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Statement of purpose

The Malawi Journal of Education and Development (*MJED*) is a peer-reviewed, multidisciplinary journal published by the School of Education, University of Malawi, whose principal aim is to publish outstanding critical research at the frontiers of education and sustainable development. Articles should focus on relevant social, economic, political or cultural issues or problems in education that impact sustainable development, thus requiring a multidisciplinary approach that integrates different perspectives. *MJED* thus studies development from the perspective of education and education from an analysis of its social-economic, political and cultural implications for sustainable development.

MJED is an accessible international journal. Although with a focus on Malawi, it aims to include contributors and readers from different countries across Africa and beyond. The journal reflects this in the topics, approaches and cultural backgrounds of its articles. *MJED* strives to publish articles written in a clear style, avoiding esoteric jargon, to address the needs and interests of readers of different levels of expertise in many countries and disciplines.

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Editorial Note

It is my pleasure to present to you the eighth volume of the MJED journal, which showcases a variety of academic papers on educational issues in Malawi. Below is a summary of the papers in this volume.

In "Affordances and Constraints for Mathematical Reasoning in Malawi's Mathematics Textbooks: Form Two Pythagoras Theorem", Store and Mwadzaangati used a textbook framework to compare how five textbooks for Malawi public secondary schools taught Pythagoras theorem, a key concept in mathematics and science. The results reveal that some textbooks have more varied examples and tasks, which could help students generalise the theorem's properties. However, most textbooks do not emphasise the connections between Pythagoras theorem and other concepts, which could limit students' mathematical thinking.

In "Promoting Critical Thinking in Secondary Schools in Malawi: Case of Social Studies in Nkhotakota", Luke Nyirenda and Peter Namphande investigated the challenges of teaching critical thinking skills to Social Studies students in a democratic state like Malawi. They found that Social Studies teachers used strategies such as question and answer, group discussions, pair-work, and role-playing to foster critical thinking skills in the learners. However, classroom practice differed from planned lessons due to contextual challenges teachers faced during implementation.

In "Investigating classroom questioning in initial primary teacher training colleges: A case of Malawi", Stanley Kwerengwe investigates the classroom questioning practices of lecturers in initial teacher training colleges (TTCs) in Malawi. He found that the lecturers' questions are primarily convergent and serve various purposes, such as verifying learners' achievements, providing feedback, clarifying ideas, and making instructional decisions.

In "Perspectives on mental health service gap among adolescent learners in Malawian secondary schools. A qualitative study", John Kuyokwa, Symon Chiziwa, Nertha Semphere, Dixie Maluwa Banda and Bob Chulu evaluated the mental health services for adolescent learners in Malawian secondary schools and proposed practical ways to support them in coping with psychosocial challenges. The study reveals that teachers lack the skills and time to provide counselling services and that there is no policy framework to guide the provision of guidance and counselling services in schools.

In "The impact of psychological capital on academic achievement motivation among adolescents", Yohane Chakasika and Preeti Bala examine the impact of psychological capital on academic achievement motivation among adolescents in India. The study found no significant relationship between psychological capital and adolescent academic achievement motivation. However, they found a significant relationship between efficacy and adolescent academic achievement motivation.

In “Exploring how School Management Committees (SMCs) cope with School Finance Management in selected Primary schools in Zomba Educational Districts”, Lawrence Msiska, Richard Nyirongo, Yohane Chakasika and Louis Saddick analyse the financial management practices of School Management Committees (SMCs) in Zomba Educational Districts. Despite its usefulness, transitioning from Direct Support to Schools (DSSs) to Primary School Improvement Grants (PSIGs) has created challenges. Considering the School Development Fund (SDF), this study reports that SMCs for urban schools raised more money through SDF than rural schools.

In “Factors affecting quality of education in four rural primary schools in Mangochi district in Malawi”, Guðlaug Erlendsdóttir and Peter Mtika explored the factors affecting the quality of primary education in rural schools in Mangochi District, Malawi. The study used an emergent framework of quality education in low-income countries, focusing on the intersecting contexts of policy, schools, the home and community. Findings show that the selected four rural primary schools suffer from weak infrastructure, teacher shortages and a lack of teaching and learning materials.

I hope you enjoy reading these papers and find them helpful for your research and practice.

Affordances and Constraints for Mathematical Reasoning in Malawi's Mathematics Textbooks: Form Two Pythagoras Theorem

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Abstract
Textbook discourse analysis is a valuable way to examine how high-leverage topics in mathematics are presented to students and teachers. One such topic is the Pythagoras theorem, a key concept in mathematics and science models. This study analysed how Pythagoras theorem was illustrated in five Form 2 textbooks for Malawi public secondary schools, using the Mathematics Discourse in Instructional Analytic Framework for Textbooks. The results showed that some textbooks offered more opportunities for generalisation through varying examples of Pythagoras theorem properties than others. However, there was less variation in examples and tasks on Pythagorean triples and only a small percentage of the tasks required making connections between Pythagoras theorem and other concepts. The differences in mathematical affordances in the textbooks implied unequal opportunities for mathematical thinking, especially for schools that chose their textbooks based on costs. This study aimed to provide information on textbook selection for resource-constrained schools by focusing on the strengths and weaknesses of textbook examples and tasks.

Introduction

There is a consensus in the literature that the Pythagoras theorem plays a key role in geometry and all mathematics. Kepler asserted that "Geometry has two treasures: the theorem of Pythagoras and the division of a line into extreme and mean ratio. The first we may compare to a measure of gold; the second we may name a precious jewel" (Boyer, 1989, p.58). Wittman (2021, p.96) echoes this view, explaining that "because of its richness in mathematical relationships and applications, the Pythagoras theorem and its generalisation form a cornerstone of geometry". Furthermore, a deeper understanding of the Pythagoras theorem is key to fluency in other mathematics disciplines such as algebra (e.g., a study of algebraic equations and variables), statistics, and the Pythagoras theorem is "implicitly present in all scientific models and engineering computation involving spatial relationships or trigonometry" (Givental, 2018, p.261). Thus, the Pythagoras theorem is at the intersection of Science, Technology, Engineering, and Mathematics (STEM) education. Being intertwined with STEM implies that the teaching and learning of the Pythagoras theorem has a significant role in the accomplishment of the 2063 Sustainable Development Goals (United Nations, 2015).

Tikly, Jouebert, Barret, and colleagues (2018) reported that across sub-Saharan Africa, including Malawi, data have shown low secondary school attainment, resulting in low enrolments in post-secondary institutions. Several international studies (e.g., Sutton, 2012; Suryadi & Sojanuardi, 2020) have reported students' lack of understanding of the Pythagoras theorem definition, notations, applications, and proofs. Based on low mathematics performance reports and international studies, reasonable inferences can show that several students in Sub-Saharan Africa may not conceptually understand the Pythagoras theorem. If the aspiration for a scientific culture that is aspired to in the Sustainable Development Goals is to be achieved, a focus on secondary school mathematics teaching and learning is essential since a plethora of literature (e.g., Park & Ngo, 2021; Green & Sanderson, 2018; Douglas & Attewell, 2017) show that mathematics is a gatekeeper to STEM education and careers. More specifically, it is necessary to focus on mathematical concepts, such as the Pythagoras theorem, that connect broadly with other mathematical concepts and other disciplines. Rooted in Geometry and with a history that is rooted in many cultures, such as the Babylonians (Maor, 2007), China and India (Kaplan, 2011), Egypt (Maor, 2019), and studied in schools across the world, Pythagoras theorem renders itself as part of global mathematics and scientific competences.

Textbooks play a key role in improving the quality of teaching and learning (Haidar, Hutama, & Sunardi, 2019) and as representatives of how different mathematical ideas are conceptualised. They "are the foundation for information taught to students and where students often go for help with difficult problems" (Sutton, 5, 2013). They provide a diagrammatic register that expresses meanings of abstract concepts and mathematical relational understanding and affects problem-solving strategies (Dimmel & Herbst, 2015). Even though the intended geometry curriculum in the textbook may not fully mirror the enacted curriculum due to differences in instructional approaches (Thompson & Senk, 2014), pedagogical content knowledge (Mwadzaangati, 2019), and other factors, textbooks remain a reflection of learning and conceptualisation of mathematical ideas (Ronda & Adler, 2016). In low-income countries characterised by a lack of teaching and learning resources like Malawi, textbooks are the only dependable resource for transmitting curriculum (Ronda & Adler, 2016). As such, studying how the Pythagoras theorem is conceptualised in the Malawi Secondary School textbooks was necessary. We, therefore, adapted Ronda and Adler (2016) framework for analysing textbooks to explore affordances and constraints for mathematical reasoning in five Malawian Form 2 mathematics textbooks. Specifically, the study pursued the following research questions:

1. What affordances and constraints do the textbook examples provide?
2. What affordances and constraints do the tasks in the textbooks provide?
3. What affordances and constraints do the representations in different textbooks provide?

Education System and Textbook Selection

Malawi follows an 8-4-4 education system whereby the first eight years are for primary education, the second four years are for secondary education, and the last four years are for tertiary education. Learners take standardised national examinations at Standard 8, Form 2, and Form 4. The Form 2 national examinations are referred to as Junior Certificate Examinations and assess the Form 1 and 2 curricula. The curricula for Form 3 and Form 4 are assessed at the end of Form 4. However, this paper focused on the curriculum for the Junior Certificate (Form 1 and Form 2), a foundational curriculum for senior mathematics.

Each secondary school must purchase its mathematics textbooks from a list that the Ministry of Education approves through the Malawi Institute of Education (Ministry of Education, 2020). Approved textbooks for secondary education are in two categories: prescribed books and supplementary books (Malawi Institute of Education, 2014). The latter category must be used in conjunction with at least one prescribed book. The current curriculum, which came into effect in 2013, has four prescribed and four supplemental mathematics textbooks. Textbook availability and cost affect schools' book selection. Learners in poorly funded schools such as Community Day Secondary Schools may not have access to more than one textbook. Prescribed textbooks are the most recommended textbooks for teaching and learning each subject. They are regarded as containing enough relevant content for a particular subject. Therefore, each school in Malawi is expected to purchase several copies of all prescribed textbooks for each subject. However, due to financial constraints, some schools cannot afford to purchase all prescribed textbooks; they opt for the cheaper ones. Since different authors write different prescribed textbooks, their content is bound to differ in terms of what they afford or constrain, hence worthy examining.

Conceptual Framework

The Mathematics Discourse in Instructional Analytic Framework for Textbooks (MDITx) was developed from Mathematics Discourse in Instruction (MDI) – a tool for analysing the quality of mathematics made available in classrooms (Adler & Ronda, 2016). MDI and MDITx are grounded in sociocultural perspectives that mathematics is an inter-connected network of scientific concepts (Vygotsky, 1978). Therefore, its teaching should aim at generating mathematical coherence in a social practice manner. The starting point of MDITx is that teaching and learning is about something (the object of learning) and that something is mediated through three mediational means: 1) exemplification, which includes examples and tasks, 2) naming or word use, which involves how we name and explain mathematical objects, and 3) legitimation, which involves how mathematical objects are justified. In this study, we identify the object of learning and focus our report on exemplification as this is the common mediational means in mathematics.

The Object of Learning

The object of learning, according to MDITx, is the learning outcome of a lesson. It defines what learners should know and be able to perform. The object of learning is well defined when it identifies the mathematical concepts that need to be learned and the expected student behaviour. Well-defined objects of learning guide the teachers' depth and breadth of a lesson and provide a self-monitoring tool for learners. Textbook authors' examples and tasks further mediate affordances and constraints for mathematical thinking.

Examples

Adapting from Zodik & Zaslavsky (2008), Ronda and Adler (2016) define examples in mathematics as "a particular case of a larger class, from which one can reason and generalise" (p.165). Examples bring the object of learning into focus, zooming in and out to reveal the structure and key concepts. Examples may be presented using text, symbols, or diagrams. Mathematics examples typically provide solutions. MDITx draws directly from reconceptualised aspects of variation theory to focus on variance (what changes in an example set) amidst invariance (what remains the same in an example set) to enhance unfolding the object key features and discerning structure and generalisations (Marton & Pang, 2006). The choice and sequencing of examples determine how well learners identify key features of the object of learning. The MDITx provides lenses for analysing learning opportunities through example sets. Examples may be analysed by considering their variation (changes, also known as contrast) or invariance (also known as similarity). Another category for examples is when neither contrast nor generalisation is apparent. Researchers may also analyse the extent to which similarity and contrast have been fused to provide a more granular analysis of textbook discourse.

Tasks

In MDITx, tasks refer to "what learners are asked to do with the examples" (Ronda & Adler, 2016, p. 6). Unlike examples selected to mediate the object of learning, tasks are designed to mediate learners' competency. Tasks are grouped into three categories. Tasks that ask learners to demonstrate prior knowledge or skills that connect to the current object of learning. Tasks that ask learners to demonstrate the learning outcome, which is knowledge or skills learned in the current topic on the object of learning without making connections (e.g., Single procedure tasks). These two types of tasks are regarded as simple tasks because they do not demand more thinking by the learner. Tasks may be regarded as complex when they involve higher-order thinking for example, when they require learners to make decisions or connections of multiple geometric skills and procedures.

Methodology

This study is a qualitative research inquiry (Creswell & Poth, 2016). The unit of analysis is the Pythagoras Theorem chapters in the Form Two textbooks that are approved for use in Malawi Secondary Schools. Four prescribed books and one supplemental book were sampled for analysis. The textbooks analysed are:

a. Achievers Junior Secondary Mathematics Student Book 2 (Nyirenda, Mbugua & Okomu, 2014), hereafter called Achievers
b. Study and Master Mathematics for Malawi Student Book 2 (2014), hereafter called Study master
c. Arise with Mathematics Student Book 2 (Chitera, 2013), hereafter called Arise.
d. Excel & Succeed Junior Secondary Mathematics Student Book 2 (Thomo, 2017), hereafter called Excel
e. Strides in Mathematics Form 2 Student Book (Hau & Lowe, 2014), hereafter called Strides.

Since the study's framework is discourse analysis, content data analysis (Mayring, 2015; Neuendorf, 2017) explored the observable and countable elements. Latent elements that call for interpretation of underlying meanings (NeAydin, Akin, Uzuntiryaki-Kondakci, & Takin, 2015) were also analysed. Verification, "the process of checking, confirming, making sure, and being certain" (Morse, Barrett, Mayan, Olson, & Spiers, 2002, p.17), was woven into the analysis and interpretation process to ensure rigor and trustworthiness. All data were coded by multiple coders independently, followed by a discussion of all differences in the coding. Each coder provided a rationale for their codes grounded in the analytical framework of the study. Each coder was a mathematics teacher educator with Malawi secondary mathematics teaching experience. The need for developing variation to the framework was discussed and based on the differences in geometry education and the mathematics disciplines (i.e., algebra) on which the framework was developed.

Since MDITx does not separate examples and diagrammatic representations, and examples are mostly in the form of diagrammatic representations in geometry, coding for the variation in diagrams was introduced as suggested by Mwadzaangati et al. (2022). Diagrams that did not require decomposition when solving or working with were coded as simple diagrams (SD). Diagrams that involved multiple geometric shapes in one figure and required decomposition during solving or proving were coded complex diagrams (CD). When analysing each diagram, we coded it as either SD or CD. In addition, we also coded the diagrams and other non-diagrammatic examples for their type of enhancement to generality according to MDITx. Diagrammatic and non-diagrammatic examples that enhanced similarity type of generalisation were coded S, and those that enhanced contract variation were coded C. For diagrammatic examples, S was coded on diagrams that enhanced variation through lack of contrast of diagram complexity, orientation and side of a right angle to be calculated, while C was coded on diagrams that enhanced contract

on the same. For non-diagrammatic examples, S was coded on examples that enhance similarity type of generalisation by maintaining structure such as the side of a right angled-triangle to be calculated. In contrast, those that varied the structure were coded C. In addition, if a diagrammatic or non-diagrammatic example set included a counter-example, it was coded CE.

The iterative and inductive data analysis process produced four subthemes for grouping the tasks: investigation, everyday life, proof, and computational tasks. Investigative tasks were inquiry tasks that required making conclusions from observation. An example of an investigation task required students to cut out squares for each side of a 3:4:5 and 6:8:10 triangle to observe the Pythagorean relationships. Tasks were coded as computational if they lacked context for the diagram or mathematical expressions. For example, the task "calculate the altitude of an equilateral triangle with sides that are 12cm long" was coded as computation without context.

According to MDITx, known procedure tasks that required applying skills learnt in previous topics were coded KFP. Current procedure tasks requiring applying the Pythagoras theorem only were coded CTP. Application with connections tasks requiring application of the Pythagoras theorem and other geometric concepts such as perimeter were coded AMC. We illustrate how we conducted the coding using Figure 1, which contains tasks and example sets from textbooks 1 and 2.

