. Specifically, it ascertained the availability, constraints and consequences of teaching and learning materials in public primary schools in Dar es Salaam-Ilala, Tanzania. A qualitative case study design was adopted and data were collected using in-depth interviews, open-ended questionnaire, Focus Group Discussion (FGD) and documentary review based on the judgmental sample size of 56 respondents. Thematic data analysis strategy was adopted and data were analyzed using MAXQDA 20 software after being obtained through the use of content analysis. Findings showed that printing such as computers, textbooks and printing papers as well as non-printing materials such as library, mathematics kits and chalkboard are the main materials used in primary schools. Also, the study identified constraints for their availability which include lack of fund, lack of budget allocation, poor procurement planning, inadequate government support, high cost learning materials, and poor equity of materials distribution and supply. Then, the consequences of the constraints led to poor students' performance, lack of confidence among the teachers and students, lack of motivation among the teachers and students, poor schools' attendance, reduced competence, poor coverage of curricula or topic, difficult in classroom management as well as increases teaching loads to the teachers. We recommend that, in order to improve purchases of teaching and learning materials, the government update its procurement planning, reviewing the policy and distribution strategies of educational materials, allocation of sufficient budget, investment and raise awareness on the progress of educational facilities by installing current technology instruments as well as development of infrastructures in public primary schools. Therefore, quality of education will be improved after adhering to the stated recommendations.

Keywords: *Constraints; Teaching and Learning Materials; Primary Schools*

1. Introduction

By fulfilling needs like raising student performance and promoting quality education, education or learning materials play a significant role (Mghasse & William, 2016). Through the use of instructional techniques, they enable student-teacher interaction to promote learning. However, when adopting and utilizing educational resources, their interaction is frequently credited through the use of words, symbols, and concepts (Caroline, 2011; OECD, 2013). This further indicates that educational and instructional resources are crucial for enhancing students' abilities, particularly in the areas of reading, listening, problem-solving, watching, thinking, speaking, and writing as well as the use of media and technology (Bukoye, 2019). Similar to how physical and material resources, including libraries, labs, and textbooks, are used and available, they are crucial to students' success and the achievement of educational objectives (OECD, 2013; Uwanjiku, 2013). Teachers commit to using these tools to evaluate student achievement and develop lesson plans for their students. They also motivate educators to make concerted attempts to deliver high-quality instruction (Tety, 2016). This fortunate development boosts teachers' self-assurance in terms of honing their knowledge and abilities, which also helps the majority of pupils pass their exams (Bukoye, 2019).

Educational materials are by definition instructional materials that can take the shape of both print and non-print objects, or more specifically, text and non-textual items, and are intended to influence information about education (Uwanjiku, 2013). Additionally, the products include, but are not limited to, prints, workbooks, periodicals, newspapers, slides, and electronic media (Bukoye, 2019). For instance, textbooks offer educational resources that are essential for educating students and teachers in particular (Puspitarini & Hanif, 2019). Chalkboards are the second resource in this context, and they are mostly used to write essential conversations, words, statements, drawings, and handwriting notes for pupils to receive using diagrams, figures, and maps (Tety, 2016). Blackboards, maker boards, write boards, felt boards, and magic boards are some examples of these materials (Bukoye, 2019), and materials and instructional aids like math and science kits are helpful resources for supporting teaching and sketching. In many industrialized and emerging nations, they are probably used to create charts, maps, and other objects (Bukoye, 2019). In a similar vein, tools like computers and overhead projectors are additional elements utilized to support teaching among the teachers (Uwanjiku, 2013). To this purpose, it is important to underline that educational resources, especially in some Sub-Saharan countries where they are still scarce, are crucial for promoting education and teaching in both developed and developing nations (URT, 2020).

Regarding this, one of the crucial roles played by various stakeholders in enhancing the quality of education is the donation or availability of cash or capital for enhancing the performance of instructors and students in order to purchase and deliver teaching and educational resources (Uwanjiku, 2013). For the purpose of enhancing education, they offer resources including educational infrastructure and textbooks (Catherine, 2015). Moreover, they provide teachers with proper training, participate fully or partially in teaching activities, and deliver instructional materials (Adalikwu & Iorkpilgh, 2013; USAID, 2021). However, some foreigners and private parties want to work with the government, more notably the Ministry of Education and Vocational Training, to help achieve the Sustainable Development Goals (SDG), which include education as one of the planned goals (URT, 2021; OECD, 2013). However, when they show their efforts, a lot of issues and constraints determine how engaged individuals are in this situation. These include schools' remote locations, ongoing curriculum reviews, the misappropriation of financial resources or donations made to underdeveloped nations, and government initiatives to support primary and secondary school education (USAID, 2021). The similar issue has arisen as a result of subsequent late learners enrolling in schools (Bongeka, 2020). Unfortunately, despite the stakeholder's attempts to improve education in Tanzania's primary and secondary schools, particularly with regard to the procurement and delivery of instructional resources, the same roles are less effective and merely dismissed (Tety, 2016).