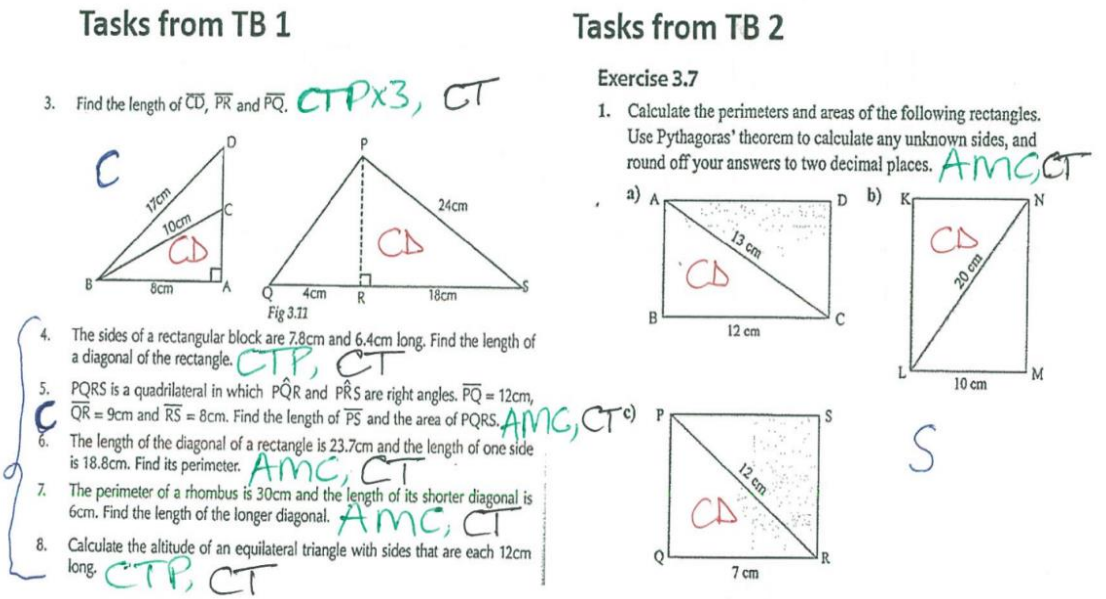

Figure 1: An example of coded tasks and examples.

As Figure 1 shows, we used different colours to code the data; categories of tasks describing task demand in relation to MDITx were coded with green colour. Categories of tasks in terms of different learning experiences and contexts were coded with black colour. The variation of examples in relation to type of diagram was coded with red colour, and variation of tasks with respect to type of generalisation was coded with blue colour. Thus, the tasks from both Achievers (TB1) and Study Master shown in Figure 1 are all computation tasks requiring calculation of either a side of a triangle or perimeter of a rectangle, hence coded CT. Some tasks like those for diagrammatic examples in Achievers demand the application of skills learnt in the current topic only, hence coded CTP. Some tasks, like the word problems in Study Master, require connecting the skills learned in the current topic with skills learned in other topics like calculating perimeters and areas of rectangles, hence coded AMC.

In terms of examples, all diagrams are coded CD because they are complex diagrams containing more than one right-angled triangle. In Achievers, the diagrammatic examples form one example set, and the word problem examples form another example set, hence analysed separately. Both example sets are coded C because they demand calculating different sides of a right-angled triangle, including the length of either a hypotenuse or a leg, enhancing contrast type of generalisation. This approach differs from the example set in Study Master, which only requires calculating the length of the leg given the length of the hypotenuse and one leg. Thus, these examples were coded S as they lead to a similar type of generalising that the length of one leg of a right-angled triangle equals the square root of the difference of the squares of the length of the hypotenuse and the other leg. An example of a diagram coded SD is those in Table 2 set A as they contain a single right-angled triangle. An example set which was coded CE includes those in Set B of examples in Table 2 as they contain counter-examples of non-Pythagorean triples.

Results

This section reports the object of learning and how it is conceptualised in the textbooks. The results of analyses of example and example sets are reported, followed by task analysis results.

The Object of Learning and Conceptualization of Pythagoras Theorem

The object of learning is from the textbook topic of Pythagoras theorem were to calculate the length of sides of right-angled triangles and deduce whether a triangle is right-angled. Introductory explorations for Pythagoras theorem differed; even so, all books required recording measurements of right-angled triangles. In all except one textbook (Excel), the Pythagoras theorem was represented as $a^2 + b^2 = c^2$ where c is the hypotenuse of a right-angled triangle, and a and b are the legs. In one textbook, Study and Master, the hypotenuse was introduced with a variable h, changing the visual expression of the theorem to $a^2 + b^2 = h^2$. One textbook continued to represent the variables for the right-

angled triangle as a, b, and c. However, the rest changed the naming of the variable to either a different letter or just named the triangle legs by their vertices. It is notable, however, that whenever a and b letters were used to name the triangle legs, the theorem was always represented as $a^2 + b^2 = c^2$ without any commutation such as $b^2 + a^2 = c^2$.

Four of the five textbooks had a section focusing on Pythagoras triples, defined as whole numbers representing side-lengths of a right-angled triangle. Examples of tasks were given for finding the Pythagoras triples. The area model whereby the sum of the squares on the shorter legs of the right-angled triangle is equal to the square on the hypotenuse was used to justify the theorem.

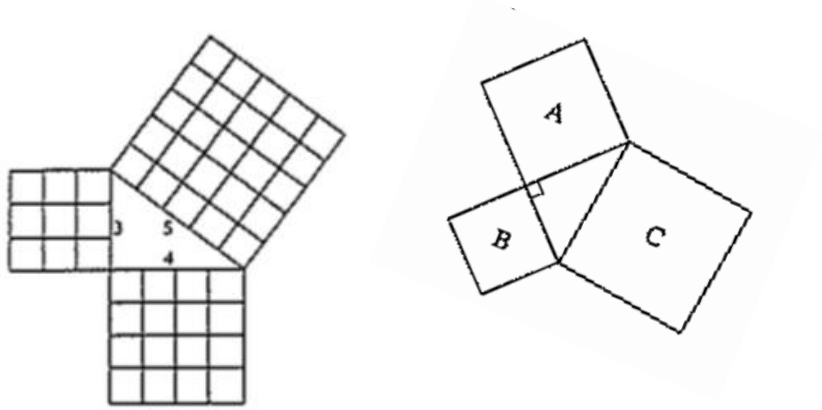

Figure 2: A Visual Representation of the Pythagoras Relationship

Figure 2 is an example of the area models, only slight variations of this model existed across textbooks as shown.

In Figure 2, the examples of area model are different. Where one area models is illustrated using numbers and squares, the other is illustrated by a right angle itself and the areas of the squares are not given.

Examples

Per MDITx, example sets provide different affordances than singular examples (Ronda & Adler, 2016). Table 1 reports the number of examples and sets. An example set is a cluster of examples addressing one object or learning outcome. As evident in Table 1, Study Master and Excel provide the most examples and example sets, therefore more opportunities for practicing the Pythagoras theorem and for mediating learners' growth of understanding. The high number of examples also provides more opportunities for experiencing variation and similarity.

Table 1: Number of Examples and Example Sets

Counts	**Achievers**	**Study Master**	**Arise**	**Strides**	**Excel**
Examples	48	99	32	36	97
Example sets	11	16	6	7	13

Analysis of the example sets showed that textbooks used multiple approaches to show similarity and variation. As Table 2 shows, the contrast was presented using diagrams or counterexamples. Most patterns of variation in example sets were in Study Master, followed by Achievers (Table 3). Study Master was also the only textbook with multiple examples set to show similarity. Thus, Study Master's use of example sets creates more opportunities for making generalisations and identifying limits of those generalisations through contrast and similarity.

Table 2: Approaches for Showing Contrast in Example Sets

Contrast Through Diagrams	**Contrast Through Counterexamples**
Set A	Set B
Set C	Set D

Table 3: Patterns of Variation in Example Sets

Counts for Patterns of variation	**Achievers**	**Study Master**	**Arise**	**Strides**	**Excel**
Similarity through diagram orientation and complexity	1	7	1	1	4
Contrast through diagram orientation and complexity	8	5	2	4	2

Contrast by counter-example	2	4	2	2	2

The different textbooks used visual representations differently, as presented in Table 4. All the textbooks used complex and simple diagrams to legitimise the object of learning. As the data in Table 4 shows, Study Master was the only textbook that did not present examples of word problems. However, it had the greatest number of examples for the Pythagoras theorem topic.

Table 4: Number of Complex and Simple Diagrams

Word vs Non-word Problems	**Simple vs Complex Diagrams**	**Achievers**	**Study Master**	**Arise**	**Strides**	**Excel**
Diagrams in word problems	Simple	5	0	1	1	2
	Complex	9	0	1	0	3
Diagrams in non-word problems	Simple	12	50	15	18	11
	Complex	10	18	3	7	13

As Table 4 shows, Achievers contained more complex diagrams, followed by Study Master and Excel. In some cases, the tasks accompanying complex diagrams were also complex (coded as AMC in Table 5) as they required the use of the Pythagoras theorem and other mathematical concepts such as perimeter, while in other cases they were simple. This implies that these textbooks provide more opportunities for understanding the Pythagoras theorem and its application in problems requiring diagram reconfiguration.

Tasks

Each textbook contained all three categories of tasks (Table 5). The percentage of introductory tasks (KPF) in each textbook ranged from 15% (Achievers) to 44% (Strides). The percentage of tasks for practicing the Pythagoras theorem (CTP) ranged from 22% (Strides) to 62% (Achievers).

The AMC task category, which requires connecting the Pythagoras theorem to other mathematical concepts to find solutions, had the least number of tasks. The percentage

for AMC tasks ranged from 7% (Arise) to 22% (Strides). Thus, overall, there were fewer opportunities for connections.

Table 5: Number of Introductory, Practice, and Connections Tasks

Task	**Achievers**	**Study Master**	**Arise**	**Strides**	**Excel**
KPF	5	7	5	8	7
CTP	20	11	8	6	20
AMC	7	4	1	4	7

Textbook tasks were also analyzed for opportunities for investigations, applications of the Pythagoras theorem to everyday life, justifications or proofs, and for decontextualised computation. As Table 6 presents, more than half of the tasks in each book were computational tasks with no context. Excel had the least percentage (52%) while Study Master had the most percentage (73%) of computational tasks with no context. Study Master had the least percentage (4%) of tasks that contextualised the Pythagoras theorem to everyday life and Achievers had the most (37%). The proof or justification tasks were quite minimal in all textbooks, ranging from 6% (Achievers) to 18% (Arise). Each textbook had investigative tasks, but Strides (16%) and Excel (8%) had the most.

Table 6: Context for Tasks

Task	**Achievers**	**Study Master**	**Arise**	**Strides**	**Excel**	**Total**
Investigation	1	1	1	3	3	9
Proof	2	4	2	2	5	16
Everyday Life	12	1	2	1	8	24
Computation	17	16	9	12	18	72

Discussion

This study aimed to explore the affordances and constraints for mathematical reasoning in the Pythagoras Theorem chapters in Form Two textbooks. This section discusses the summary of the findings in relation to the existing literature. It reports the limitations of the study and suggests directions for future research. This paper concludes with the

implications of affordances and constraints in the textbooks for mathematics education in Malawi.

In the Malawian textbooks we studied, the theorem was typically represented as $a^2 + b^2 = c^2$ without any commutation, such as $b^2 + a^2 = c^2$. Confirming Sutton (2012, p.6) who reported and concluded in the textbook review that "Even with different introductions of the Pythagoras Theorem textbooks continue to have examples and problems with the same basic principle for the theorem; the variables are always *a*, *b*, and *c*". The lack of variation in presenting the variables of the Pythagoras theorem is a constraint for functional reasoning independent of variable names.

Examples. Examples are mediating tools between learners and mathematical concepts (Trouche, 2020). Examples in textbooks legitimize mathematical ideas and, consequently, communicate a context for justifications and proofs written by mathematicians (Zodik & Zaslavsky, 2008). In general, these Form Two textbooks provide opportunities for students to generalise the Pythagoras theorem and its applications by providing both similarity and variation. It is also notable that only two textbooks focused on using Pythagoras triples to check if the triangles are right-angled. Since determining if triangles are right-angled is one of the objects of the Pythagoras concept, these differences in the textbooks beg for further research that investigates how equitable learning opportunities are in the curriculum and alignment between the curriculum and the Junior Certificate Examination. Further research may investigate the types of examples that students generate, and the relationship between example use and mathematical reasoning.

Tasks. In this study, the number of investigative tasks per book ranged from 1 to 3, for a total of 9 in 5 books. Twenty-four of all the tasks were applications of the Pythagoras theorem to real life, in contrast to 73 tasks that did not apply to real life. Thirty-five tasks required applying previous knowledge, 65 were about the Pythagoras theorem, and 22 required connecting the theorem with other concepts. Several studies have established that the quality of tasks and how students apply the examples to solve related problems determine the quality of understanding (e.g., Trouche, 2020; Thompson & Senk, 2014; Stein, Grover, & Henningsen, 1996). While there were variations between textbooks, as would be expected, about 20% of the tasks promote connections that may nurture students' development of relational understanding (Star, 2020). About 25% of the tasks connected the theorem to real life, building the affordances of the Pythagoras theorem to connect to many STEM fields and Malawi's development goals. For an in-depth understanding of how the tasks are affordances or constraints for mathematical thinking and the Pythagoras theorem, "The mathematics education community needs to understand the teacher-curriculum interaction as it plays out in implementation and textbook use" (Thompson & Senk, 2014, p.794).

Diagrams. Visual differences in geometry diagrams can be purposeful in communicating mathematical ideas, just like text. The differences in the diagrams help students see

variations to make reasoned conjectures and generalise (Herbst, 2004). Simple and complex diagrams for the Pythagoras theorem arguably present different affordances and constraints, including the ability to notice mathematical structure. In this study, there were 113 simple diagrams and 31 complex diagrams. There were fewer diagrams associated with word problems—11 simple diagrams and 11 complex diagrams. While this study did not analyze the semiotic structure or visual features of the diagrams in the textbooks, nevertheless the results provide an additional reference to how Pythagoras theorem ideas are communicated. Further research is needed to investigate teachers' enactment of these diagrams including attention to visual literacy since "Showing students visually rich representations does not guarantee that students will recognise the systematic ways visual differences are meaningful" (Dimmel & Herbst, 2015, p.188).

Limitations

Analysing only the Form Two textbooks is a limitation of this study. Readers of the results should carefully interpret the results to not overgeneralise the whole curriculum. Despite this limitation, the findings are significant in showing inconsistencies in the curricula used in Form Two at different schools. It also shows the constraints of the curriculum such as the limited number of investigative and proof tasks.

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Promoting Critical Thinking in Secondary Schools in Malawi: Case of Social Studies in Nkhotakota

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Abstract

This study investigated how Social Studies teachers in Community Day Secondary Schools in Nkhotakota District, Malawi, foster the development of critical thinking skills in their learners. Critical thinking skills are essential for democratic citizenship and social participation. The study used Critical Pedagogy as a theoretical framework to examine the alignment between the Outcomes Based Education philosophy of Social Studies and the classroom practices of teachers. The study adopted a qualitative approach and collected data through interviews, document analysis, and lesson observation. The findings showed that teachers planned to use learner-centred strategies such as questioning, group work, pair work, and role-playing to promote critical thinking skills. However, the actual implementation of these strategies was hindered by contextual factors such as lack of resources, time constraints, and large class sizes. The study recommends that teachers should receive regular in-service training to equip them with the necessary skills and knowledge to overcome these challenges and to develop critical thinking skills in their learners effectively.

Keywords: Critical thinking, Social Studies, Learner-centred approach, Instructional strategies, Community Day secondary schools, and Critical pedagogy.

Introduction

Social Studies is defined as the integrated study of the social sciences and humanities to promote civic competence (NCSS, 2013). Social Studies education aims at diversifying student understanding of reality for youth in a multicultural and inclusive community to make rational and critical decisions as citizens (Veltri, 2014). In addition, Social Studies enables students to understand the world better and use critical thinking skills to find solutions and be responsive to difficult circumstances (Khan & Inamullah, 2011).

Learners are exposed to too much un-sieved information through social media, affecting how they view life, make decisions and interact (Puspita & Rohedi, 2018). This large quantity of unverified information can sometimes hinder students' inquiry-based learning (Pow, Li, & Fung, 2009). Under such conditions, students must be taught critical thinking

skills to help them sieve information and provide solutions to a myriad of challenges they face. Similarly, Malawi needs critical and creative thinkers to confront the country's challenging situations (Moyo, 2020). Upon realising the importance of critical thinking, the Ministry of Education adopted Outcomes Based Education (OBE) in 2015 (Moyo, 2020). The introduction of OBE required teachers to shift from teacher-centred to student-centred teaching as a way of helping students develop much-needed critical thinking skills. OBE was adopted to improve the quality of education and equip learners with the necessary skills to help them live meaningful lives in society (Chirwa, 2014). The goals of OBE and Social Studies aim at developing critical thinkers. "Since Outcomes-Based Education emphasises learner-centred methods in the learning process; and Social Studies aims at developing well-informed citizens. Therefore, there is a need to emphasise proper methods for teaching social studies to achieve this goal" (Moyo, 2020, p.5).

Several studies have been conducted on learner-centred approaches in Malawi (Moyo, 2020; Mwala, 2012; Ngalande, 2010). A study by Moyo (2020) explored secondary school teachers' use of learner-centred methods in implementing the new Social Studies curriculum. Mwala's (2012) study explored how Social Studies teachers in CDSS involved learners in participatory classroom activities to promote active citizenship in a democracy. These studies, however, did not focus on the link between participatory and learner-centred activities and critical thinking in classroom practices. The study by Ngalande (2010) aimed to critically examine how the social studies curriculum was implemented in Malawian primary schools and determine what needed to be done to facilitate its successful implementation. This study explored the teachers' use of strategies that promote critical thinking skills in teaching Social Studies in CDSSs in Nkhotakota district.

In Malawi, Outcomes Based Education was introduced in 2015 in secondary schools. Outcomes Based Education emphasises on the promotion of critical thinking skills in students to allow them to apply in and outside their societies. However, this change was introduced in the context of standardised national examinations and high student enrolment in CDSSs.

Literature review

One of the goals of the Malawi government is to use education as a catalyst for socio-economic development, industrial growth and an instrument for empowering the poor, the weak and the voiceless (MIE, 2013). To develop responsible citizens who can thrive in their societies, the Ministry of Education adopted the new secondary school curriculum, the Outcome Based Education (Moyo, 2021). OBE requires teachers to employ learner-centered strategies. This has made teachers shift from teacher-centred to student-centered teaching as a way of helping students develop the much-needed competences, including critical thinking. Outcome Based Education requires that both the school and the community determine the skills and knowledge the students should gain when they

graduate, then backwardly develop a curriculum, strategies and the materials to help the students achieve those goals (WEAC, 1995, cited in Donelly, 2007).

Conceptualising Critical Thinking

The intellectual roots of critical thinking can be traced back to Socrates over 2,500 years ago (Kanik, 2010). Paul and Elder (2007) state that Socrates, with the help of a probing questioning technique, showed that people could not rationally justify their confident claims to knowledge. Kanik (2010) claims that the thinking during this time highlighted the fact that anyone who intends to understand the deeper realities needed to think systematically and trace implications broadly and deeply, since thinking that is comprehensive, well-reasoned, and responsive to objections can take people beyond the surface.

Dewey (1909) defined critical thinking as an active, persistent, and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it and the further conclusions to which it tends. For the purpose of this study, critical thinking is defined as "the intellectually disciplined process of actively and skillfully conceptualizing, applying, analysing, synthesising, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action" (Scriven & Paul, 2007, p. 1). This definition is in line with Freire's Critical pedagogy theory which supports that teachers should use interactive learning techniques that consider the existing knowledge of students to promote critical thinking and decision-making processes.

There are two approaches to the teaching of critical thinking skills; the skill-view and the content-oriented view (Lipman, 1994). The skill-view of teaching critical thinking suggests that thinking consists of a set of specific skills, such as comparing, ordering, classifying, and predicting, which are considered to have wide applicability and generalisability across all subjects (Lipman, 1994). On the other hand, the content-oriented view suggests that thinking cannot be separated from content as it is a way of learning content. Zohar and Dori (2003) stress that successful learning can be attained by incorporating the thinking skills into all school level subjects, which allows students to use the skills in a meaningful context and helps them learn the subject matter deeply and apply it outside of school settings. Therefore, the integration of the critical thinking skills into the regular curriculum is stressed in this view. Relatedly, Lipman (1994) contends that the focus of the educational process is not the acquisition of information but the understanding of relationships within subject-matters under investigation. In an educational process that focuses only on learners' acquisition of information, the teachers play an authoritative role and the learners just absorb information in order to acquire knowledge. This approach contradicts Freire's (1970) critical pedagogy theory which believes in education that is democratic and dialogical in which students are not treated as objects, containers, or receptacles to receive, file and store the deposits.

While acknowledging the importance of putting students at the centre of the teaching and learning process to develop critical thinking skills, there is still little agreement on the fundamental style of teaching for this purpose (Mkomele, 2015). Recent research nevertheless, considers learner-centred approaches as essential in promoting critical thinking skills in learners. Zachary (2011) opines that educators should not expect students to think critically when students have not been taught how to synthesise, evaluate, analyse information, or given the opportunity to demonstrate their ability to think. According to Freire (1970), students develop less critical consciousness and cannot adequately transform their societies if they work more at storing the deposits entrusted to them by teachers. Mattes (2007) proposed dialogue, brainstorming, interactive lecturing, group work, pair work, experiment, planned game, project based teaching as active teaching strategies for promoting critical thinking in learners. These strategies are in line with critical pedagogy theory since they enhance critical thinking in learners.

Theoretical Framework

This study was guided by Paulo Freire's (1970) Critical Pedagogy theory, which criticises teacher-centred teaching. Critical pedagogy is defined as an interactive process through which students and teachers view issues with critical minds for making informed decisions (Nieto, 2005). It is a theory and practice of helping students to achieve 'critical-consciousness'**.** Freire (1970) was critical of the idea of teaching using the traditional methods, which he referred to as 'banking education' since students were asked just to memorise and repeat ideas, phrases and formulas without understanding the meanings behind them. Furthermore, Freire (1970) believed in a problem-posing pedagogy based on the learners' present interests and experiences. He worked to develop a pedagogy that could liberate learners leading to social transformation.

In his work, A pedagogy of the oppressed, Freire, an educational theorist, distinguished between banking education and problem-solving education (Evans, 2004). Banking education referred to the traditional ways of teaching that assumed that students were empty vessels, waiting to be filled with knowledge from their teachers. This study employed the Critical Pedagogy principle of transformation of students into critical thinkers who would transform their society. The theory mainly helps teachers and students to analyse issues from multiple views through reasoning, reading, and writing (Giroux, 1994; Greene, 1996). Through this approach, students are offered several views, which they could use for a critical judgment of their own prior beliefs, perspectives, and stances they bring to the class. Such critical judgement in turn, helps them to make rational decisions for solving problems in and outside their own societies (Leistyna & Woodrum, 1996).

Another principle of critical pedagogy is that it links well with participatory learning, which is the symbol of civic learning (Barton & Levstik, 2004; Parker, 2003; Parker, 2004). The theory informs us about the significance of a proactive citizenship curriculum

in a democratic society. The objective of such a curriculum is to engage students in a critical inquiry of how social situations created the existing inequalities in a society. From this perspective, the theory enables both teachers and students "to make sense of the world and their interactions therein-to involve and interact as participants (shapers) of history rather than simply objects (passive recipients) to be acted upon, manipulated, and controlled" (Leistyna & Woodrum, 1996, p.6).

The last principle is that critical pedagogy shows the context in which learning or preparation of active citizenry takes place since this approach takes students as thinking beings who should take an active role in their own learning (Greene, 1996; Leistyna & Woodrum, 1996). The theory informs teachers that they should use interactive learning techniques that consider the existing knowledge of students to promote critical thinking and decision-making skills. The theory offers the best lens for understanding how teachers facilitate active learning processes in their classrooms in terms of students' acquisition of knowledge and the development of skills, values, and attitudes necessary for active participation in a democratic society. Indeed, in a democratic classroom, students and teachers dialogue to rediscover meaning and transform (Marker, 2000). The challenge with the Malawian context is that teachers are expected to promote critical thinking in their pedagogy in an environment of national examinations and overcrowded classrooms in CDSS.

Methodology

The study employed the qualitative approach using the case study research design. Creswell (2008) defines qualitative research as a means for exploring and understanding the meaning that individuals or groups ascribe to a social or human problem. The output of qualitative research is descriptive in nature and it helps the researcher to better understand the feelings of the respondents (Marshall & Rossman, 2006). As noted earlier, this study, explored the strategies teachers used to promote critical thinking skills in the students in the teaching of Social Studies. The study employed a case study approach. In this case, the study endeavoured to find out if what was indicated in curriculum documents and what was said during the interviews matched with what was happening in classrooms. A case study research was considered relevant for this study because it works in settings where the boundary between the focus of the study and the context is blurred (Gunersel, 2009; Yin, 2014).

The study participants were five form 2 Social Studies teachers from five community day secondary schools. One teacher from each school was purposively sampled due to their experience in the implementation of outcome-based curriculum at Junior Secondary School level. Nkhotakota district was chosen using convenience sampling because it was where the researcher worked. Social Studies was chosen of its focus as citizenship education.

Data were collected from multiple sources namely interviews, observations and document review. Firstly, in-depth, semi-structured interviews were conducted with teachers. A set of questions in outline form gave participants freedom to express their views. The same interview guide was used for all participants to generate sufficient data for the study (Kumar, 2011). Secondly, lesson observations were made, which allowed the researcher to see what people do rather than what they say they do (Leedy and Ormrod, 2005). The researcher acted as a non-participant observer and each teacher was observed once. Each lesson observation lasted forty minutes. To generate sufficient data from observations, the researcher built a good rapport with participants by explaining to the learners and the teachers that the exercise was solely for research purposes (Hoepfl, 1997). A checklist was used for generating observation data. Thirdly, relevant documents were reviewed as a way of generating further information. The study reviewed lesson plans or lesson notes and schemes of work. The documents were reviewed to compare if teachers employed what they suggested that they would do and to find out if teachers were able to implement classroom activities that foster critical thinking skills in learners. The researcher developed a template of document review that was used for recording data from teachers.

Data was analysed using themes. The data was coded, collated into potential themes, and then merged and refined (Kothari, 2004). In addition, data analysis also involved deconstruction of the qualitative data into manageable categories, patterns and relationships in accordance with the research aims (Mouton, 2001, p. 108). The procedure enabled the study to explore and understand the strategies that teachers use in order to promote critical thinking skills during social studies lessons.

Ethically, the study endeavored to ensure that participants received information which had vividly explained the nature of the investigation and the participant's involvement in it. Participants' informed consent was sought in writing. The names of the schools and teachers are kept anonymous and only pseudonyms are used. Polit and Beck (2012) explain that credibility refers to the confidence in how well the data address the intended focus. The researcher used multiple sources of data generation to ensure authenticity of the findings of the study. Data from different sources were triangulated by examining evidence from the sources and used it to come up with logical justification of the themes.

Findings and discussion

The study set out to explore the instructional strategies that secondary school Social Studies teachers use to develop critical thinking skills in the students. The further explored challenges that teachers faced in developing critical thinking skills in learners. The study observed that participants struggled to pose high order questions which would promote critical thinking skills and engaged students in participatory methods. These are discussed below under the two respective themes.

Asking high order questions

During interviews, respondents from all the schools stated that they ask higher order questions to promote critical thinking skills. The reviewed documents also showed that they were going to ask high order questions. For example, teacher 4 at school D remarked:

> *Each time a lesson is prepared, I leave a room for students to answer questions or explain further on the point that I have given. (Interview excerpt)*

Indeed, thought provoking questions enable learners to critically think through their responses as they answer the questions. Giroux (1992) claims that students who think and talk critically in the classroom will also become critical individuals outside the classrooms. Furthermore, during interviews, respondents from all the schools stated that they ask high order questions to promote critical thinking skills during the teaching and learning process. Asking high order questions allows learners to participate in the lessons, think before answering questions, make lessons livelier and help promote critical thinking skills. For example, teacher 5 at school E said:

I use question and answer because it promotes immediate critical thinking. (Interview excerpt).

This is in line with Freire's (1970) critical pedagogy theory, which encourages teachers to use interactive learning techniques that consider students' existing knowledge to promote critical thinking skills and decision-making processes. Considering the responses from the teachers, and the documents analysed, the study noted that the teachers knew the strategies that promote critical thinking skills in their learners. However, lesson observations revealed a contradiction between what was said during interviews and what was contained in the lesson plans. The study found that the questions were of low order. For example, teacher 4 at school D asked this question to the learners:

> "*State any **three** reasons that led to the partition of Africa".*

Teacher 3 at school C also asked the following question to the learners:

> "*Give **two** reasons why planet Venus is called 'the earth's twin."*

The findings of this study agree with the study by Moyo (2020) and Mwala (2012), where teachers also faced challenges in involving all learners in high-order questions and participatory activities due to classroom overcrowding. In line with the Critical Pedagogy theory, these questions would be best suited under the 'banking education' since students were asked questions based on memory and repetition of ideas, phrases and formulas without understanding their meaning.

Employing participatory teaching methods

The study observed that teachers also planned to use participatory methods that would promote critical thinking. However, most of them mentioned Question and Answer as their main method. Although the question-and-answer method can promote critical thinking, it only involves a limited number of students in a classroom. When the participants were asked which method they mostly use for promoting critical thinking skills, teacher 2 from school B mentioned question and answer as the mostly used strategy for promoting critical thinking skills. When asked how they use the strategy, teacher 3 at school C replied:

> *I pose a question to the learner, maybe he or she fails, I still keep on asking, maybe giving him or her some clues towards the answer. (Interview excerpt)*

Indeed, thought-provoking questions enable learners to think through their responses as they answer them critically. The study agrees with Giroux (1992), who claims that students who think and talk critically in the classroom will also become critical individuals outside the classroom. The study further observed that participants planned to use participatory methods to engage students in critical thinking. This was evidenced by teacher 2 at school B, who explained how he planned to integrate critical thinking into lessons by using discovery methods. He explained that:

> *I come up with methods that help learners to think on their own towards the activities in the classroom. They discover concepts on their own whereby the teacher is just a mediator (Interview excerpt).*

Explaining on the same teacher 5, at school E stated:

> *I make sure that the methods that I choose help learners to think on their own (Interview excerpt).*

The analysed documents at schools A, B, C, D and E showed various teaching methods such as question and answer, small group discussions, pair work, and role play. This is in line with the principle of critical pedagogy theory, as Freire (1970) argued that students develop less critical thinking, which would result from their intervention in the world as transformers of that world if they work more at storing the deposits entrusted to them. It is necessary to use various teaching methods in the lesson, for it helps learners develop adequate critical thinking skills. However, lesson observations showed that teachers had challenges in implementing these strategies. These challenges and their causes are discussed in the following section.

Challenges faced by teachers in promoting critical thinking skills in Social Studies

The study noted that some teachers faced challenges in implementing strategies that could promote critical thinking. The challenges are discussed below under three themes, namely: Inadequate teaching and learning materials, teachers limited knowledge of classroom management, and lack of in-service training.

Inadequate teaching and learning materials

All five participating schools in this study had limited teaching and learning resources. As a result, teachers could not effectively engage learners in the lessons to promote critical thinking skills. **Table 1** below shows the availability and use of main textbooks for social studies against class populations.

Table 1: Showing the availability of basic textbooks

School	Available copies of Core Textbooks per class	Number of students in class
A	3	60
B	3	80
C	3	100
D	3	75
E	3	110

As indicated in Table 1 above, learners' participation in the lessons was limited due to inadequate resources. For example, at school C, the teacher organised learners in groups of more than fifteen students per group for discussions. Since the teacher used one textbook, the students were required to share the two available Social Studies textbooks for reference. This limited the learners' participation in the lesson and affected the delivery of the lessons and promotion of critical thinking skills since there was no meaningful participation in the lessons. Commenting on the same, teacher 3 from school C had this to say:

> *I avoid putting my students in groups because there are no adequate Social Studies textbooks at our school. As a solution, I usually lecture my students (Interview excerpt).*

Relying on three textbooks made it difficult for teachers to fully and effectively engage with the students and promote critical thinking skills. Textbooks enable teaching and learning because teachers can give reading assignments to learners when they are readily available (Mwale, 2000). Textbooks help widen learners' knowledge base and enhance

active participation, which in turn enhances the promotion of critical thinking skills. Teachers 1 and 3 faced challenges to organise classroom activities that could promote critical thinking skills. The study further found that during classroom observations, using group discussions, role-play and pair work, most teachers could not actively involve learners meaningfully in their lessons. The majority of teachers, therefore, resorted to questions and answers which were low order and partly. This contradicts critical pedagogy theory, which critiques the use of banking education and considers both the teacher and the learner as coworkers in learning. For example, teacher 3 at school C opined:

> *It is difficult to involve every student in large classes. When students are grouped, due to the limited time that we have, it is very difficult for other groups to present in class because 40 minutes in not enough (Interview excerpt).*

The study revealed that teachers found it challenging to actively involve all the learners due to classroom overcrowding. The findings of this study agree with the study by Moyo (2020) that teachers cannot be able to monitor classroom activities well, and learners cannot be able to participate in lesson activities fully because of a lack of space and monitoring of the learners' activities.

Teachers' limited knowledge of classroom management

From classroom observation, the study noted differences between what the teachers had in their plans and actual classroom practice. The teachers faced challenges in handling and involving learners in large classes. For example, at schools A and C, very few learners actively took part in question and answer and group discussions due to the large numbers of students in classrooms. School A had 60 students, and school C had 100 students. When students were put into groups, very few actively participated in the lessons, and teachers found it difficult to control the groups. The findings are in line with Ipinge (2005), who observed that large classes hinder the achievement of learning objectives and reduce the completion of learning activities in Namibia. The overcrowded classrooms significantly affected the effective teaching and learning process since activities such as group work, discussion and think-pair-share are not well monitored by teachers, given the large number of learners in the classrooms.

Furthermore, there was a lot of noise and murmuring amongst the students when some learners were taking part in the lessons due to failure to correctly pronounce some English words. This affected the delivery of lessons because the planned work was not adequately covered. Furthermore, at school C, the teacher tried to provoke the learners' thinking skills by employing a question-and-answer method, but it was challenged because of the class size. Teachers resorted to teacher-centred strategies since it was very difficult to involve all learners in the lessons. This discouraged effective participation of learners in the lessons and contradicts with Freire's (1970) critical pedagogy as teachers resort to

'banking education'. Relatedly, a study by Cosgrove (2010) showed that one of the main challenges in promoting critical skills in students is that many teachers do not have adequate experience of investigating ideas explicitly and deeply, and have not dedicated significant time and energy to the consideration of how to promote critical thinking skills within classrooms. Cosgrove (2010) elucidates that for any institution that seeks to improve critical thinking skills, there is need to design a practical and long-term professional development plan aimed at expanding professors' and teachers' understanding and expanding their practice to critical thinking.

Lack of in-service trainings by schools

The study further observed a lack of in-service training in all the five schools that took part in the study. Although the challenges faced above, such as poor classroom management, could be reduced through in-service training, the study noted that such training did not take place.