On the other hand, reality demonstrates that primary and secondary schools require highly educative and instructional materials for: facilitating teaching and improving students' memory levels, improving their rate of accumulation, correcting false impressions, and illuminating concepts that students cannot easily forget (Bukoye, 2019). While to some other extent, it fosters teachers' creativity, grants them permission to gather experience, and helps them develop self-evaluation, among other things. It also helps to give the body of information a sense of realism (Ndifwa, 2013). However, a number of constraints prevent them from obtaining all of them at once, which is what is needed to advance and improve the teaching process (TenMeT, 2021; URT, 2020)

Based on the aforementioned fact, the Tanzanian government has taken a number of steps and initiatives to ensure that teaching and educational resources are purchased and delivered smoothly across the entire nation. For instance, the government has mandated the contribution of funding for the administration and purchase of educational resources (Uwanjiku, 2013). As a result, the government has agreed to work on budget planning each year for the promotion, expansion, purchase, and delivery of educational materials in primary and secondary schools. This can be made easier by allocating equal amounts of money to the local and municipal governments in that region (TenMeT, 2021). In order to promote and improve the quality of education, other initiatives, such as Education Development Partners Group (EDPG), education policy, and programs have been established. In this context, purchasing and delivering high-quality educational materials is among the most important strategies (USAID, 2021; Wolfenden, 2014). Above all, an appropriate plan for the development of the education sector has been developed in order to advance education, with one strategy being the acquisition and delivery of teaching materials to schools in order to support students and encourage them to enroll in quality educational institutions (URT, 2020). Unfortunately, despite the value that using and having access to teaching and learning materials can impart, as well as numerous initiatives and efforts made by the Tanzanian government to improve the same, overall teaching and learning performance for both students and teachers is highly dissatisfactory. Some teachers and students feel unimportant to obtain education as a result of the scarcity that exists and the discomfort that primary and secondary school students must endure in order to acquire and use teaching and learning materials (Lyimo *et al.*, 2017). However, the circumstance fosters a negative attitude, discouragement, and poor perception among the learners and facilitators, discouraging them from engaging in the acquisition and provision of knowledge and skills for inspiring high-quality education (Chacha, 2013)

Additionally, the inability of the government and other stakeholders to procure and deliver sufficient teaching and educational resources, such as computers, books, and the like, has contributed to and generated a number of limitations in the education sector (Caroline, 2011). These include, but are not limited to, a lack of physical infrastructure and educational resources (OECD, 2013; Mghasse & William, 2016), as well as inadequate government budgeting for the provision of instructional materials (Uwanjiku, 2013). Similar to this, certain developing countries have difficulties due to the absence of strong procurement policies and leadership (Caroline, 2011). While inadequate facilities, a lack of teaching and learning resources, and other issues contribute to the scarcity of educational resources (Mghasse & William, 2016). Unorganized provision of instructional resources to municipalities or localized areas is, in fact, the root of the problem (Ndifwa, 2013). Poor communication, equitable supply and material distribution in secondary and primary schools, together with the proximity of schools to the learning environment, are the other associated issues (OECD, 2013). Another aspect that contributes to the constraints of educational materials is a lack of capital for purchasing and accessing commercial sources of teaching and instructional materials (Tety, 2016). Meanwhile, the rise in enrollment at primary schools and the lack of suitable physical infrastructure, including poorly designed and inadequately spaced classrooms, are some of the issues that contribute to the constrain in obtaining and delivering instructional resources (Lyimo *et al.*, 2017).

In this study, we acknowledged that educational materials play an important role for both students and teachers, but we also report that both teachers struggle to meet their desired and target goals and points for instructing the students. This is noted to have a negative impact on meeting and achieving the performance of the students (Okongo *et al.*, 2015). Therefore, despite the benefits gained and seen from using educational materials, it has been found that educational facilitators, particularly school teachers, are unable to guarantee or rather meet the target and performance when imparting knowledge and skills to students in many public primary schools (Zaini, 2018). The predicament causes us a headache and raises further probing questions, such as why, which, and what are the major constraints preventing the provision of instructional resources in public elementary schools? What are the primary restrictions' causes? What effects does the restriction on teaching and learning materials have? However, in order for the study to be successful, answers to such questions must be affirmative. Therefore, the general objective of this research is to explore the availability of teaching and learning materials with the intention of identifying the factors that constrain this availability in public primary schools and recommending measure to improve the situation.

1.1 Research Problem

It has been approved that primary schools face challenges and limitations in facilitating seamless learning and teachings in particular, despite the fact that teaching and learning materials play an important role in fulfilling desired needs like improving student performance and promoting quality education. As a result, the works in this context discuss the constraints that primary and secondary schools face (Okongo *et al.*, 2015; Lyimo *et al.*, 2017; Caroline, 2011). This demonstrates that constraints in primary and secondary schools are caused by inadequate physical facilities and a lack of major enrollment discrepancies between government-run schools and private schools, according to research by Mghasse and William (2016) and Ndifwa (2013). On the other hand, a study by Lyimo *et al.* (2017) found that schools lacked the physical infrastructure needed for efficient teaching, as well as a lack of planning for the distribution of educational resources. A study by Uwanjiku (2013) found that improper fund distribution restricted the supply of teaching and learning resources. Similar experiences from Kenya, as outlined by (Okongo *et al.*, 2015), demonstrate how the implementation of inclusive education is impacted by insufficient teaching and learning resources.

Unfortunately, despite the literary searches described above that show some constraints in the availability of teaching and learning materials in different perspectives, these findings are not conclusive remark and are not merely final touch as well as are neither can be reported sufficiently in Tanzania primary schools. This is true despite the fact that public schools are subject to the efforts, initiatives, and laws governing the supply of learning and teaching facilities. Furthermore, the majority of Tanzanian studies to date have primarily centered on secondary schools. Consequently, there is little research on the constraints limiting the supply of learning and teaching resources in Tanzania's primary schools. However, in light of the above-mentioned detailed explanation, the purpose of this study is to explore factors the constraining the availability of teaching and learning materials in Tanzania's public primary schools.