The study revealed that teachers had different teaching experiences and educational qualifications, which could have impacted how they delivered their lessons. Their teaching experiences varied from two years to twenty-three years of service. For example, those who had been in the teaching service for a very long time had better skills of engaging learners in lessons than those who had served less in the teaching profession. Teachers with less teaching experience possessed minimal skills of effectively promoting critical thinking skills which calls for in-service training for them to gain the necessary knowledge of engaging learners. However, this study found that in-service training sessions are not conducted in some schools. For example, teacher 5 from school E pointed out that:

> *Only a few teachers went for SCAR training when the new curriculum was being rolled out. Those who attend such trainings do not effectively share what they learnt (Interview excerpt).*

The study noted that some teachers who participated in this study possessed adequate academic and professional qualifications to engage learners and promote critical thinking skills effectively. However, some failed to effectively engage the learners because of lack of in-service trainings. The study also observed that of the five teachers who participated in the study, only one attended an in-service training even though it did not focus on how best to promote critical thinking skills in the learners. Teacher 4 from school D explained that:

> *At cluster level we had a training organized by ministry officials on how to conduct study circles in schools. The training was beneficial only that it was done at a small scale and in a hurried manner. The skills I got from the training are helping me to implement critical thinking (Interview excerpt)*

Chibwana (1997) noted that for teachers to effectively promote critical thinking skills, it is important that they be oriented in order to adopt the suggested new teaching strategies. It is worthy to comment that for critical thinking skills to be promoted, there is a need for teachers to possess the relevant skills and training. Regrettably, Shiundu and Mohammed (2006) points out that due to poverty and failure to produce the desired outcome in educational practices, in-service training in most African countries remains a challenge. Due to poverty, many countries cannot just afford to allocate necessary resources for sustainable and effective in-service trainings since there are other competing and pressing priorities. As a result, the provision of in-service training remains ignored.

The study also noted that in some schools, for example at schools A and C, teachers revealed that they did receive support from fellow teachers more especially from those who had taught the subject for a longer period of time, though the concerned teachers pointed out that it was not regularly done. This shows that if in-service trainings are supported, they can be a powerful instrument in helping teachers to effectively promote critical thinking skills in their lessons.

Conclusion

This study examined the extent to which the Malawi Secondary School Social Studies curriculum prepares learners to become active and critical thinkers. The study used Critical Pedagogy as a theoretical framework to analyse teachers' curriculum documents and classroom practices. The study found that the curriculum documents provide sufficient guidance and support for teachers to use participatory teaching and learning strategies, such as group work, role play, and debates, to promote critical thinking skills among learners. However, the study also found that teachers face various challenges preventing them from effectively implementing these strategies. Some of these challenges include large class sizes, lack of resources, inadequate classroom management skills, and insufficient in-service training and professional development opportunities. As a result, teachers tend to rely on teacher-centred methods, such as question and answer, that limit the engagement and participation of learners. The study argued that this practice contradicts the principles of Critical Pedagogy, which advocates for learner-centred methods that empower learners to examine and transform their social realities critically. The study recommended that teachers should be provided with regular in-service training and professional development programmes that equip them with the necessary skills and knowledge to overcome these challenges and foster critical thinking skills in their learners. The study also suggested that the curriculum should be reviewed and revised to ensure that it is relevant and responsive to the needs and interests of learners and society. The study concluded that developing critical thinking skills in learners is essential for sustaining democracy and social justice in Malawi.

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Investigating classroom questioning in initial Primary Teacher Training Colleges: A case of Malawi

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Abstract

This study investigated the lecturers' classroom questioning practices in initial teacher training colleges (TTCs) in Malawi and explored how they use the questions to engage learners, and how they adapt their teaching and interaction strategies. To generate data, the researcher conducted classroom observations on 8 Science and Technology lecturers at Ophunzira Teacher Training College (OTTC) to identify major patterns in their questioning practices, and post-lesson interviews to probe the respondents' perceptions of classroom questioning practices.

The findings had shown that the TTC lecturers' questions were mostly convergent and were done for the purposes of verifying the learners' achievements of lesson objectives; helping learners to provide feedback; clarification of ideas and for the lecturers to make instructional decisions. This study has revealed that the TTC lecturers' classroom questions play a central role in classroom discourse and stimulate the learners' participation and learning, and engage learners to think about the lesson content. However, the TTC lecturers' classroom questioning rarely promoted critical thinking among their learners, i.e., the questions rarely encouraged the learners to engage in objective analysis, questioning, interpretation and evaluation of issues in order to form judgement.

Keywords: Questioning, teacher training college, classroom practice, learner-centred teaching, questioning practices, feedback

Introduction

This paper was part of a larger study which investigated the learner-centred teaching (LCT)

classroom practices of Science and Technology lecturers in primary teacher training colleges (TTCs) in Malawi. In this article, only issues relating to the lecturers' classroom questioning practices were examined. The main objective of this paper was to explore the lecturers' classroom questioning practices as part of LCT classroom practices; their understanding, interpretation and experiences of classroom questioning, and how their interpretations are manifested in the classrooms. The choice of science and technology lecturers as study participants was necessitated because the researcher had taught the

subject for over ten years so he could understand issues easily. In science and technology, classroom questioning seeks to understand- to clarify and frame and evaluate issues. Regardless of its learning potential with specific reference to its use as an assessment strategy, classroom questioning remains relatively underexplored in Malawi. This is evidenced as Malawian literature on classroom questioning is scarce. Considering all the initiatives by the Malawi Government on promoting the quality of education (Malawi Ministry of Education, Science and Technology, 2008), a question that arises is that if TTC Science and Technology lecturers are to employ effective classroom questioning, what is their understanding of the concept and what are their classroom questioning practices? The Cambridge English Dictionary (2016) defines a question as a word or words used to find out information.

Research on TTC classroom questioning was important and relevant because it is in line with the Malawi Ministry of Education philosophy on improving the quality of Education (MIE, 2017). Black (2001) observes that through teachers' questions, learners get actively engaged in thinking and reflection, and learning opportunities are maximised. Learner-centred teaching (LCT) classroom practices focus on the role of the learner as an active participant while the teacher plays a facilitative role in the teaching and learning process (Schuh, 2004). In the Malawi teacher education curriculum, learner self-reflection and self-evaluation questions are featured at the end of each topic or unit (MIE, 2017). LCT skilfully incorporates classroom questioning techniques into every lesson as an interactive tool with and for learners and is the best way to achieve: knowledge, comprehension, application, analysis, synthesis, and evaluation skills and abilities (Schuh, 2004).

The Government of Malawi is striving to promote teachers' use of learner-centred teaching (LCT) methods as opposed to teacher-centred ones (MIE, 2017) as one way to improve the quality of education. In its National Education Sector Plan, NESP, 2008-2017, p.49 (Malawi Ministry of Education, Science and Technology, 2008), the document states that the Malawi Ministry of Education, Science and Technology implemented a curriculum reform which emphasises on learner-centred participatory teaching strategies and continuous assessment in order to improve quality and relevance of education.

The Malawi National Strategy for Teacher Education and Development (NSTED) Policy Framework addresses the need to educate and continually develop the professionalism of teachers so that they are able to use a variety of learner-based delivery techniques in the classroom (Malawi Ministry of Education, 2011). The initial primary teacher training colleges (TTCs) curriculum is in agreement with the NSTED framework and advocates for the use of LCT methods in TTC classrooms. In line with the learner-centred teaching (LCT) philosophy to improve the quality of education in Malawi through active engagement of learners in classroom activities through questioning, it is pertinent to ask:

how and why do the TTC lecturers ask questions in the classroom? What role do the TTC lecturers' questions play during the teaching and learning process as one way to improve the quality of education in Malawi?

The need for investigating the initial primary teacher training colleges (TTCs) Science and Technology lecturers' classroom questioning practices as they implement LCT seems to be justified especially in a context where it (classroom questioning practice) has been introduced and emphasised in the curriculum. The Malawi Government introduced learner-centred teaching (LCT) in TTCs in 2008 (MIE, 2017). The current expectation of the Malawi Government is that the TTC curriculum will foster greater learner achievement via LCT within the classrooms (MIE, 2017). The classroom questions allow for learners' active participation, exploration, and experimentation, and involvement of all the learners through whole class discussions and group tasks (MIE, 2017). Classroom questioning and learner-centred teaching (LCT) have a kind of bread-and-butter relationship but are not the same. Classroom questioning is just one method or element of implementing LCT.

The adoption of LCT practices in Malawian TTCs classrooms is challenging because classroom questioning continues to assess primarily learners' knowledge of discrete, factual information, often referred to as declarative knowledge, rather than their critical, analytical skills (Vavrus et al., 2011). The Science and Technology curriculum is externally determined, controlled and the teacher training colleges (TTCs) lecturers simply follow it. This raises a question; under such a scenario, how do TTC Science and Technology lecturers in Malawi use classroom questioning to improve the quality of learners' learning?

Caram & Davis (2005) argue that teachers practice a variety of questioning techniques and reinforcement to motivate learners and encourage their thinking in the classroom. Thus, classroom questioning as an element of learner-centred teaching (LCT) is one of the most effective ways to get learners involved in the delivery of lessons. Levin & Nolan (2004) argue that for the teachers, questions provide opportunities for their learners to respond, promote higher learner engagement and deliver feedback. Tienken, et al. (2010) observe that questions are used to teach as well as to assess learners' understanding, and thus questioning plays a critical role in the overall success of a classroom.

The researcher used Bybee's, et al. (2006) The Biological Sciences Curriculum Study (BSCS) 5Es learning model as a lens for this study. The 5Es stand for; engagement, exploration, explanation, elaboration and evaluation.

a) Engagement: The teacher's questions help learners become engaged in a new concept through the use of short activities that promote curiosity and elicit prior knowledge. According to Bybee, et al. (2006), classroom questioning promotes learner-learner and learner-teacher interactions and improves critical thinking.

b) Exploration: Bybee, et al. (2006) observe that the teacher promotes a discussion period in which learners share their observations with classmates. Learners, in small groups, may discuss or explore questions that help them use prior knowledge to generate new ideas, explore possibilities, and design and conduct a preliminary investigation.

c) Explanation: Bybee, et al. (2006) argue that in this phase, teachers ask learners to share what they learned during the engagement as well as the exploration phases. This is a teacher-led phase that helps the learners synthesize new knowledge and ask questions if they need further clarification.

d) Elaboration: In this stage, teachers challenge and extend the learners' conceptual understanding and skills by engaging learners in additional classroom questions. Teachers may ask learners to create presentations or conduct additional investigations to reinforce new skills (Bybee, et al., 2006).

e) Evaluation: The purpose for evaluation is for both learners and teachers to determine how much learning and understanding has taken place (Bybee, et. al., 2006). Classroom questioning helps teachers ascertain the extent of understanding among the learners, to evaluate learner progress and encourages learners to assess their own understanding and abilities.

Statement of the problem

Classroom questioning has long been employed as an instructional technique in primary teacher training colleges (TTCs) in Malawi. With the advances in educational assessment, classroom questioning has been explored as a powerful assessment tool, which enables teachers to gather accurate information about learners and use the information to make better pedagogical decisions (Black, 2001). Embedded questions appear as part of the Malawi TTC curriculum (MIE, 2017) as they (questions) are seen to promote learner engagement with content and deep and lasting learning (Fahraeus, 2013). While much has been written on classroom questioning's value in promoting deeper and more lasting learning; creating active, engaged learners and developing critical thinkers and problem solvers (Doyle, 2008; Fink, 2003), some scholars say little has changed in the way teachers ask questions in the classrooms (Caram & Davis (2005). This raises a question about what form of questioning takes place in the Malawi TTC classroom for the meaningful learning of learners?

Specific research questions for this paper

1. How do TTC lecturers use questions during the teaching and learning process?
2. What do the lecturers say are the reasons for classroom questions during the teaching and learning process?

Literature review

Learners' reflection is promoted in the Malawi initial teacher training (TTC) curriculum (MIE, 2017) through questions that seek reasons and evidence. Meaningful learning of Science and Technology cannot take place by just reading or memorisation of facts in the text books or just by listening to the lectures of a teacher. It requires real talk and interaction between the teacher and the learners, and amongst learners themselves (Prabha, 2010). This scenario can be promoted through classroom questioning. Through asking questions, posing contradictions and engaging learners in inquiries teachers create interactive situations for understanding the learners' concepts and then refine those concepts.

Though one of the principle aims of teacher education in Malawi is to promote use of LCT methods to instruction in order to improve quality of teaching and learning, Kunje & Chirembo (2000) and Kunje & Stuart (2002) found out that learners in initial primary teacher training colleges (TTCs) were given few opportunities to gain a deeper understanding of the teaching and learning contexts, the role of the curriculum, or strategies for adapting it (LCT) to their learners' needs and interests. According to them, much of the material in the handbooks, as well as the training by TTC lecturers, were approached as facts to be learned, and the assessment regime (questioning) reinforced this recall-based orientation of the curriculum in practice.

Topping & Trickey (2007) observe that teachers do the majority of the talking in the classroom and do not ask many high-level questions to promote critical thinking as advocated for in LCT; rather, the questions the teachers emphasise on focus on facts from the text (i.e., low-level knowledge). Hannel (2009) one of the first researchers to empirically investigate teacher questioning based on Bloom's Taxonomy, found out that asking high-level questions lead to higher learner achievement for responding to high-level questions. Questioning is an important component of learner-centred teaching (LCT) and is embedded in quality instruction and strategic thinking (MIE, 2017; Kintsch, 2018).

The learner-centred teaching (LCT) philosophy says that all methods of teaching (including classroom questioning) should shift the focus of instruction from the teacher to the learner (MacHemer et al, 2007). Therefore, LCT is an all-inclusive concept as it aims to empower all learners irrespective of their differences. Learners should participate in a variety of class activities, and interact with one another. Arai & Sato (2022) from teaching in rural primary schools in Malawi and interacting with teachers found that although some

teachers understood that learner-centred classes are the better way to teach, they continue to use teacher centred teaching methods.

The teacher's questions can be considered as the most powerful device to lead, extend and control communication in the classroom (Yang, 2002). Actually, the style of interaction between teachers and learners can be seen as a recycling process: teacher's question-learners' responses- feedback (Yang, 2002). Following the LCT principle of active learner engagement, classroom questions that are effective promote inquiry, learner self-assessment, and creativity even as they stimulate critical thinking (Yang, 2002). Effective questions can be a means to engage learners in the learning process and enable them to take charge of their own learning (Bybee, et al., 2006). In a learner-centred teaching (LCT) environment, learners' opinions and ideas are accepted and encouraged. Their experiences and voices are valued.

Eunson (2012) observes that a teacher can ask convergent, divergent and procedural questions in the classroom. Convergent (close-ended) questions are those which can be answered with one or two words, generally just 'yes' or 'no'. They are good at establishing facts and forcing choices, but are not effective at creating a proper relationship. Divergent (open-ended) questions are those which learners answer by analysis, synthesis, or evaluation using their related knowledge of a question, a problem or a situation. Divergent questions may have multiple answers. Procedural questions have to do with classroom routines and management (Eunson, 2012). Stevens (2012) observed that approximately 80% of a teacher's school day is spent on asking questions. Levin & Nolan (2004) conducted a review on effective teaching research and concluded that a teacher asked 300-400 questions per day. Graesser & Olde (2003) found that a teacher asks, on average, 69 questions per hour. Kerry (2002) reinforced these numbers, noting that a teacher asks an average of 43.6 questions per hour.

Nyirenda (2015) carried out a study titled *Exploring Challenges in the Implementation of Learner-Centred Approaches in Urban Primary Schools: The Case of Selected Schools in Blantyre, Malawi*. The study revealed that teachers in urban primary schools do not follow LCT principles (including asking effective classroom questions) which stipulate that learning must be an active process, a constructive process, a collaborative process and a reflective process. Though teachers in Malawi are trained to use learner-centred teaching (LCT) methods in classrooms in order to align with international policy imperatives (Malawi Government, 2000), there is evidence that it (LCT) has not been fully implemented in classrooms (Moloi, et al., 2008). Questioning is an integral part of scientific inquiry and the learning process. In order to teach well, it is widely believed that a teacher must be able to question well (Brualdi, 1998).

Data generation method

To generate data, the researcher employed a qualitative multiple case study approach in order to gather in-depth information about the TTC lecturers' use of questions. Gaining in-depth understanding of how lecturers perceived and experienced questioning in classes, the researcher employed an inquiry approach which enabled him to interact with respondents in their local practical settings. The researcher chose multiple cases to allow for the in-depth study of each respondent's perspective on learner-centred teaching (LCT) classroom practices and hence, classroom questioning within natural contexts. The need for a qualitative case study methodology, therefore, was to provide a comprehensive analysis and explanation of one or more cases (Johnson & Onwuegbuzie, 2004). The choice of a qualitative case study enabled the researcher to study classroom questioning in depth and in details (Singh, 2015). Johnson & Onwuegbuzie (2004) asserts that the case study approach is a method of discovery rather than confirmation.

Sample selection

The researcher purposively selected 8 Science and Technology lecturers from Ophunzira Teacher Training College (OTTC) to form research site and case studies respectively. Cohen, et al. (2007) define purposive sampling as sampling for a specific purpose and picking a group of respondents who fit a profile. The researcher selected case studies based on Miles & Huberman (2014) sampling evaluation criteria. Miles & Huberman (2014) recommend consideration of the sample size for a particular study based on time limitation, resourcefulness of the respondents, their trustworthiness based on their experiences, ethical consideration, and the researcher's accessibility to the research site and case studies and resources.

Specific sample selection criteria

The selection criteria of the research site and respondents were supported by Cohen, et al., (2007), Merriam (2001), and Miles & Huberman (2014) and included the following:

(a) Primary teacher training college (TTC). Research activity is time-consuming and resource-demanding. In order to avoid unnecessary expenses and wastage of limited time and financial resources, the researcher selected a TTC which was easily accessible. Therefore, TTC location was a significant criterion during the selection of case studies.