1.2 Objectives of the Study

The overall objective of this study is to explore factors constraints factors constraining purchasing of teaching and learning materials in public primary schools, in Tanzania. Specifically, the study intends: -

- a. To ascertain the availability of teaching and learning materials in public primary schools.
- b. To understand the main constraints to availability of teaching and learning materials in primary schools
- c. To identify the consequences of constraints to availability of teaching and learning materials in primary schools.

2: Literature

Empirical Review

In this section, we conduct a critical literature on exploring purchases and availability of teaching and learning materials as well as constraints that are limiting to the availability in public primary schools. These are further examined in the following literature:

Beginning with available teaching materials; Printing and non-printing materials are cited in literature as being important learning resources. According to the literature that is currently accessible, printed resources include slides, photos, workbooks, textbooks, periodicals, and newspapers (Puspitarini & Hanif, 2019; Barus *et al.*, 2021; Bukoye, 2019) Non-printed materials include chalkboards (Tety, 2016). Blackboard, maker board, write board, felt board, and magic board are some of these materials (Bukoye, 2019) as well as internet materials (Hakim *et al.*, 2019), while resources and instructional aids like math and science kits are helpful for supporting teaching and sketching. On the other hand, literature turn to identify major constraints to availability of teaching and learning materials as further dilapidated here under in subsequent paragraphs: -

Beginning with factors constraining availability of printing materials; Literature demonstrates that the absence of sufficient funding for the local government's procurement and distribution of educational materials is the root cause of the limitations of teaching facilities in the context of printing materials (Lyimo *et al.*, 2017; OECD, 2013; Mghasse & William, 2016). This restriction results from the government's incorrect allocation of funds for the provision and delivery of educational resources (Uwanjiku, 2013). Additionally, this issue is caused by having inadequate budgeting in terms of financial allocation (Okongo *et al.*, 2015; Lyimo *et al.*, 2017). Family income, particularly the inability of the parents to afford to buy their children's textbooks, is closely tied to this factor (Chacha, 2013)

Literature points yet other factors constrains purchasing of learning materials which is focused on the aspect of selection of non-printing materials with physical facilities; picture demonstrates how inadequate physical conditions at some schools negatively impact student achievement (Retnawati *et al.*, 2017; Mghasse & William, 2016). Additionally, certain underdeveloped countries' lack of procurement strategy and priorities hinders this element of purchasing building supplies, (Caroline, 2011). Lack of government support in terms of securing the acquisition and delivery of physical supplies for repairing and constructing schools is another barrier (Asrial *et al.*, 2019; Lyimo *et al.*, 2017) as well as problems with classroom environment, readiness, planning and preparation (Gaitas & Alves Martins, 2017). Furthermore, this element is brought on by the absence of notable variations in enrolment and school infrastructure (Ndifwa, 2013)

In discharging with the constraints related to distribution planning of printing and non-printing materials; Literature has not yet focused on how the performance of primary schools is hampered by a growth in the enrollment of pupils in public schools without consideration of an increase in the quantity of textbooks. This element is challenged by the lack of distribution planning, rising student enrollment, inadequate communications, and equity in the provision of educational resources (Lyimo *et al.*, 2017). Additionally, curriculum modifications and review make primary schools less efficient (Bukoye, 2019). Nevertheless, the availability of teaching and learning materials is hampered by weak and unrelated policy focus on education (Ndifwa, 2013). Finally, the cost of obtaining educational resources is a significant barrier to their availability (Mghasse & William, 2016)

Conceptual Framework

The issues limiting the purchasing of teaching and learning materials are a concern when conducting empirical literature reviews. The limited supply of printed materials (Lyimo *et al.*, 2017; OECD, 2013; Mghasse & William, 2016), non-printing materials (Uwanjiku, 2013; Okongo *et al.*, 2015;

Chacha, 2013), and distribution planning of printed and non-printed materials are among the materials in public elementary schools (Bukoye, 2019; Ndifwa, 2013). In order to realize the availability of teaching and learning materials in public primary schools, the constraints that are limiting the availability of teaching and learning materials and their consequences in public primary schools were evaluated immediately. It was acknowledged and anticipated that the improvement in the purchase as well as availability of teaching and learning materials in public primary schools have an impact on the information obtained through assessment of these aspects' variables.

3. Method

The research methods covered in this chapter. The study approach, areas and/or subsections, participant (subject) characteristics, sampling techniques, sample size, power, and precision, measures and covariates, research design, the reliability and validity of results, and it even goes so far as to identify data analysis methods are all presented in the study.

3.1 The Study Approach

For the sake of exploration and discovery as well as for comprehending the problem, a qualitative approach was adopted in the framework of this study. The strategy enabled the researchers to stay in close contact with teachers and students, conduct in-person interviews with them, and get replies that are relevant to their area of study (Astalin, 2013). The researchers' use of a qualitative approach enabled them to document the opinions, views, and experiences of teachers and pupils who are hampered by severe obstacles that prevent them from having access to teaching and learning resources in public primary schools (Mohajan & Mohajan, 2018).

3.2 Participant of the Study

The five (5) schools chosen for this study—Zanaki, Buguruni, Oyster bay, Mchikichini and Amana primary schools are all located in Dar es Salaam's Ilala district. However, 3 of them had greater student enrollments than the remaining schools. A case study of Ilala's public primary schools helped the researchers to gain a full understanding of the factors that constraining the purchases and availability of teaching and learning resources in these establishments. As a result, each primary school had four teachers and four students who participated in the study.