(b) Respondents' characteristics: The study involved Science and Technology lecturers with a minimum of two years of teaching experience with knowledge in LCT.

Data generation methods and procedures

The researcher applied mainly two methods of data generation: classroom observations and post-lesson interviews. Both were done in English as a medium of communication. The methods allowed the researcher flexibility while working with the research

instruments. The researcher believed that a skilful use of a combination of different data generation methods would reduce the chance of bias. It would also give the researcher a more comprehensive understanding of classroom questioning practices.

(a) Lesson observations

During classroom observations, the researcher took notes and the lessons were video recorded. Video recording of the lessons was done to capture classroom actions and behaviours which might have been missed out as the researcher jotted down data in the research diary. However, the researcher could at times misinterpret the respondents' video recorded classroom behaviours. To overcome the challenge, the researcher checked with or asked the concerned respondent if his (researcher's) interpretation regarding the observed behaviour was correct.

Each lesson was about 60 minutes (1 hour) long. Class visits were made on a weekly basis for data generation. Specifically, the researcher explored the lecturers' classroom questioning practices as they implemented learner-centred teaching (LCT) methods; the role of the learners and the lecturers in the classroom, how the learners were engaged in and through classroom questioning, learner empowerment, the selection of questions to construct knowledge according to the learners' needs, etc. (Weimer, 2012; Blumberg & Pontiggia, 2011).

(b) Post-lesson interviews

The researcher used a post-lesson interviews guide with the respondents for purposes of clarifications and to establish the reasons for certain behaviours observed during lesson deliveries (see post-lesson interviews, p. 13 & appendix 1, p. 34). The researcher engaged in a dialogue with the respondents (Bailey, 2007) so that he could not end up with wrong conclusions from the lesson's observations and also in order to generate rich, in-depth information. The dialogue was facilitated by a subjective theory, which viewed interviewees as having a broad knowledge about classroom questioning. The researcher took notes and audio recorded the interviewee's responses. Audio-recording the interviewees helped the researcher to correct some errors resulting from note taking and added necessary information skipped by the researcher during the observation and/or interview sessions. The data from the audios also assisted in clarifying what had been noted.

Data analysis, organisation and interpretation

The researcher transcribed and organised the data progressively. He then read and re-read the data to immerse himself in the data transcriptions trying to understand and interpret specific meaning segments that emerged from each case study description. The researcher followed an *iterative* procedure as suggested by Creswell (2014) by reading through all the data transcriptions one by one, jotting ideas as they came to mind to

obtain a general sense of the information and reflecting on its underlying meaning, then recording general thoughts from each case study for comparison and triangulation purposes. This helped him *to ensure that all important issues were well captured.*

The researcher used a qualitative generative inductive analysis approach to analyse the generated data (Strauss & Corbin, 2015). In inductive data analysis the patterns, themes, and categories of analysis come from the data rather than being imposed prior to data generation and analysis (Creswell, 2014). The researcher presented data implications in the form of categories arising within the respective case studies.

According to Creswell (2014) the development of themes follows the multiple meanings that underlie the categories where there is a thread of meaning that can occur in differing domains. For comparison and triangulation purposes, the researcher analysed findings from both the lesson observations and post-lesson interview sessions in light of individual cases, moving from one respondent to another. The researcher triangulated the data to check and establish its trustworthiness (Denzin & Lincoln, 2003). Trustworthiness of the data is whether the findings are true and certain. To achieve trustworthiness, the findings needed to be supported by evidence-based information (Denzin & Lincoln, 2003). Therefore, the researcher wanted to see if case studies had similar perceptions and experiences regarding classroom questioning practices.

Findings

Question 1: How do TTC lecturers use questions during the teaching and learning process?

Question 1 sought to examine how TTC Science and Technology lecturers use questions in the classroom. Using Bybee's, et al. (2006) 5Es as a lens for this study the researcher now presents the questioning pattern as observed during the lessons.

Engagement: Learner engagement was evident through the classroom questioning. The researcher observed that the lecturers employed a lot of questions to activate the learners' thinking, to hear their (learners') voices/views, and to collect useful information for the subsequent decision making. Following is an extract from lesson 4 for lecturer 8:

Lecturer 8: *You have mentioned the eye, brain, skin, spinal cord. What is their composition? What does human coordination compose of or comprise of? What does it consist of? Discuss in your groups.* (After 5 minutes) *Alright, can you report to us what you have agreed on?*

(Reports by group leaders)

What challenges did you face when learning coordination at primary school? The topics are talking about what? (Learners gave responses).

Exploration: The researcher observed that the lecturers' classroom questioning facilitated learner-learner, learner-teacher and learner-materials interactions. The lecturers observed and listened to the learners as they interacted amongst themselves and with the materials; asked some probing questions (though not often) to help the learners make sense of their experiences and provided time (though inadequate, usually 5 minutes or less) for the learners to puzzle through problems. The lecturers asked some divergent (open) questions (though rare) to make the learners discuss, explore and say freely whatever they thought about, and in the process the learners had opportunities to articulate their opinions. The researcher observed that the lecturers' questions called for both individual and group answers, which helped them (lecturers) to develop an environment of trust and elicit a wealth of learner information conducive to a better teacher decision making (see lecturer 8's lesson 4 extract on this page).

Explanation: Classroom observation had shown that the lecturers mostly asked questions pertaining to what was taught i.e., they asked questions pertaining to the object of learning (See lecturer 8's lesson 4 extract on p. 14-15). In general, the TTC lecturers asked purpose-based questions (i.e. real questions, check questions, concept questions), a category proposed by Scrivener (2012).

Elaboration: The researcher observed that the lecturers' classroom questions were mainly about seeking for clarifications or reminders of what was said in class (see extract from lesson 4 for lecturer 8, p. 14-15). The respondents also said this during the post-lesson interviews (See post-lesson interview extract from lecturers 1 and 3, p.18). They mostly used recall questions and rarely asked probing questions to engage the learners with content.

Evaluation: The researcher observed that the lecturers integrated (few) divergent questions into their instruction, which aimed at provoking the learners' thinking and to create peer sharing opportunities (see table 1, p. 19). Following is lecturer 8's lesson 3 extract for details;

Lecturer 8: *Why do we teach our learners in primary schools about 'states of matter'? Do it in pairs please. You have 5 minutes for the activity.* (Learners discussed the question in pairs).

Lecturer 8: *What are the misconceptions that learners may have about states of matter?* (Lecturer pointed at who should answer)

Learner 4: *Air has no mass*

The lecturers also used questions to acknowledge the learners' contributions, identify weaknesses, and provided necessary guidance to facilitate the closure of the gaps between what the learners had achieved so far and what they were expected to achieve through consolidation. The lecturers' classroom questions echoed assessment for learning principles and helped the learners to advance their learning.

Question 2: What do the lecturers say are the reasons for classroom questions during the teaching and learning process?

Question 2 sought to examine what the respondents said were the reasons for classroom questions during the teaching and learning process. The respondents' responses were analysed using Bybee's, et al. (2006) 5Es learning cycle;

Engagement: The lecturers said they asked questions for the following reasons;

1. As subject-centred questions (lecturer 1)
2. When introducing a lesson (lecturer 2)
3. As a surprise (lecturer 1)

Exploration: The lecturers said that they asked questions in class;

1. As learner-centred questions (lecturer 1)
2. To enhance learner participation. (lecturer 3)
3. For learners to discover facts and solve most concepts on their own (lecturer 3)

Explanation: The lecturers also said they asked classroom questions;

1. For learners to discuss certain concepts in their groups (lecturer 2)
2. Because of the need for further clarifications on the learners' explanations (lecturer 1)

Elaboration: The respondents said that they asked questions for the following reasons;

1. For learners to relate what they learn to their life experiences (lecturer 3)
2. Questions also demand learners to try to explain how they apply the knowledge they have gained in solving life experiences and problems (lecturer 3)

Evaluation: The respondents explained that they asked questions in class;

1. To measure the learners' achievements (lecturer 4)
2. To get feedback from the learners (lecturers 2 & 5)
3. When summarizing a lesson (lecturer 2)
4. To find out if the lecturer has met the learning outcomes (lecturer 2)
5. To find out if the learners followed the lesson (lecturer 2)

Following are extracts from post-lesson interviews with lecturers 1 and 3:

Researcher: *I observed that you introduced your lesson by asking questions, why did you do that?*

Lecturer 1: *…… I assess learners' prior knowledge ……. because there is a need to know what they know. …….. It helps me to know what they know on the topic to be covered.*

Researcher: *I observed that during the lesson you asked questions to the learners and you also asked learners to ask questions. Why did you do this?*

Lecturer 3: *To find out if the learners understand what is being taught. Are learners learning? Are we moving together? I asked questions to get feedback from the learners. ……. in order to determine the learners' prior knowledge. This is to find out how much the learners already know about a concept. I ask learners to ask questions so that they can seek clarification of a concept or idea. If they did not understand and they want the teacher to clarify, they ask questions.*

In summary, the lecturers explained that asking questions in class helps them to verify if actually what learners have understood is in line with the learning outcomes, as a surprise and to measure the learners' achievements during the lesson. They also said that they asked questions during lessons because they needed clarification of some ideas from the learners, to get feedback from the learners and the learners' responses would inform them (the lecturers) areas where the learners had problems (See post-lesson interview extract from lecturers 1 and 3, p.18).

Discussion

Question 1: How do primary teacher training colleges (TTCs) lecturers use questions during the teaching and learning process?

The TTC lecturers asked numerous questions during lessons and this promoted learner participation in class activities (See lecturer 8's lesson 3 extract on page 16). The lecturers' questions encouraged the learners to make observations/comments on other learners' work after activities such as gallery tours, bus stops, one-stays-three-astray, e.t.c. The lecturers had demonstrated the use of all Bybee's, et.al. (2006) 5Es in their lessons.

Engagement: The research findings reveal that the lecturers asked divergent, convergent and procedural questions. The researcher observed that overall, the lecturers raised significantly more convergent than divergent questions, and the questions led to the learners' choral, individual as well as group answers, and the lecturers' feedback was largely on tasks. Table 1 shows the average number and types of questions each lecturer asked during lesson deliveries.

Table 1: Number and type of questions asked

Lecturer	Average number of questions per lecturer	Divergent	Convergent	Procedural
1	49 (100%)	4 (8.16%)	39 (79.59%)	6 (12.25%)
2	55 (100%)	7 (12.73%)	44 (80.00%)	4 (7.27%)
3	39 (100%)	4 (10.26%)	30 (82.98%)	5 (12.82%)
4	47 (100%)	3 (6.38%)	39 (82.98%)	5 (10.64%)
5	53 (100%)	6 (11.32%)	43 (81.13%)	4 (7.55%)
6	36 (100%)	4 (11.11%)	28 (77.78%)	4 (11.11%)
7	43 (100%)	2 (4.65%)	36 (83.72%)	5 (11.63%)
8	53 (100%)	3 (5.66%)	43 (81.13%)	7 (13.21%)
Average	47 (100%)	4 (8.51%)	38 (80.85%)	5 (10.64%)

Table 1 shows that convergent questions dominated (80.85%), followed by procedural (10.64%) and finally, divergent questions (8.51%). This is in agreement with Saeed et al. (2012) and Black (2001) who observe that 60-80% of the questions require recall and 20-40% check what learners know about the world. The observed results are the opposite of what the researcher expected in a learner-centred teaching (LCT) classroom where the proportion of divergent questions could be more than convergent questions with less procedural questions. The researcher observed that the convergent questions were largely text oriented, meaning the lecturers' questions required the learners to recall basic information about the text (see lecturer 8's lesson 4 extract, p. 14-15, appendix 2, p. 35). The questions were also world-knowledge related (see table 3, p. 23).

Some of the lecturers' questions were characterised as thinking-based questioning strategies. The questions encouraged dialogue between the lecturers and the learners, and between a learner and a learner. In short, the questions were dialogical in nature. Each lecturer asked questions to stimulate thinking and discussion. Generally, the questions which promoted dialogue didn't have one right answer (See lecturer 8's lesson 3 extract, p.16, appendix 2, p.35). If the discussion went too far afield, the lecturers asked questions that served to focus the discussion. Thus, using this strategy, the distinction between the lecturer and the learners tended to blur, and the lecturers became more of a guide or a facilitator, rather than a teacher in the traditional sense. This observation agrees with Lai (2011) who observes that dialogical questioning strategy has much more interaction among learners. The questioning pattern did not seem to maximise the learning benefits in each stage of initiation, response, and evaluation.

The lecturers had shown a fact-based questioning technique, especially at the beginning of a lesson (see lecturer 8's lesson 4 extract, p. 14-15, appendix 2, p.35) to revise the concepts studied in the previous lesson and to test the learners' knowledge. The lecturers'

questions clearly encouraged a discussion-learning environment and promoted dialogue among the learners; this kind of interaction was observed in all the lessons with all the 8 lecturers. They (lecturers) asked questions mainly to elicit facts from the learners, and giving 'right' or 'wrong' feedback. In the fact-based questioning strategy, there was also much teacher-learner interaction, but the interaction tended to be brief and follow-up to individual questions was generally limited.

All the lecturers adopted the traditional discourse pattern, characterised by initiation, response and feedback. This observation is in agreement with Lai (2011) who observes that in a classroom situation teachers initiate interactions with a question, a learner answers, and finally the teacher gives the learner (s) evaluative feedback and then initiates a new cycle with a new question. This pattern places the teachers in a central role and act to test knowledge, instead of stimulating the learners to elaborate on their ideas or to extend their thinking.

Exploration: This study has shown that on average a TTC lecturer asked 47 questions per hour (see table 1, p. 19). This finding contradicts some research findings which show that on average a teacher poses up to 2 questions per minute (120 questions in a 1-hour lesson) or 400 questions a day (Saeed et al., 2012; Black, 2001). The researcher observed that the TTC lecturers asked divergent questions (though few) but rarely engaged the learners in critical thinking activities (see appendix 2, p.35). The lecturers' questioning was mostly about picking or verifying ideas or finding out and then reporting to class. The lecturers rarely asked probing and/or follow-up questions and did not engage the learners to make them think beyond what they had observed/learnt. The lecturers rarely engaged the learners further to verify their (learners') claims. This finding agrees with Tienken, et al. (2010) and Saeed et al. (2012) who argue that with more than 60,000 questions being asked in one classroom on a yearly basis, approximately 12,000 (20%) encourage learners to engage in higher order thinking.

Kerry (2002) suggests that it is necessary to raise open-ended questions to produce deeper levels of learning and this requires reflection. Divergent questions imply learner-centred teaching (LCT). Asking divergent questions is fundamental to science and scientific inquiry (Bybee, et al., 2006). Table 2 shows respondents' question types and examples:

Table 2: Respondents' question types and examples

Type	**Definition**	**Examples extracted from respondents' lessons**
Procedural	-Associated with classroom procedures and routines, and classroom management.	**Lecturer 1 lesson 1**: *Now, be with a friend and share. Can you share with your friend what you have written?*
Convergent	-Has to do with content of learning. Encourages similar and short responses and focuses on the recall of previously presented information.	**Lecturer 1 lesson 1**: *We also talked about the plants after they have manufactured their food, that at the end they have glucose and then what? Do you remember the process of photosynthesis? What is the end product? What is the use of oxygen?*
Divergent	-Has to do with content of learning. Encourages diverse responses and requires higher-level thinking.	**Lecturer 8 lesson 5**: *What is the knowledge that learners will get after learning about the scientific knowledge, skills and attitudes?*

The researcher observed that the lecturers seemed to appreciate the value of both world-knowledge convergent and divergent questions (see tables 2 & 3, p.22-23 and lecturer 8's lesson 4 extract, p. 14-15). World-knowledge questions provide a supplement to what learners learn in the course, especially when most of them merely focus on the textbook and know very little about the world (Jiang, 2014). As an extension of table 1, the researcher coded the respondents' convergent questions based on Jiang (2014) classification and definitions of classroom questioning as shown in Table 3.

Table 3: Types of convergent questions

Convergent	**Definition according to Jiang (2014)**	**Examples extracted from respondents' lessons**
Text-based	-Generally, requires factual recall, focuses on the content, structure and language of the texts, and the answers could be found in the text.	*What are the two main groups of plants that you learnt about?* (Lecturer 4, lesson 3)
World-knowledge related	-Relates to the text in some way, but demands world knowledge not specified in the text.	*Discuss how you can teach flowering and non-flowering plants to primary school pupils* (Lecturer 4, lesson 3)

The lecturers encouraged the learners to be open to new ideas and to consider familiar issues from unfamiliar perspectives through classroom questions which required the learners to find information on different issues. Some questions assisted the learners to reflect on their learning. The lecturers' questions helped the learners to learn how to learn. This was evidenced as learners were asked to make presentations, learners asking questions to each other and learners critiquing each other's responses. This observation is consistent with Almeida & Neri de Souza (2010) who conducted a study with secondary school science teachers and concluded that the questioning patterns found some decades ago are still prevalent today.

Explanation: The researcher concludes that the observed on-going question-answer exchanges that took place in the classrooms between the lecturers and the learners showed that the teacher training colleges (TTCs) lecturers were able to maintain the learners' focus on the class activities. Lai (2011) argues that although the dialogic process of classroom interaction is complex, the basic iteration of questioning involves three stages: the teacher initiates a question, the learner responds to that question, and the teacher provides feedback to or makes evaluation of the response.

A high proportion of the 8 lecturers' questions was at lower intellectual levels directed at text knowledge (see table 2 p.18, appendix 2, p.35). The text-oriented questions sought to consolidate what the lecturers had previously taught or were in the textbooks, laid the foundation for future learning and facilitated a sense of accomplishment when a correct answer was offered. This is consistent with Brown & Ngan's (2010) observation that teachers tend to ask lower cognitive questions in content as well as Tan's (2007) observation that low intellectual questions are largely text oriented and risk engaging learners in rote learning in the classrooms. Bybee, et al. (2006) observe that asking

questions is one way to engage learners and focus them on the instructional tasks. According to Bybee, et. al. (2006), the explanation phase focuses learners' attention on a particular aspect of their engagement and exploration experiences and provides opportunities to demonstrate their conceptual understanding, process skills, or behaviours.

Elaboration: The lecturers asked questions which assessed the learners' previous knowledge through question- pause - name (QPN) techniques. The lecturers assessed the learners' prior knowledge in order to help them become engaged in new concepts. This concurs with Levin & Nolan (2004) who observe that both teachers and learners benefit from thoughtful questioning in the classroom. They observe that for the teachers, questions provide opportunities for their learners to respond, promote higher learner engagement and deliver feedback. The lecturers themselves mostly guided the lessons by raising questions for learners' discussions. This observation contradicts the learner-centred teaching (LCT) philosophy which advocates for active learner-engagement during lessons.

The researcher observed that lecturers' classroom questioning was one of the tools for achieving their teaching goals and promoting learners' mental activity. According to Bybee, et al. (2013) questioning techniques are important because they can stimulate learning, develop the potential of learners to think, drive to clear ideas, stir imaginations, and incentive to act. It is also one of the ways teachers help learners develop their knowledge more effectively. As an element of learner-centred teaching (LCT), classroom questioning can expose much about the quality of the learners' thinking and conceptual understanding (Bybee, et al., 2006), learners' alternative frameworks and confusion about various concepts, their reasoning and what it is they want to know.

Evaluation: The researcher observed that the lecturers posed (few) world-knowledge

convergent questions to check the learners' deficiencies, guide inquiry, and encourage collaboration. Put it well, the lecturers used assessment to diagnose weaknesses in learning, to build interest to learn, and to cultivate learner responsibility in learning. The 8 lecturers' questions called for feedback (the respondents also said this during the post-lesson interviews). The feedback was largely task related and encouragement- based which is congruent with the results in Hattie & Timperley (2007) study that much feedback in current classroom practices involves comments on attitude or praise, whereas opportunities to improve learners' work based on it seem rare. Although praise or encouragement is necessary, it, in itself, is not constructive in guiding learning. Bybee, et al. (2006) observe that teachers should always ask new and probing questions that take their learners deeper into a concept or topic area.

The researcher concludes that the 8 lecturers' classroom questioning practices were largely guided by their accumulated knowledge from learning and teaching experiences. This supports the concerns expressed in the literature that teachers have restricted repertoire of questioning knowledge and skills (Hattie & Timperley, 2007). Although all

the 8 respondents showed appropriate understanding of basic concepts in asking questions and were able to conduct assessment activities by taking learner interests into consideration, some of the lecturers seemed more competent in designing quality questions, eliciting rich learning evidence, and assisting the learners in using feedback to feed forward than others.

Intensive text-bound questions and repeated individual and/or choral responses became shared patterns in the lecturers' questioning styles. This observation concurs with Kerry (2002) who argues that the most frequent function of teachers' questions is recall. However, some questions helped the learners to learn better. Black (2001) adds that these questions help teachers to identify learning weaknesses and they (the teachers) provide necessary support to assist their learners to become self-reliant and collaborative learners. Thus, the classroom questioning activities the TTC lecturers carried out to some extent did support the learners' learning. Black (2001) and Jiang (2014) observe that classroom questioning is one of the key formative assessment strategies which promotes learning when teachers use questions to elicit learner understanding, interpret the information gathered, and act on learner responses to achieve learning goals.

Question 2: What do the lecturers say are the reasons for classroom questions during the teaching and learning process?

Question 2 focused on the reasons for the lecturers' choices of the observed classroom questioning practices. Based on Bybee's et al. (2006) 5Es, this is what was gathered during the post-lesson interviews;

Engagement: During the post-lesson interviews the lecturers remarked that they asked classroom questions; as a surprise, according to the object of learning-the goal or the learning outcomes to be achieved. They explained that they asked questions during discussions or teaching in order to get feedback from the learners (see p. 17 & 18). Classroom questions were heavily used in oral discussions. This practice allowed genuine engagement between the lecturers and the learners, but a productive discussion was generally guided and key questions were generally charted by the lecturers in order to ensure that groups stayed on point. Regardless of the nature of the questions (inquiry or non-inquiry), this study found out that TTC lecturers' questions work to facilitate discussions in the classroom, which suggests that the development of discussion-based classroom questioning skills are necessary for the TTC lecturers.

Exploration/Explanation: During the post-lesson interviews, the respondents explained that classroom questions allowed them to find out if they had met the learning outcomes, to get feedback from the learners and for the learners to relate what they had learnt to their life experiences (see p. 17-18). The respondents' responses agree with Bain's (2004) argument that question-lead discussions within the classroom focus on and facilitate critical thought and stimulate learning; when learners participate in classroom discourse,

they are participating in knowledge creation. Stevens (2012) asserts that the teacher plays the role of mediator in order to ensure that classroom discussion is conducted at an appropriate level and in a way suited to the learning aims, and includes dialogic discussion where the teacher opens up space for learners to explore their views and experiences. He (Stevens) suggests that teacher questioning is a potentially integral subcomponent to achieving effective classroom discourse.

Elaboration: The respondents explained that besides helping the learners to learn, their (the lecturers') classroom questioning could also guide them (the lecturers) in their teaching based on the feedback they got from the learners. Levin & Nolan (2004) argue that some questions help learners to be thinking about the ideas presented and make them try to expand and establish relationships between these and other concepts they already know about.

Evaluation: During the post-lesson interviews, the lecturers stated that they asked classroom questions; to find out if the learners followed the lessons, to enhance learner participation and for learners to discover facts and solve most concepts on their own (see p. 17-18). From the respondents' responses it is evident that the lecturers' questioning helped the learners direct their learning as they tried to merge their prior knowledge and new information in their attempts to make sense of ideas. This observation agrees with Farrell & Mom (2016, p. 851) who argue that teachers' questions play an important role in learners' meaningful learning and motivation, and can be very revealing about the quality of learners' thinking and conceptual understanding. Similarly, Jiang (2014) takes teacher questioning as a method of formative assessment, allowing the teacher to periodically check-in with learners to determine comprehension. Based on the preceding discussion, the researcher makes a case that the TTC lecturers ask classroom questions to find out if learners can contextualize whatever they have learnt, to find sections of the lesson that require revision or remediation depending on how the learners are responding to the questions during the teaching and learning process.

Contribution of this study to the existing literature

The findings of this study give very recent updates on what is going on in the classroom and the lecturers' thoughts regarding classroom questioning. The study provides some hints that TTC lecturers should engage in asking probing and/or follow up questions in class for the learners to think beyond what they observe/learn.

Conclusion

This study has shown that the primary teacher training colleges (TTCs) lecturers are using more convergent questions than divergent questions in the classrooms. They also use procedural questions during the teaching and learning processes. Most of the questions are dedicated to presenting and practising content rather than actively engaging learners

in building knowledge as advocated for by the learner-centred teaching (LCT) philosophy. This implies that the lecturers need to ask a lot of divergent questions that call for critical thinking abilities and construction of knowledge, where they could only supervise the learners' work instead of leading it. To build knowledge learners need to inquire and explore on their own so that they could connect what they already know about with what they are examining or researching so that they could keep questioning what they are learning about.

Similarly, during the post-lesson interviews with the lecturers, they said that classroom questions allow them to find out if they have met the learning outcomes, to get feedback from the learners and for the learners to relate what they had learned to their real-life experiences. The lecturers' questions served many purposes, such as: provoking the learners' thoughts and making them (learners) listen carefully, analysing their (learners') thoughts and thinking critically, and initiating discussions and reviewing the lessons taught.

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Perspectives on mental health service gap among adolescent learners in Malawian secondary schools. A qualitative study

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Abstract

This qualitative study explored the availability and effectiveness of mental health services for adolescent learners in Malawian secondary schools. The study also examined adolescents' challenges in coping with psychosocial issues. Eighteen key informants were purposively selected and interviewed using in-depth interviews. The data were analysed thematically and content-wise. The findings revealed a lack of mental health services in Malawian secondary schools and a high demand for addressing the psychosocial needs of adolescents. The study also found that teachers lacked the skills and time to provide counselling and guidance to adolescent learners and that there was no policy framework to support providing mental health services in schools. The study recommended that school managers and teachers should be trained to offer counselling and guidance to adolescents and that a national education policy incorporating mental health services should be developed and implemented. The study also suggested the need for hiring school psychologists and counsellors to enhance the mental well-being of adolescent learners.

Keywords: Adolescents, psycho-social, problems, learners

1.0 Introduction

The burden of common mental health problems like depression and psychoactive substance use disorders is expected in the general population, including adolescents (WHO, 2014). 75% of adult mental health problems begin during adolescence, and suicide which is a symptom of depression, is the second leading cause of death among older adolescent girls globally and third for boys (WHO, 2016). Further, depression and psychoactive substance use problems cause a huge global burden that leads to premature death, affects day-to-day life operation and quality of life in general, and this results in years of life lost instead of being a productive citizen (Berhane et al., 2020; Bolton et al., 2003; Degenhardt et al., 2013; Whiteford et al., 2013). Ellis (2004) defines an adolescent as any person between 10 to 19 years old. Further, psychoactive substance use is when a person uses alcohol, cannabis and different types of drugs without a doctor's prescription, while depression is when an adolescent has the following symptoms: loss of appetite, loss of sleep, suicidal thoughts, loss of interest of things they used to be happy with, and social withdrawal for two weeks or more (WHO, 2016). Mental health is defined as a state of well-being in which a person realises his or her capabilities, can cope with everyday life

stressors, can work effectively and can make an impact on his or her society/community, while mental health disorder/problem is when a person has a wide range of conditions that affect mood, thinking and behaviour (WHO, 2016). There are a lot of challenges that adolescents face as they grow that result in mental health problems and are broadly categorised as social, psychological and physiological (Bakeera-Kitaka, Nabukeera-Barungi, Nöstlinger, Addy, & Colebunders, 2008; Chulani & Gordon, 2014; Gaete, 2015; Metzler, Noell, Biglan, Ary, & Smolkowski, 1994; WHO, 2015). Some of the social challenges include stigma, poor social support from family and peers, peer pressure, social pressure, wanting to fit in society, poverty, and lack of access to social services (Abubakar et al., 2016; Bakeera-Kitaka et al., 2008; Henry et al., 2019). While common psychological challenges include depression and anxiety (Henry et al., 2019; Hoek, Schuurmans, Koot, & Cuijpers, 2009; Horigian et al., 2013) and physiological challenges include poor physical health, and infectious diseases like sexually transmitted infections for example Human Immunodeficiency virus (HIV) (Naidoo, Chirinda, McHunu, Swartz, & Anderson, 2015).

In Sub-Saharan Africa (SSA), previous studies reveal that the problem of depression and the use of psychoactive substances is also prevalent among adolescent learners. For example, cross-sectional studies among adolescent learners show that depression varies from 31.2% to 33.2% (Abdul Latiff, Tajik, Ibrahim, Abubakar, & Ali, 2016; Nakimuli-Mpungu et al., 2012) while psychoactive substance use varies from 4% to 50.5% (Kuteesa et al., 2020; Musyoka, Mbwayo, Donovan, & Mathai, 2020; Swahn et al., 2020; Tshitangano & Tosin, 2016; Zarrouq et al., 2016). This was observed in countries like South Africa, Morocco, Uganda, and Kenya. In Malawi, Lilongwe, and Blantyre districts, cross-sectional studies show that the prevalence of depression among adolescents varied from 48.7% to 70% (Kutcher et al., 2017; Kuyokwa & Chiziwa, 2019) while psychoactive substance use varied from 15% to 24.6% (Kuyokwa, Chiziwa, Chinkhata, & Muyila, 2019; Muula, 2007).

Several studies across the globe reveal that psychotherapies like cognitive behavioural therapy, motivation interviewing, psycho-education and group counselling can be effective in managing psychosocial problems like depression, psychoactive substance use, knowledge gap and poor attitudes towards mental health problems in different populations including adolescent learners (Gates, Sabiana, Copeland, Le Foll, & Gowing, 2016; Hetrick, Cox, Witt, Bir, & Merry, 2016; Hides, Quinn, Stoyanov, Kavanagh, & Baker, 2019; Klimas et al., 2012; Klimas et al., 2014)**.** Previous studies also indicate a gap in knowledge and negative attitudes towards mental health problems among adolescent learners (Pang et al., 2017; Wahl, Susin, Lax, Kaplan, & Zatina, 2012). Further to that, studies also show that knowledge of mental health, positive attitudes towards mental illness and help-seeking behaviours among adolescent learners in secondary schools can improve if they are psycho-educated and group counselled (Calear et al., 2016; Chisholm et al., 2016; Chou et al., 2006; Dick et al., 2019; Dowling, Simpkin, & Barry, 2019; Feiss

et al., 2019; Giannotta, Vigna-Taglianti, Rosaria Galanti, Scatigna, & Faggiano, 2014; Lubman et al., 2017; Rickwood, Deane, & Wilson, 2007).

As highlighted above, the prevalence of mental health problems like depression and psychoactive substance use among adolescent learners has been observed in some secondary schools in Malawi (Kutcher et al., 2017; Kuyokwa, Chiziwa, & Semphere, 2019), but little was known about mental health service gap in Malawian secondary schools. Therefore, this study intended to explore if there is a mental health service gap in schools and learn how best these mental health problems can be managed among adolescent learners by getting the perspectives of school managers and health experts.

The main research question that guided this study was: What are the mental health service gaps, lessons and best ways of managing psycho-social problems among adolescent learners in secondary schools?

This study provides insights to educators, health workers, adolescents and parents on how they can manage adolescent psycho-social problems in school settings. The study also adds research-based evidence on the mental health service gap among adolescent learners in Malawi, which will be helpful to all relevant stakeholders in managing mental health problems among adolescents.

2.0 Materials and Methods

The study was conducted in Zomba City, southern Malawi. The study utilised a qualitative research method when collecting data from Key informants to have in-depth knowledge and understand the experiences of how common mental health problems are managed among adolescent learners at the school level.

2.1 Participants

This study targeted 18 Key informants, which included teachers and other key stakeholders from the directorate of mental health services, district commissioner's office, district health officer's office, regional education manager's office and chairpersons of the Parent-Teacher Association. Table 1 shows the details.

Table 1: Key Informants demographics

Department	**Office**	**Number/percentage representation (%)**	
Zomba District Council	District Commissioner's Office	1	2(12.5%)
	District Social Welfare's Office	1	

Education	South East Education Division Manager's Office	1	14(87.5%)
	District Education Managers' Office	1	
	Head Teachers' Office at study site	1	
	Form Teachers 1-4	4	
	Chairperson of Parents and Teachers Association- at study site	1	
	Head Teachers' Office at control site	1	
	Form Teachers 1-4	4	
	Chairperson of Parents and Teachers Association-at control site.	1	
Health	Office of the Director of Mental Health Services in Malawi	1	2(12.5%)
	Office of the Director of Health in Zomba District	1	
Total number of participants		18	

Table 1, above, shows the detailed characteristics of experts involved in the study.

2.2 Study procedures

The study was approved by the School of Education, University of Malawi, Eastern Education Division management, District Assembly office, and School management. Participants were recruited from the directorate of mental health services, the district commissioner's office, the district health officer's office, the regional education manager's office and chair-persons of the Parent-Teacher Association. We approached the participants individually and had in-depth interviews (IDI), especially with those who had consented and were interested in the study. Immediately before the in-depth interviews, researchers obtained informed consent. All in-depth interviews were conducted in English.

In-depth interviews (IDI) were semi-structured with open-ended questions designed to elicit a broad and detailed understanding of key informant perceptions of managing common psycho-social problems among school adolescents. The discussions were audio recorded, translated into English, and then transcribed by the researchers. There was no personal information included. The open-ended questions were enablers for further discussion. We started the discussion with broad questions about general topics, followed by more specific inquiries and probes about the participants' responses. Participants were asked to explore their responses to elicit specific descriptions of their experiences and ideas. The questions in the attached appendix guided the IDI Each question was followed

by a series of probing questions designed to elicit more information about the participant's perspective.

2.3 Data analysis

The interviews were transcribed, translated, and checked for accuracy. Further, data was analysed based on themes and contents that were coming out of responses. The method of analysis was template analysis (Brooks & King, 2014, King 2012). Based on the literature research, a coding 'template' was created a priori, and the data were then initially coded per the template. Additional codes were created as a result to represent topics that were present in the data but weren't identified in the initial template. The information was then recorded. Researchers read in-depth interview transcripts and agreed on appropriate codes after identifying quotations relevant to the research topics (Strauss and Corbin 1997). This self-reflective technique was designed to avoid data distortion during analysis.

2.4 Ethical considerations

Ethical procedures were maintained at all times. Participant confidentiality was also maintained at all times. Participants' names were not used, but instead, allocated numbers were used on the questionnaire. The interviews took place in private and quiet rooms. The data were stored safely and the questionnaires were locked in a safe office at the college. The consent forms were kept separately from the completed questionnaires to avoid disclosure of clients' privacy.

3.0 Results and discussion

The themes emerged from the in-depth interviews, reflecting different key informant perspectives on the key issues confronting adolescent learners in their secondary schools: lack of mental health services, substance abuse, depression, negative attitudes towards mental health problems and knowledge gap about mental health problems.