3.3 Sampling Procedures

In each primary school, both respondents and teachers were selected in the study, which was selected by a judgmental sample size of 56 respondents. When the researchers feel that certain cases or volunteers included in the sample, they did so (Taherdoost & Group, 2017). The cause of picking this approach include low-cost, convenient, not time-demanding, appropriate for case study design as well as the sample that reflected a wide variety of opinions regarding the factors constraining purchase and availability of teaching and learning materials in public primary schools. The authors used this strategy by concentrating on situations that was unique or distinctive as well as typical in terms of remarkable results, failures, or successes of the study they are interested in (Kothari, 2004)

3.3.1 Sample Size

Additionally, a sample size of 56 respondents was employed and this was focused on the selection of teachers, headmasters and headmistress and students from each primary school. The Ilala neighborhood of Dar es Salaam was home to the five (5) schools were chosen for this study: Zanaki, Buguruni, Oyster bay, Mchikichini and Amana primary schools were the sample of this study. As a result, the researchers chose sixteen participants, eight of whom were teachers and one of whom represented the headmaster, and seven of whom were students from Zanaki Primary School. In addition, fourteen

respondents were picked from Mchikichini Primary School, eight of them were primary school teachers and six of whom were students. Furthermore, nine respondents were chosen from Oyster-bay Primary School, where four were students and five were primary teachers; similarly, ten participants were chosen from Buguruni Primary School, where five were students, four were primary teachers, and one respondent was the headmaster; and seven respondents were chosen from Amana Primary School, where three were students and four were primary teachers.

A case study on the public primary schools in Ilala helped the researchers to understand the factors that constraints purchases and availability of teaching and learning materials in these establishments.

3.3.2 Measures and Methods of Data Collection

As part of the data collecting process, in-depth interviews, open-ended questionnaire, focused group discussions, and a study of supporting documents were used. The interview last around 20 to 30 minutes to complete. There was four focus group discussions (FGDs) which adopted by the researchers, two of them were based on schools with high enrollment requirements which included Zanaki and Mchikichini and the other two at schools with low enrollment requirements were Amana and Oysterbay as a compared to the first two primary schools. The discussion was overseen by a moderator and a recorder. The focus group discussion included 5 to 10 respondents' teachers and students (FGD). It was simpler to document attitudes, feelings, and opinions regarding the factors that constraining purchases and the availability of teaching and learning materials in public primary schools thanks to these. Furthermore, it provided checks and balances of the pertinent data to increase trustworthiness. However, school administrators received open-ended questionnaires so they responded to the specific questions. The documentary reviews were adopted in this study specifically education Growth Partners Group, educational policies and initiatives, and the education sector development plan for enriching in depth background information.

3.3.3 Research Design

Due to, it is associated with qualitative research designs, which demand a high level of depth, breadth, and rigor, with careful attention to showing how evidence supports the findings reached, the researchers employed the case study technique (Rose et al., 2015). Additionally, case study design tries to gain more knowledge about an understudied or misunderstood circumstance. Understanding the issue, the context, and the problem is helpful. The use of the case study in this study also made it easier to gather information in-depth from a variety of sources, including non-participant observations, interviews, archival records or papers, tangible artifacts, and audio-visual resources (Saunders et al., 2009). Furthermore, because it examines the case as a distinct totality, the case study method allowed a holistic perspective on causality. This opens up the potential of examining causal complexity in situations when there are numerous pertinent elements but few observations. Because the utilization of numerous data sources facilitates the retrospective analysis of events, case study design employed in particular to investigate questions about process (Rose et al., 2015).

3.3.4 Data Analysis

The authors employed content analysis to summarize, organize, classify, analyze, and present the data and results in light of the study's objectives as a qualitative approach used in this study. Additionally, content analysis was simpler with the usage of the existing MAXQDA 20 program for qualitative results. The handwritten transcriptions in Swahili was adopted, translated into English, typed, and saved as documents in MS Word. The transcriptions' content analysis was rationally provided manually. Data transcribed were systematically categorized to make it easier to show the findings. The reliability and validity of the data were ensured by the use of peer debriefing, triangulation, extended engagement with respondents, data auditing, member verification, and pilot testing.

4. Finding and Discussion

This section explores factors constraining purchases and availability of teaching and learning materials in public primary schools, in Tanzania based on the availability of teaching and learning materials, the main constraints and causes to availability of teaching and learning materials as well as the consequences of constraints to availability of teaching and learning materials in primary schools.

4.1 The Availability of Teaching and Learning Materials in Public Primary Schools

Findings show that several teaching and learning materials were existing in primary schools to the large extent in the context of available printed and non-printed materials and commented accordingly.

4.1.1 Availability of Printed Materials

The findings indicate that numerous printed materials, including those utilized in primary schools, were investigated in this study. To begin, the availability of computers was determined in this survey as reported by a small group of 14 respondents, which is equal to 25%, with the bulk of them refuting this truth. According to one of the answers, computers typically assist students and teachers in facilitating the teaching and learning process.