3.1 Mental health service provision gap in schools

All participants agreed that there is a mental health service gap in Malawian secondary schools and there is a need to manage negative attitudes towards mental health problems like depression and psychoactive substances as well as address the lack of the knowledge among school managers and adolescent learners in Malawian secondary schools. One of the participants stated that adolescent learners abuse substances, which puts them at risk of performing poorly in class. She stated,

'*When adolescent learners use substances, they don't concentrate in class and usually, they don't perform well in class. As schools, we do not have the capacity to manage these psycho-social challenges*.

This has also been observed by past studies that there is a lack of mental health services in secondary schools across the world (Babatunde, Bhana, & Petersen, 2020; El Kazdouh, El-Ammari, Bouftini, El Fakir, & El Achhab, 2018; Lai-Yeung, 2014; Lunenburg, 2010; Wambu, 2015; WHO, 2016). Further, WHO (2016) observed a lack of mental health services in low- and middle-income countries like Malawi. Similar study findings have also been observed in South Africa by Babatunde et al. (2020) that there is a shortage of mental health service delivery among adolescent learners in secondary schools. Further to this, a discussion on the mental health service gap in schools will be guided by the following subthemes: Teacher capacity, time allocation to counselling, legal or policy framework, and attitudes towards mental health services.

3.2 Teacher capacity

In the context of lack of capacity by teachers to conduct counselling sessions in schools, as was the case for most schools, several key informants said that lack of capacity was one of the contributing factors for poor management of psycho-social problems among adolescent learners. Generally, teachers do not have the capacity to conduct counselling sessions in schools. As one of the participants said,

'There is a need for mental health service in schools. Sometimes learners have psychological issues that contribute to poor performance and as teachers we are not trained in mental health service delivery and we cannot help them as expected because of lack of knowledge.

This was also observed in the USA and Kenya that mental health services like counselling and guidance can help in improving the academic performance of adolescent learners. However, there is a lack of trained providers (Leonard et al., 2015; Puskar & Bernardo, 2007; Wambu, 2015). Another participant said, *"There is a need to strengthen the module on guidance and counselling in teacher training with a mental health service component".* There is a need to train teachers on how to provide guidance, counseling and mental health service in secondary school context and this has also been observed by other researchers in China and USA as an effective way of managing mental health problems and it helps to improve adolescent learners' academic performance (Lai-Yeung, 2014; Leonard et al., 2015).

3.3 Time allocation to counseling

One of the major issues that came out of the in-depth interviews was that there was no time allocation for counselling services in schools. A participant said that *there is no time that is allocated to counseling services in school*. This is a challenge for adolescent learners with psycho-social challenges to access mental health services in schools. Further, other participants observed that there is a need for the *Ministry of Education in collaboration with the Ministry of Health to allocate at least one person at every school*

to be responsible for addressing mental health problems in schools. This has also been observed in Kenya, Morocco and the USA on the need to have trained people in counseling and guidance to be available in schools (Trusty, 2005; Wambu, 2015). Hence, there is a need to train Malawian teachers in handling mental health problems among adolescent learners.

3.4 Policy framework

Upon in-depth inquiry participants observed that there is a need for a national education policy which should include provision of mental health services in schools. For example, one of the participants had this to say *"We need a proper national education policy; we must have educational psychologists and school counselors as part of the essential human resource. Activities/strategies would then include group counseling and psycho-education that will help in school guidance and counseling".* This has also been observed by Lunenburg (2010) in a study on the role of school guidance and counseling services in schools which found that guidance and counseling can assist individuals to develop the ability to understand themselves, to solve their own problems, and to make appropriate adjustments to their environment. Therefore, there is a need for guidance and counseling services in Malawian secondary schools because these services play a big role in making young people reach their full potential and prevent mental health problems like depression and substance use.

3.5 Attitudes towards mental health services

Participants agreed that there are negative attitudes among teachers and learners towards seeking mental health care in case a learner has psycho-social problems. Another participant observed that *boys in school think that drug and substance abuse is a fashion in a modern world.* These attitudes have also been observed among adolescent students in a study in Morocco by El Kazdouh et al. (2018) that adolescents perceive that they are benefits of substance use and are more likely to adopt substance use behaviors. These observations explain why there is a need for mental health interventions in Malawian secondary schools looking at rates of mental health service gap.

3.6 Conclusion and recommendations

This study revealed that there is a significant gap in the provision of mental health services in Malawian schools. The study identified four major challenges that hinder the effective delivery of mental health services to adolescent learners. These are: the lack of capacity of teachers to conduct counseling sessions, the lack of time allocation for counseling services in the school timetable, the lack of a legal or policy framework to guide counseling services in schools, and the negative attitudes towards mental health services among teachers and learners. The study proposed the following recommendations to address these challenges:

- Teachers should receive in-service training on guidance and counseling to enhance their skills and knowledge on how to provide counseling services to adolescent learners. The training should also cover topics such as mental health awareness, stigma reduction, and referral mechanisms.
- The school timetable should allocate time for counseling services in schools. This could be done by creating a separate period for guidance and counseling, or by integrating counseling activities into other subjects such as Life Skills or Social Studies.
- A policy framework that guides counseling services in schools should be developed and implemented. The policy framework should specify the roles and responsibilities of different stakeholders, such as school managers, teachers, counselors, learners, parents, and community members. The policy framework should also outline the standards and procedures for providing quality and ethical counseling services in schools.
- Teachers and learners should be sensitized on the importance and benefits of mental health services. This could be done by conducting awareness campaigns, workshops, seminars, or peer education programs. The aim of these activities is to increase the knowledge and understanding of mental health issues, to reduce stigma and discrimination, and to promote positive attitudes towards seeking and accessing mental health services.

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The impact of psychological capital on academic achievement motivation among adolescents

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Abstract

This paper examined the impact of psychological capital on academic achievement motivation. Two hundred adolescent learners from Jalandhar City in India were sampled using stratified random sampling. The study reveals no significant relationship between Psychological Capital and Academic Achievement Motivation among adolescents. However, there is a significant relationship between efficacy (one of the dimensions of psychological capital) and Academic Achievement Motivation among adolescents. Lastly, the study reveals a significant impact of psychological capital on Academic Achievement Motivation, with efficacy becoming a significant predictor of Academic Achievement Motivation among adolescents. In light of these results, the study concludes that there is a need to develop efficacy among adolescents.

Keywords: Psychological Capital, Academic Achievement Motivation

Introduction and Background to the Study

Student achievement in secondary school education is essential as it affects the students' future, including career choices. However, a driving force must make the students keep working hard and achieve their goals. This force is derived from their academic achievement motivation. However, it is blurred as to what influences students' academic achievement motivation. Psychological Capital (PsyCap) is believed to contribute to academic achievement Motivation.

Psychological Capital enables an individual to have self-determination to achieve his or her goal, have the self-confidence to achieve his or her goal, cope with difficult and stressful situations, and be realistic about what he or she can and cannot achieve. These are depicted in Psychological Capital's elements: hope, self-efficacy, resilience and optimism. Scholarly works have linked the four elements of Psychological Capital as being psychological resources that contribute to improved academic performance (Bandura, 1997 and Snyder, 2005).

Luthans (2012) found a positive relationship between the levels of Psychological Capital and academic performance as indicated by the Grade Point Average (GPA) of Business Studies students at the university level. This shows that Psychological Capital contributes to improved academic performance. Adil et al. (2019) opined that Psychological Capital may contribute to an individual's positive qualities that may intrinsically motivate him or her which in the end, results in greater academic achievement for an individual in the quest to fulfill his or her goals. This assertion, therefore, calls for the need to investigate the impact of Psychological Capital on Academic Achievement Motivation.

Motivation is the arousal of a tendency to act and to produce one or more desirable effects. Srivastava and Pant (2015) described motivation as an internal state, something which results in mental tension, inclines a person to perform an activity, something which energizes and sustains behaviour, regulates behaviour and directs behaviour towards a goal. Physiological motives relate to those essential for the survival of an organism which includes hunger, thirst and sex and psychological motives address the psychological needs of a person. One example of psychological motives is the desire to achieve (achievement motivation) and in the context of school when one is motivated to put more effort with the aim of achieving good academic performance it results in academic achievement motivation. This study intends to examine the influence of Psychological Capital on Academic Achievement Motivation.

Statement of the Problem

Academic Achievement Motivation provides the impetus for secondary school learners to work hard and achieve their academic goals which may strongly influence their careers. Various studies have shown that academic achievement motivation influences academic achievement (academic performance). It is important, therefore, to critically analyses factors that influence academic achievement motivation in the quest to improve the academic performance of learners. However, it remains obscure on the factors which influence Academic Achievement Motivation.

Psychological capital has not been much explored in the educational context as compared to the work and employee management context. However, it is still quite important to explore its academic influence. It is, therefore, for this reason, that this study examined whether Psychological Capital influences academic achievement motivation or not.

Objectives of the Study

1. To analyses the relationship between psychological capital and academic achievement motivation among adolescents.
2. To examine the impact of psychological capital on academic achievement motivation among adolescents.

Research Hypothesis of the Study

1) H_0^1 There exists no significant relationship between psychological capital and academic achievement motivation among adolescents.
2) H_0^2 There exists no significant impact of psychological capital on academic achievement motivation among adolescents.

Significance of the study

The prospect of investigating the influence of Psychological Capital on academic achievement motivation is significant. Firstly, the results will help teachers and parents to understand the role it plays in helping their adolescent learners and how to motivate them to achieve greater levels of academic achievement with the aim of boosting their academic performance. Teachers and parents will know how they can structure and control dimensions of psychological capital with the aim of maximizing academic gains. The study will also help policy-makers on how they will be able to encourage teachers and parents to develop psychological capital in learners to boost academic achievement motivation.

The study will also contribute to the body of literature in the area of Academic Achievement Motivation. This is particularly important considering that there are limited research studies on this subject. Psychological Capital which is the independent variable in this study is mostly explored in organisational context and as such, much focus is given to workplace situations. Its application in the academic context is not widely explored and this gives the study a unique character as it permeates into a new horizon that has not been widely exploited.

Literature Review

Psychological Capital

Psychological Capital is the measure of the person's level of hope (determination to achieve one's goal), efficacy (self-confidence to achieve a particular goal), resilience (coping with difficult and stressful situations) and optimism (realistic construct of what one can and cannot achieve). It is a positive state of psychological construct that enables one to be highly involved in performing tasks and accomplishing goals (Ortega-Maldonado and Salanova, 2018). Students use their psychological capital to complete a task and accomplish the goal of an academic programme.

Dimensions of Psychological Capital

There are four dimensions of Psychological Capital. The first dimension is hope. To achieve institutional or individual goals, one needs to have expectations that will work to provide them with the willpower to invest their energy. Hope is a tool that motivates

people while performing their tasks. It is a motivational state with two dimensions: agency and pathway. Agency refers to the determination that directs the goals while pathway is a plan to achieve the required goals. The second one is self-efficacy. This is confidence or the belief that people have when they are performing their tasks. Self-efficacy influences motivation and it is independent of an individual's ability to perform a particular task.

The other dimension of psychological capital is optimism. This is the psychological intention and expectation to hope for the best possible results. A person with optimism will not be stressed and is free from depression and hopelessness (Cavus and Gokcen, 2015). Lastly, there is resilience. Resilience is the tendency to recover from adversity. It involves rising up and bouncing back with a focus on your goals and success. It is a coping skill whenever you encounter uncertainties and negative situations. It has three components; the asset factor which increases the level of personal resilience, and the risk factor which lowers the level of resilience and influences processes (Cavus and Gokcen, 2015).

Factors that Affect Psychological Capital

There are a number of factors that affect the psychological capital of adolescents. Academic performance is one of the major factors that influence Psychological Capital. Vanno et al (2014) conducted a study in Thailand to establish the relationship that existed between group Psychological Capital, individual Psychological Capital and the Academic performance of undergraduate students. 418 undergraduate Thai students participated in this study. Group Psychological and individual Psychological Capital measures together with Grade Point Average were computed. The study used SEM (Structural equation modelling) to test the proposed relationships. The study revealed that the fit to the data indices was (χ^2 = 23.37, df=17, p=.138, CFI=.996, RMSEA=.030, GFI=.988, AGFI=.967). The study concluded that Academic performance has a positive direct effect on individual students' Psychological Capital.

The other factor that influences Psychological capital is academic engagement. Martinez et, al. (2019) conducted a study to establish the relationship between Psychological Capital, Academic Engagement and Academic Achievement. The study was conducted in two different universities in Spain (N = 389) and Portugal (N = 243) undergraduate students. Psychological Capital and Academic Engagement self-reported questionnaires were administered to the students. Grade Point Average (GPA) was used to assess the Academic Achievement of the university students. It was found in this study that there was a positive relationship between Psychological Capital, academic engagement, and academic performance in the two universities.

There is also evidence that psychological capital is affected by the styles of parenting. Karmakar (2016) conducted a study in India on 160 Khasi and 185 non-Khasi high school

adolescent students studying in Kolkata and Meghalaya districts of West Bengal. The Psychological Capital Scale and Parental Authority Questionnaire were used to measure psychological capital and parenting styles respectively. The study found that participants who perceived their parents to be higher on authoritative parenting style scored higher on psychological capital and its individual components (hope, efficacy, resilience, optimism) as compared to those who perceived their parents to be higher on authoritarian.

Furthermore, well-being affects an individual's Psychological capital. Luthans (2007) proposed that emotional well-being, psychological well-being and social well-being all affect one's satisfaction and happiness in life. Well-being is also found to be related to individual elements of psychological capital. According to Bandura (1997), people with high efficacy are not influenced by self-doubt, negative feedback, setbacks and criticisms, which means that Psychological Capital is closely related to well-being and happiness. Optimism is also said to be positively related to mental well-being, hope with subjective well-being and lastly, resilience with well-being at the workplace (Chen et al. 2019).

Lastly, a supportive climate is essential in the development of Psychological capital. Luthans et al. (2008) found that a supportive climate contributes to higher levels of Psychological Capital which in turn translate into improved performance. In an organisational context, leaders need to create an enabling environment where workers are given a sense of responsibility and challenging tasks which result in the development of psychological capital. At school, teachers should likewise create a supportive environment for learners. Learners should be encouraged to establish academic goals, and they should also be given challenging tasks, but teachers should at the same time be supportive of learners to complete the tasks.

Ways how to Develop Psychological Capital

Hope is a personality trait which has been linked to psychological and physiological wellbeing. Hope can be inculcated by enriching the three conditions. Firstly, is by encouraging adolescent learners to set their goals and trust their abilities. Secondly, is by developing approach-oriented goals (moving towards something) rather than avoidance-oriented goals (moving away from something). This is because the concept of hope is based on the belief that individuals want to achieve goals. Lastly, adolescent learners need to have the motivation or thought of agency (Snyder, 2005).

Efficacy is defined as people's belief in their capabilities to produce desired results (Bandura, 1997). There are four ways of strengthening self-efficacy. Firstly, it is by encouraging learners to focus on past success, which involves finding and appreciating past success stories. Secondly is by helping learners to copy from other people (social modelling) and this involves noting people who were in a similar situation like yours and how they managed to deal with it. Then, teachers need to create situations that boost success in the learners and avoid putting learners in situations where they are likely to fail

which might decimate their confidence in the end. Lastly, efficacy can be enhanced by refraining from negative experiences. This is because the way how learners perceive a challenging situation has an impact on how we deal with them. Those that do not take a stressful situation as an emotional energiser for success may do better to avoid such situations.

Resilience deals with the individual ability to rise up once confronted by negative events or failure. A resilient person would bounce back easily and he might even come back stronger than before. Resilience can be enhanced by facing reality, when one is subjected to a stressful situation it is good to face reality rather than developing an illusion of a positive situation. Searching for meaning can strengthen one's resilience, learners might do themselves a great service in developing resilience by searching for meaning even when they are confronted by a bad and irreversible situation. Lastly, to cope with an adverse situation, one needs to know how to use new and innovative ways that would help him or her to achieve his goals regardless of the tools that one possesses (Bandura, 1997 and Snyder, 2005).

Optimism is making a positive attribution about success both in the present and in future. An optimistic student is one who believes that good things will happen to him both now and in future. Optimism is developed through reframing, that is being able to accept the past, appreciate the present and look into the future as the source of opportunity.

Importance of Psychological Capital to Adolescents

Psychological capital is important to adolescents. Laura Riolli et al. (2012) conducted a study to examine the influence of psychological capital on the well-being of adolescents at university. In this study, it was established that Psychological Capital helps to empower students with the requisite mental capacity to cope with adversities. The study also found Psychological Capital helped to provide a buffer to minimise the impact of stress in bringing negative outcomes in students. Psychological Capital was also found to enhance positive psychological outcomes in adolescents that result in life satisfaction. Nambudiri et, al. (2020) and Martinez et, al. (2019) also provided evidence that Psychological Capital had a positive influence on the Academic Achievement of adolescents making it an important factor in the education of adolescents.

Academic Achievement Motivation

Motivation is one factor that compels individuals to accomplish their goals. It is a driving force that propels an individual to persevere with the aim of achieving something in the end. These goals may be related to their personal or professional goals. Among students, their immediate goal is to improve their academic performance which is realised by having improved performance. Achievement motivation is the need that is based on an

individual's desire to perform particular tasks better (Mahato and Barman, 2019). Academic achievement motivation, therefore, is the driving force that enables learners to work hard with the aim of achieving their academic goals which include improved performance at school. It is an internal drive that activates behaviour and gives it direction (Mahato and Barman, 2019).