Typically, computers, tablets, printers, and scanners enable to facilitate the learning and teaching process, it helps to write different academic accessories such as examination, notes, story, as well as manageable to write properly, can't we say that, we admire that each teacher be granted by the government at least one computer (Female, respondent, Zanaki Primary School)"

Second, respondents said that printers and scanners were scarce in many primary schools, which was supported by a small group of 11 respondents (equal to 19%), indicating that the majority of respondents rejected these materials from being present in many primary schools in Tanzania. Furthermore, respondents stated that at this school, *"we have only one printer and no scanner, which could help to facilitate the teaching process, so we urged the government to consider this immediately." (Female teacher (42), Buguruni Primary School)"*

Furthermore, studies demonstrated that the presence of printing papers was absolutely available in many primary schools, as reported by over 29, or 51% of the respondents. Nonetheless, they underlined that many primary schools have sufficient printing papers to conduct various instructional procedures such as exercise and examination, but other schools have insufficient printing papers due to an excessive number of pupils. For example, one respondent described the following with solid testimony; -

Here, printing papers are abundant because students provide the papers for the schools to enrich their examinations, whereas in many other schools, you cannot find this strategy due to a large number of students, some of whom cannot afford to buy the bundle of papers. (Female teacher, (32) Zanaki primary school)

Another type of printing material was cartridge inks, which were identified by a small number of responders (approximately 16), accounting for 28% of the total. The reply went on to say that many primary schools did not have enough cartridge ink to process educational tasks. Cartridge inks, on the other hand, were meant to follow the availability of printers and computers, but their absence jeopardizes the teacher's efforts. For example, one responder stated, *"Sometimes we were supposed to print terminal examinations at the outside of the school compound due to a lack of cartridges and printers as well as printing papers, so we managed to pay the stationeries so that our school activities could continue." (male teacher (39) Buguruni Primary school)"*

According to the findings, many primary schools were defined by the acquisition of textbooks, as confirmed by the majority of the respondents (about 44%). They stressed how many textbooks they had to

read and write in. Furthermore, 9 (16%) of the respondents claimed that getting magazines and newspapers was limited in many primary schools. They also argued that magazines and newspapers, as well as intangible materials for various educational contexts, were not purchased by public primary schools because they were not a priority.

Furthermore, despite opposition from a small number of respondents, approximately 21 out of 56 claimed that acquiring workbooks was another instructional resource evaluated in public primary schools. True, workbooks were scarce in primary schools with large student populations, but they were available in schools with a large library and a small student population. In other words, photocopies were another type of printing material investigated in this study. As a result, 48 (85%) of 56 respondents reported that public primary schools have less photocopies than private schools, yet the headmaster ended up using stationery to make hard copies for some school's accessories.

Table 1: Summary of availability of printing materials

Printed materials	Frequency	Percentage	Ranks
Computers	14	25%	6
Printers and scanners	11	19%	7
Printing papers	29	51%	3
Cartridges inks	16	28%	5
Textbooks	44	78%	2
Magazines and newspapers	9	16%	8
Workbooks	21	37%	4
Photocopy machines	48	85%	1

Source; field data, 2023

Based on the facts presented above, it is possible to establish that printed materials are available in public primary schools. While few printing materials are examined and exposed in many public primary schools, to the best of researchers' knowledge, this jeopardizes the role of teaching and learning process among teachers and students. The findings agree with those of (Bukoye, 2019; Puspitarini & Hanif, 2019; Barus *et al.*, 2021; Lyimo & Kipng'etich, 2017); and (Uwanjiku, 2013; URT, 2020). Furthermore, findings relating to the availability of photocopier machines were not exhaustively classified or stated in the literature; this is a novel variable that could add value to the existing findings.

4.1.2 Availability Non-Teaching Materials

According to study, several public primary schools were explored for the availability of non-printing resources, with an emphasis on the availability of a library, laboratory, chalkboards, overhead projectors, mathematics and science kits, and visual aids. As a result, studies show that library existence was initially observed in this aspect, as confirmed by over 49 (87%) of respondents. In this case, the government enabled to build library and provided certain textbooks for students to use. This was made feasible by reading well. One respondent, for example, testified to this truth in the following testimony:

“Currently, the number of libraries in primary schools is expanding as a result of government initiatives; however, greater emphasis on the issue of libraries must be expanded, as well as the availability of library instruments such as textbooks, periodicals, computers, and similar items, in order to improve the learning system” (Male teacher (34), Zanaki primary school)”

Furthermore, studies found that laboratory access was limited in many public primary schools, as reported by a small number of respondents (approximately 7 percent), with the bulk of them reporting that laboratories were nonexistent. Respondents also claimed that laboratories were not given high priority since practical training was not as important in primary schools as it was in secondary schools. In other

words, it was confirmed that chalkboards, especially blackboards, existed in public elementary schools, as indicated by more than 52 (92%) of the respondents. Nevertheless, they stated that blackboards were widely used, although markerboards or whiteboards were not widely used in many public primary schools.

In terms of mathematics and science kits, it was observed that approximately 14 (25%) of respondents stated that the government was able to give a limited number of kits to illustrate to learners how to capture knowledge and abilities. In particular, the government plays this role, and as a result, it was recommended by respondents to tie up to increase in primary schools.

Overhead projectors and supplementary books, on the other hand, were another instructional resource investigated in this study, as a minority of respondents (over 5%) claimed that projectors were significant but were not available in many public primary schools. For example, one respondent stated, *"Overhead projectors are so important in this school because they help to overcome writing with chalks or whiteboard markers, and they also save time." However, this technology is largely used in higher education institutions and is not widely used in public primary schools. (Male teacher (46), Buguruni Primary School)"*

Furthermore, radio, television, the internet, and other such instructional aids were mentioned by just about 8 (14%) of the respondents. Respondents stressed that this content was critical for learners to memorize what they see, hear, and listen to, as well as notice the tone and voice a head to practice properly. For example, one respondent stated,

"If you teach English language specifically an aspect like English grammar, topic like English tenses, conjunctions, and similar to this, an important tool for us is the availability of radio, television, or any tool that provides voice, tone, or watching the practices that someone else shows." (Male respondent (41), Mchikichini primary school)"

Furthermore, the findings pointed to the present of the globe as well as gum boots as non-printed resources for simply permitting to instruct the children in public primary schools, as further testified by 6 (10%) of the respondents. They said that the gum boots and globe helped children to memorize, sensitize, and capture knowledge and abilities extremely fast, and that it should be linked to be gradually offered in public elementary schools. In summary, water taps and playgrounds were two more observations mentioned in this context by one respondent. The answer stressed the importance of the pitch/playground in keeping students active by allowing them to engage in physical activities such as football, running, and integrating into other sport events.

Table 2: Summary of non-printing materials

Non-printing materials	Frequency	Percentage	Ranks
Library	49	87%	2
Laboratory	7	12%	5
chalkboards	52	92%	1
Mathematics and science kits	14	25%	3
Overhead projectors	5	8%	7
Radio, television and internet	8	14%	4
Globe and gumboots	6	10%	6
Water taps and playgrounds	1	2%	8

Source; field data, 2023

The data show that non-printing materials such as libraries, laboratory chalkboards, Mathematics and science kits, overhead projectors, radio, television, and internet, as well as Globe and gumboots, are available. As stated in table no. 2, some public primary schools have non-printing resources while others

do not. These findings are broadly consistent with previous research, particularly those of (Tety, 2016), (Hakim *et al.*, 2019), (Bukoye, 2019), and (Uwanjiku, 2013). The available literature review, on the other hand, did not capture findings relating to the availability of radio, television, globe and gumboots, water taps, and playground. These were the novel discoveries, and they could be among the study's distinctive merit.

4.2 Constraints to Availability of Teaching and Learning Materials in Primary Schools

The study explored the factors that constrains availability of teaching and learning materials in public primary schools based on the constraints relying on availability of printing and non-printing materials as well as distribution planning of printing and non-printing materials as subsequent discussed hereunder; -

4.2.1 Factors Constraining to Availability of Printing Materials

The findings demonstrate that there are number of variables limit the availability of printing materials. The first was a shortage of funds, which was cited by 45 (80%) of respondents. Respondents noted that a shortage of funding has a negative impact on the effective provision of education and are insufficient to support basic school materials.

Second, almost 42 (75%) of respondents believed that improper fund allocation to target schools was another obstacle to purchasing printing materials. It was also shown that many public primary schools were impacted by financial allocations made by the government during the formulation of the government budget for purchasing printing materials such as computers and photocopier machines. Respondents stated that funds were sometimes provided to schools with little demand compared to institutions with high demand and student population.

Another problem was budget limits for planning and acquiring printing materials, which were cited by more than 48 (85%) of respondents. As a result, respondents claimed that the negative effect was intensified by the government's failure to plan successfully for the funds to be allocated to public primary schools. "This is what we are used to," another stated; *"even though some printing materials exist, the government requires sorting, arranging, and allocating adequate budget in education, but this was contrary due to the large number of public primary schools."*

According to 36 (64%) of the respondents, low income among parents was another problem limiting printing supplies. In the framework of this investigation, it was found that parents were extremely impoverished, unable to help their children in paying school fees or contributing to other school activities. For example, one respondent verified that *"most parents are low-income earners, and they fail to support their children to bring contribution fee, so this burden should not be left solely on the parents, but the government should support them."*

On the one hand, the findings indicated that this aspect was hampered by a lack of skilled experts who could be hired to operate printing units/materials, as well as those who could hold computers and scanners for effectively facilitating learning and teaching processes, as reported by 5 (8%) of respondents as dilapidated. Nevertheless, as verified by 7 (12%) of the respondents, the high cost of printing supplies was another key barrier in purchasing printing materials in public primary schools. They actually added up correct systems for raising the fund in order to have adequate and sufficient printing supplies.

Table no.3; Summary of the constraints to printing materials

Constraints	Frequency in %	Ranks
Lack of enough fund	80%	2
Improper fund allocation	75%	3
Budget constraints	85%	1
Low income among parents	64%	4
Lack of skilled expert	8%	6
High cost of printing materials	12%	5

Source; Field data, 2023

Based on these findings, it is clear that many public primary schools are fundamentally incapable of performing and executing effective learning and teaching processes at 100% as expected and necessary, owing to substantial obstacles as indicated in table no.3. Other earlier findings (Lyimo et al., 2017; OECD, 2013; Mghasse & William, 2016; Uwanjiku, 2013; Okongo et al., 2015; Chacha, 2013) corroborate these findings. An interesting aspect of this discussion was the low income among parents to purchase adequate necessary requirements for their children to learn due to extreme poverty, while findings related to a lack of skilled experts as well as the high cost of printing materials were not adequately captured or even recognized in the literature review. Once again, this could be another unique contribution of this current study at the time we revealed it.

4.2.2 Factors Constraining to Availability of Non-Printing Materials

The findings suggested that a variety of issues were limiting the acquisition or availability of non-printing materials. According to 38 (67%) of respondents, the first difficulty was insufficient procurement plan and priorities. They usually said that procurement planning and prioritization were only hypothetical scenarios that would be impossible to achieve in many public primary schools. They further stated that if procurement planning occurs, there are no follow-up procedures for implementation. As a result, instructors should be educated on how to obtain school supplies.

Second, poor government support was cited by 32 (57%) of respondents as a reason limiting the purchasing of non-printing materials. They reported that inadequate government funding had a negative impact on improving the library, laboratory, and other school infrastructures, jeopardizing learner performance. For example, one person stated that *"it is sometimes difficult to be engaged with school functions due to poor infrastructures such as poor electricity installation with minimal devices."*

Another barrier that discouraged non-printing materials was reliance on diverse enrolling and school infrastructures, as indicated by more than 46 (82%) of respondents. Respondents stated that school infrastructures did not always support certain items, such as computer installation, according to the findings. This is due, in part, to the fact that power was not prepared to be available with other accessories and equipment in many public schools, putting the learning and teaching process at risk.

Table no.4; Summary of the constraints to non-printing materials

Constraints	Frequency in %	Ranks
Inadequate of procurement planning and priorities	67%	2
Poor government support	57%	3
Difference on enrolment and school's infrastructure	82%	1

Source; Field data, 2023

The findings do not tell us a different narrative since there are issues limiting the acquisition of non-printing resources, such as insufficient procurement plan and priorities, inadequate government support, and differences in enrolment and school infrastructure. These findings generally agree with previous research in the literature, most notably (Mghasse & William, 2016; Caroline, 2011; Lyimo et al., 2017; Ndifwa, 2013; Retnawati *et al.*, 2017; Asrial *et al.*, 2019; Gaitas & Alves Martins, 2017)

4.2.3 Factors Constraining the Distribution planning of Printing and Non-Printing Materials

According to the data, one of the restraints is ongoing rises in student enrolment, as reported by the majority of respondents (76%). They went on to say that as enrollment grew, it became more difficult for the government and other stakeholders to ensure balanced distribution of printing and non-printing materials, such as building laboratories.

This was complicated further by poor communication and on-equity material availability in many public primary schools, as stated by more than 33 (58%) of respondents. The majority of respondents were dissatisfied with the way the local government planned to provide learning materials without considering the weight and number of kids enrolled. For example, one responder stated that *“it is not fair because some elementary schools have enough and current teaching materials while others are still waiting for these materials”* (**Male respondent (32), Oysterbay primary school**).

Another narration provided by one respondent stated that;

“Since the government has committed to enrolling a certain number of students, through the government, that all children be taken to primary schools, equal distribution of materials should be given special consideration in order to promote, improve, and support the learning and teaching process.” (**Male respondent (44), mchikichini Primary school**)”

The study, on the other hand, found that curriculum change was another confronting issue that deterred distribution planning of obtaining learning resources, as noted by approximately 17 (30%) of the respondents. They also complained about curriculum changes occurring every 5 to 10 years, which affects equal distribution as well as the provision of instructional resources. As a result, they agreed that the government should conduct feasibility study first before updating its curriculum in order to preserve an equal distribution of printing and non-printing resources.

Another source of constraint was insufficient and unrelated policy for distribution planning, as mentioned by around 21 (37%) of the respondents. They concluded by stating that the policy is a disaster that makes it impossible for students to obtain teaching materials conveniently. It was also noted that policy had segregated a lot of concerns that used to run the entire Tanzanian education system in both primary, secondary, higher, and tertiary institutions.

Furthermore, the data suggest that the high cost of learning materials was one of the barriers in the distribution to elementary schools, as reported by the majority of the 19 (33%). As a result, research suggested that the required cost for maintaining proper distribution of learning resources was impeding public primary schools. One person, for example, verified this with solid testimony;

“High costs of distributing materials affected public primary schools because the government failed to forecast actual costs for making adequate budget for enabling distribution of printing and non-printing materials, due in part to the time of distributing them to specific schools.” (**Male respondent (38), Buguruni Primary School**)”

Table no.4; Summary of the constraints to distribution planning

Constraints	Frequency in %	Ranks
persistent increases of student enrolment	76%	1
poor communication and on equity materials supply	58%	2
curriculum change	30%	4
inadequate and unrelated policy	37%	3
high cost of learning materials	33%	5

Source; Field data, 2023

According to the data above, public primary schools were often hampered by constraints relating to the distribution planning of printing and non-printing materials. These include frequent enrollment increases, poor communication and material supply equity, curriculum changes, insufficient policy, and expensive learning material costs. These findings are similar to those of other researchers (Lyimo et al., 2017; Bukoye, 2019; Ndifwa, 2013; Mghasse & 6 William, 2016). The frequent and high student enrolment in relation to the distribution of printing and non-printing materials in many public primary schools sparked an interesting discussion in this regard.

4.3 Consequences of Constraints to Availability of Teaching and Learning Materials

The findings highlighted a number of effects of the scarcity of teaching and learning materials in public primary schools. Poor student performance was one of them, as noted by 44 (78%) of the respondents. According to one of the responders, the failure rate was caused by a lack of practical training by the majority of pupils.

"A lack of modern teaching materials such as projectors, computers, science kits, and a proper library and laboratory, combined with a shortage of science teachers, jeopardizes students' ability to gain new skills and knowledge, resulting in poor performance." (Female respondent (42), Mchikichini Primary school)"

Another testimony that revealed in this context by one respondent was; -

"Poor academic performance in examinations is possible because poor teaching and learning environments lead to students' incapacity to attempt questions appropriately. Female respondent (36), Zanaki Primary School)"

Another result was a loss of confidence among teachers and students, as reported by around 40 (71%) of respondents, who insisted that a lack of teaching resources caused the teacher to teach slowly and failed to cover the course on time. Furthermore, studies suggested that a lack of motivation among teachers and pupils was a major consequence in this context, as reported by the majority of the respondents (64%). As a result of the difficulty of the work, elementary school teachers were committed to teaching students with little motivation and emotion. As a result of the lack of desire, pupils were unable to gain sufficient skills and knowledge, which posed a severe challenge for them. For example, one respondent stated, " *"There is a risk of failing to achieve desired educational outcomes at the school and national levels due to insufficient teaching and learning materials."*

Another issue contributes to poor school attendance among students and instructors, as acknowledged by the majority of respondents (about 32/57%). The study discovered that both teachers sometimes fail to arrive early in the morning to teach the students due to a lack of necessary materials, such as scientific aids for providing practical instruction to the students.

"For example, one respondent stated that poor school attendance occurred simply because there is no motivational and inseparable environment for enabling students and teachers to teach and learn effectively, and as a result, students are unable to complete their studies while leaving school is the final result. (Male respondent (34), Zanaki Primary school)"

Furthermore, as 27 (48%) of the respondents discovered, reduced competency due to a lack of skill, trained, knowledge, and professional learners was feasible in many public primary schools. The findings revealed that a high number of graduates with no skills were likely to occur, while cramming power was a possibility in many public primary schools, which will be a significant burden in Tanzania in the coming years. As a result, some parents have chosen to send their children to private schools rather than public institutions. For example, one responder stated, *"Reduced competency among students is likely at this time because they are unable to grasp fill knowledge that is guided by the competence-based curriculum."*

In a similar framework, poor coverage of curricula or topics was another result, as expressed by approximately 14 (25%) of the respondents. Furthermore, respondents said that low syllabus covering was caused by bad timing, which was driven by a lack of teaching materials. As a result, the major issue stems from an inability to translate theoretical information into practical understanding.

Nevertheless, studies suggested that problematic classroom management was most likely caused by inadequate school infrastructure, as stated by 31 (55%) of respondents. They also maintained that having a small classroom meant having a large number of pupils, which was detrimental for many teachers who wanted to give them a consultation room. Also, findings show that, constrains to the learning and teaching materials lead to deterioration of the basis of the future man-power as said by 4 (7%) respondents. For example, one respondent claimed that;

"Today's children are the tomorrow leaders, teachers and engineers, failure of creating good foundation for the tomorrow generation is the same to loss country as we are preparing weak generation. The foundation is created through adequate knowledge and education by providing adequate learning and teaching materials to both students and teachers (Male respondent (34), Zanaki Primary school)"

Another consequence was increasing the gap between public and private primary schools as reported by 1 (2%) respondent. The respondent insisted that gap could be made in terms of assessing quality of education provided by these two schools. Therefore, it was concluded that private schools perform better due to having adequate and quality of teaching and learning materials.

Then, finding show that absent or nearly present of few teachings and learning materials increases teaching loads to the teachers and facilitators as further noted by 12 (21%) of the respondents. They further supported that teachers use much power to fill the gap left by the absent of learning and teaching materials.

Table no.4; Summary of the Consequences of constraints of teaching materials

Consequences	Frequency in %	Ranks
Poor students' performance	78%	1
lack of confidence among the teachers and students	71%	2
lack of motivation among the teachers and students	64%	3
Poor schools' attendance	57%	4
Reduced competence	48%	6
Poor coverage of curricula or topic	25%	7
difficult in classroom management	55%	5
Deterioration of the basis of the future man-power	7%	9
Increase gap between public and private primary schools	2%	10
Increases teaching loads to the teachers	21%	8

Source; Field data, 2023

Conclusion and Recommendation

The study's main objective was to explore the factors that limit the purchase of teaching and learning materials in public primary schools with the goal of establishing the availability of teaching and learning materials as well as understanding the main constraints to the availability of teaching and learning materials in primary schools and recommending strategies to improve the situation. While numerous conclusions have been presented, it is evident that the emphasis on availability of teaching and learning resources, sincerity, and a lack of funding are the primary concerns. It can be generalized that the field of education lacks serious budget allocation, poor procurement planning, inadequate government support, high cost learning materials, and poor equity of materials distribution and supply, and as a result, the constraints lead to poor academic performance, lack of confidence and competence, lack of motivation, and poor attendance, to name a few. Based on the findings, various recommendations are made to address the highlighted pitfalls.

To begin, the government should invest in and raise awareness about the progress of educational facilities by installing current technology instruments such as computers, printers, scanners, and the like. Such materials can be assigned to a library or a specific computer laboratory in order for students and teachers to have access to them.

Second, in order to regulate the issues that limit the availability of printing materials, various stakeholders such as government and non-government supporters should contribute cash and grants prior to allocating sufficient budget to purchase necessary learning and teaching materials. This can be accomplished by acquiring such materials in bulk.

Third, to address the factors limiting the availability of non-printing resources, the government should strengthen and update its procurement strategies, with a focus on acquiring learning and teaching materials. Furthermore, attention on school infrastructure development, such as laboratory, library, and electricity installations, must be considered.

Finally, in order to identify the factors limiting distribution planning of printing and non-printing materials, policy and distribution strategies for educational materials should be gradually examined. Furthermore, equal distribution of educational materials should be encouraged in order to maintain balance while also imparting motivation and competence in public elementary school students. This can be accomplished by purchasing regularly or by allowing school principals to vote on which instructional resources to acquire.

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