Factors that Affect Academic Achievement Motivation

There are a number of factors that affect Academic Achievement Motivation. Firstly, Academic Achievement Motivation is influenced by the support that students get from teachers, parents, and peers. Bakadorova et al. (2020) conducted a research study to find out students' sources of academic motivation by comparing students to find out students' motivational sources in Montreal and Moscow. This was a comparative study where 389 students from Montreal and 396 from Moscow participated in the study; these were adolescent students in grades 7, 8 and 9. Students were compared on the basis of their achievement motivation at school and social motivation at school. The study reported that students' social relations with their peers and teachers have an impact on academic achievement motivation.

Psychological need satisfaction of adolescents (need for autonomy, competence and relatedness) is claimed to influence academic achievement motivation. Gnambs and Hanfstingl (2016), conducted a study to examine the levels of academic achievement motivation during adolescence. The study used a longitudinal cohort research design. 600 adolescents participated in the study, comprising 314 boys and 286 girls ranging from 11 to 16 years. The study revealed that intrinsic academic achievement motivation was markedly declining during adolescence. The hypothesis was proved right as differences in need satisfaction positively predicted a decline in academic achievement motivation highlighting the need to satisfy the three psychological needs of adolescents (autonomy, competence and relatedness).

Additionally, the home environment is said to have a profound influence on academic achievement motivation. Muola (2010) conducted a study that was aimed at establishing a relationship between academic achievement motivation and home environment in adolescents in Kenya. The study randomly selected 235 Standard 8 learners from Machakos district aged between 13 to 17. A Simple Profile questionnaire and a Home Environment questionnaire were used to collect data on academic achievement motivation and home environment respectively. Findings revealed a significant positive relationship between six home environmental factors ($p < 0.05$) (mothers' occupation ($r = 0.26$), fathers' occupation ($r = 0.22$), mothers' education ($r = 0.14$), fathers' education ($r = 0.15$), learning facilities at home ($r = 0.23$) and family size ($r = 0.26$)) and academic achievement motivation. The study also revealed that parental encouragement was not significantly related to academic achievement motivation ($r = 0.03$). The study highlighted the importance of parents providing the necessary facilities at home.

Furthermore, studies have revealed that parenting style influences the academic achievement and motivation of adolescents. Mihret et, al. (2019) conducted research investigating the relationship between academic achievement motivation and parenting styles of adolescent learners in Ethiopia. 99 females and 93 males were randomly selected for the study (N=192). The parenting style scale and standardized scale of achievement motivation were used to collect the data. This study established that the authoritarian parenting style was prevalent as opposed to authoritative, neglectful and indulgent parenting styles. A significant positive relationship between authoritarian parenting styles and academic achievement motivation was established. The study also found a strong negative relationship between neglectful parenting style and academic achievement motivation.

Some scholars have pointed out that emotional intelligence affects academic achievement motivation. Roy et, al. (2013) conducted a study aimed at finding out the relationship between academic achievement motivation and emotional intelligence. The study wanted to find out the emotional intelligence of students with various degrees of academic achievement motivation. 105 learners (57 girls and 48 boys) from class 12 of Patna participated in the study. The product-moment coefficient of correlation was used to analyse the data. The study established a positive relationship between academic achievement, motivation and emotional intelligence. Students with different levels of academic achievement motivation also had differences in their levels of emotional intelligence.

Lastly, academic achievement motivation is influenced by the mental health of students. Mirkamali et al. (2015) conducted a study that focused on establishing the role of mental health on the academic performance of learners mediated by academic achievement motivation. This study was a descriptive correlational study. 351 participants were randomly sampled from 4020 students at Birjand University in Iran. Academic Achievement Motivation Questionnaire by Hoseini, Mental Health Questionnaire by Goldberg and mean academic scores were used to collect the data. The study showed that there was a significant correlation between Mental health and academic achievement motivation which were significantly correlated at ($P<0.01$). Mental health had an impact on academic achievement motivation ($\gamma = 0.62$) and mental health had an effect on academic performance mediated by academic achievement motivation ($\gamma = 0.51$).

Ways how to Develop Academic Achievement Motivation

There are a number of ways to develop Academic Achievement Motivation. According to Santhi and Suthanthira Devi (2019), academic achievement motivation may be developed by: modelling learners to be ambitious, for them to have a clear picture of what they want to achieve; spending a high degree of energy in the pursuit of the set goal; developing the spirit of working independently to achieve one's goal; visualising the

resultant satisfaction that might accrue from the achievement of their goal; giving students a sense of control; creation of threat free environment; use of positive competition among learners; giving students responsibilities; encouraging students to work in teams; encouraging self-reflection; encourage students to set high but attainable goals; and providing learners with opportunities for success.

Importance of Academic Achievement Motivation

Academic Achievement Motivation is important for adolescents. Adolescence is associated with making career decisions. To choose the right career choices adolescents must go for the fields linked with the subjects they are performing better academically. Academic performance is influenced by the Academic Achievement Motivation of adolescent learners which invigorates and directs their efforts towards academic achievement hence determining academic success.

Methodology

The study used a descriptive survey method which was specifically designed to elicit information that would be relevant and precise regarding the phenomenon under investigation in order to make valid conclusions based on the facts that were unearthed. A stratified random sampling technique was used to collect data from the respondents. However, due to restrictions caused by Covid 19, it was not possible to collect data from some respondents. A total of 200 adolescents (100 males and 100 females) from four government senior secondary schools participate in the study, namely: Government Senior Secondary School, Mithapur Jalandhar; Government Senior Secondary School, Mithapur Jalandhar; Garrah Senior Secondary School, Jalandhar; and Government Girls Senior Secondary School, Jalandhar.

Data Collection Tools

Data on Psychological capital was collected using the Psychological Capital Assessment Scale developed by Reena Rani and Menka Choudhary (2006), whereas that of Academic Achievement Motivation was collected using the Academic Achievement Motivation Scale by Sharma (1984).

Psychological Capital Assessment Scale

Data on Psychological capital was collected using the Psychological Capital Assessment Scale developed by Reena Rani and Menka Choudhary (2006). The scale measures the four dimensions of Psychological Capital. The first draft had 55 items and the second draft had 40 items. Then the second draft of the item was administered to a randomly selected sample of 120 students from secondary, senior secondary schools and college students from Haryana state. The investigators requested the subjects to respond to each item and the responses were expressed in terms of the following five options: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree and these items were scored as 5,4,3,2 and 1 respectively. Based on the total score of the subjects the two groups were selected:

27% high score group (upper 32 students) and 27% low score group (32 bottom students). T-test was done to test the difference between the means of the two groups and only those items that were found to be significant at 0.05 levels of significance were retained. 6 out of 40 items were rejected and 34 significant items were retained for the final draft of the scale as shown below.

Table 1: Showing Dimensions Wise Distribution of Items

SN	Dimensions	No. of Items	Total Items
I	Hope	3,4,13,14,17,18,25,26	08
II	Efficacy	1,2,9,10,19,20,29,30,33	09
III	Resiliency	7,8,15,16,23,24,31,32,34	09
IV	Optimism	5,6,11,12,21,22,27,28	08
	Full Scale	**Total Items**	**34**

The total score of an individual student varies from 34 to 170. The higher the total score the higher also is the psychological capital and vice versa. The scoring system of the scale is given in the table below:

Table 2. Showing Scoring System

Responses	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Scoring	5	4	3	2	1

Standardisation of the Scale

The scale was administered to randomly selected 442 students from secondary, senior secondary and colleges of Haryana for standardisation. The sample comprised all types of institutions (government, aided and private institutions) and it belonged to both sexes.

Reliability

Test-Retest method and Split-Half methods were used to establish the reliability of the scale.

a) To establish the Test-Retest Reliability, a separate sample of 100 students was randomly selected and Psychological Capital Assessment Scale was administered. The same scale was then administered to the same sample after an interval of 25

days. The coefficient of correlation was 0.642 which was significant at 0.01 level of significance.

b) To establish the Split-Half Reliability, the items of the Psychological Capital Assessment Scale were distributed in two parts. One part contained odd items and the other one contained even items. Each part of the scale contained 17 items belonging to all four dimensions. Then the Spearman-Brown Prophecy formula was applied for getting the reliability coefficient. The reliability coefficient (r) for the whole test was 0.0643, which was significant at a 0.01 level of significance.

Validity

The review of 20 experts about the items was taken to indicate the face validity of the scale. For cross-validity, a different sample of students was taken for item analysis and establishing reliability to avoid the chance of errors of carry-over effect. For content validity, the dimensions were already set by Luthans and then given to the experts to assess the relevance of items to the content being measured by the scale. This scale can be considered valid enough in terms of item validity because only those items which were found significant at 0.05 and 0.01 levels were retained in the final form. For construct validity, interconnections among different dimensions of the Psychological Capital Assessment Scale have been calculated and found significant at a 0.01 level of significance.

The correlation coefficients between the dimensions of Psychological Capital Assessment Scale ranged from 0.287 to 0.441 which is significant at 0.01 level indicating that the sub-scales have high validity.

Academic Achievement Motivation Scale

Academic Achievement Motivation was measured by Sharma Academic Achievement Motivation Scale (1984). In this scale, there is a list of statements each of which is followed by the three alternatives and this was subjected to a conversation participated by nearly 40 experts to determine their suitability. They reduced the items from 70 to 49 and applied the criteria below to retain the items.

a) The item should be simple and clear.
b) The item should evoke achievement imagery.
c) The item should depict the situations familiar to the pupils belonging to various social-economic strata.
d) The item should involve situations which are within the experience range of school children and relate to the study.

The conversazione also joined upon the author to retain only two alternatives instead of three, one indicating achievement motivation and the other one indicating the absence of motivation, the former to be assigned a score of 1 and the latter a score of 0. The 49 items with two alternatives were tried on 100 students (average 14+) randomly selected from schools of Patiala between 11 to 15 years of age. After scoring point biserial and between

test score and item score was calculated with respect to each item and r was found to be insignificant in 11 items and those items were dropped and only 38 items were retained and finally, this constituted the test.

Reliability

The three methods were used to determine the reliability of the test and the results were calculated as below.

Table 3: Showing Split-half

N	Score on Odd Items	Score on Even Items	Reliability of Split-half test	Reliability of the Whole test
100	1355	1400	0.53	0.697

Table 4: Showing Rational Equivalence

Sex	No. of Subjects	No. of Items	Mean test Scores	SD	R
Boys	310	38	28.03	4.57 4.28	0.664 0.661

Table 5: Showing Test-Retest

Sex	N	Mean of original scores	Mean retest scores	SD (i)	SD (ii)	R
Boys **Girls**	298 301	28.015 29.695	28.25 28.31	4.5 4.3	4.2 4.4	0.795 0.807

Validity

Three types of validities were established. The items of the test were selected on the basis of the pooled judgement of nearly 40 judges in the field of testing and this resulted in establishing the content validity. Criterion validity was on the basis of considered judgements of class teachers 20 students, ten low and the other ten high on academic achievement motivation were administered under standardisation. Significant differences were found in the mean test scores of the two groups, as shown below.

Table 6: Showing Significant differences in the mean test scores of the two groups

Group	N	Mean Score	SD	T	P
High motivated	10	33.1	2.60	6.30	<0.01
Low motivated	10	20.7	4.18		

As mentioned, each item was correlated with the total test and items showing no significant r were deleted from the test. This in the end established the construct validity of the test. The values of SK and Ku are as follows:

a) SK
   i. Boys = 0.4315
   ii. Girls = 0.4.89

b) Ku
   i. Boys = 0.2280
   ii. Girls = 0.36.2

This shows that scores are nearly normally distributed.

Administration

The test can be administered to a group of not more than 40 children at a time. The subjects have to be seated separately so that they are not tempted to consult one another or copy their responses. The directions that have been given on the booklet should be read out to them after the sheets have been distributed with the help of the blackboard; the two examples provided in the booklet should be explained to the children. The test provides a direct numerical score indicating how much an individual, a boy or a girl, is motivated in the field of academic achievement. The scores range from 0 – 38. Ready-reckoner given below serves as a quick guide.

a) High motivated — Boys 33 or above; Girls 34 or above
b) Average motivated — Boys between 26 and 32; Girls between 27 and 33
c) Low motivated — Boys 25 or below; Girls 26 or below

Scoring Key

One mark is awarded if Box A has been ticked in case of item number 1, 3, 4, 6, 8, 10, 12, 13, 15, 16, 17, 18, 21, 25, 27, 31, 35, 36 and 37 and if Box B has been ticked for items number 2, 5, 7, 9, 11, 14, 19, 20, 22, 23, 24, 26, 28, 29, 30, 32, 33, 34 and 38.

Data Collection Process

The researcher had to seek ethical clearance from Lovely Professional University (LPU) to collect data from schools. The researcher then had to get permission from the school Principals to collect data from their schools. After being granted permission, the researcher had to explain to the respondents how they would fill out the scales and the importance of the research work. Assurance was then made to the respondents that their responses would be kept confidential only to be used for this research.

Statistical Techniques

Raw research data were analysed using statistical techniques. This helped the researcher to assess and interpret the results. In this study, descriptive statistics were used and the Pearson Correlation test was conducted to establish the relationship between Psychological Capital and Academic Achievement Motivation. This was done because the Pearson Correlation coefficient is the best method for measuring the association between variables because it is based on the method of covariance. On the other hand, regression analysis was conducted for inferential statistics to measure the impact of Psychological Capital on Academic Achievement Motivation. This was done because regression is the best measure of the impact of one variable upon another variable.

Results and discussion

This section presents and discusses the statistical results of the Study. The study employed the Pearson correlation test for descriptive statistics and for inferential statistics, the study used regression analysis.

Results Pertaining to Relationship between Psychological Capital, and Academic Achievement Motivation among adolescents (Objective 1).

To find out the relationship between Psychological Capital and Academic Achievement Motivation among adolescents, the Pearson Correlation test was conducted. Table 7 below shows the results of the Pearson Correlation Test between Psychological Capital and Academic Achievement Motivation among adolescents.

Table 7: Results of Pearson Correlation Test between Psychological Capital and Academic Achievement Motivation among Adolescents.

Dimension (Variable)	N	R	P-Value	Remarks
Hope	200	-0.066	0.351	Insignificant
Efficacy	200	0.153	0.030	Significant
Resilience	200	-0.127	0.073	Insignificant
Optimism	200	-0.127	0.073	Insignificant
Psychological Capital Total	200	-0.041	0.561	Insignificant

Table 7, clearly shows that the value of correlation between Psychological Capital and Academic Achievement motivation as a whole is (r = -0.041, low) and the p-value was found to be p = 0.561 which is more than 0.05 level of significance. Hence the hypothesis that there exists no significant relationship between Psychological Capital and Academic Achievement Motivation among adolescents in Jalandhar City is accepted. However, dimension-wise there exists a significant positive relationship between self-efficacy and Academic Achievement Motivation among adolescents in Jalandhar City. The correlation between Self-efficacy and Academic Achievement Motivation among adolescents in Jalandhar City is (r=+0.153) and the p-value was found to be p=0.030 which is less than 0.05 level of significance. For the other three dimensions, there exists no significant relationship between them and Academic Achievement Motivation among adolescents in Jalandhar City. For Hope (r=-0.066) and the p-value is (p=0.351); for Resilience (r=-0.127) and the p-value is (p=0.073); and for Optimism (r=-0.127) and the p-value is (p=0.073).

Overall this study found an insignificant correlation between Psychological Capital and Academic Achievement Motivation. This is contrary to Jafri (2017) who found that Psychological Capital has a bearing on the academic engagement of learners and their intrinsic motivation. However, the findings of this study are in line with Turner et al (2009), who found that self-efficacy is positively associated with academic motivation and consequently performance.

Results Pertaining to the Impact of Psychological Capital on Academic Achievement Motivation among Adolescents (Objective 2)

To find out the Impact of Psychological Capital on the Academic Achievement Motivation of adolescents, the researcher computed Regression using SPSS. Table 8, below shows the results of regression between dimensions of Psychological Capital and Academic Achievement Motivation among adolescents.

Table 8: Results of Regression between Dimensions of Psychological Capital and Academic Achievement Motivation among Adolescents

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.309[a]	0.096	0.077	4.6819

a. Predictors: (Constant), Psychological Capital Total, Efficacy, Hope, Optimism

Table 9: Model Fit of ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
1. Regression	451.590	4	112.897	5.150	.001[b]
Residual	4274.390	195	21.920		
Total	4725.980	199			

a. Dependent Variable: AAM Total
b. Predictors: (Constant), PsyCap Total, Efficacy, Hope, Optimism

Table 10: Showing Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig
	B	Std. Error	Beta		
1 (Constant)	30.232	2.944		10.269	0.000
Hope	-0.003	0.178	-0.002	-0.016	0.988
Efficacy	0.394	0.117	0.457	3.358	0.001
Optimism	-0.102	0.165	-0.096	-0.617	0.538
Psy Capital Total	-0.097	0.089	-0.320	-1.087	0.279

Regression was computed to ascertain the impact of Psychological Capital on Academic Achievement Motivation. Table 10 above shows that there is a weak relationship between Psychological Capital and Academic Achievement Motivation among adolescents. The R

square came out as 0.096 indicating that only 9.6% variation in Academic Achievement Motivation among adolescents is explained by Psychological Capital as a predictor variable. Further, Table 10 shows ANOVA of the regression data which resulted in an "F "value (5.150) and the P value is p=0.001. This makes the researcher reject the null hypothesis that there exists no significant impact of Psychological Capital on the Academic Achievement Motivation of adolescents in Jalandhar City. Hence it can be concluded that Psychological Capital has a significant impact on Academic Achievement Motivation among adolescents

However, looking at coefficients in Table 10 it is clear that out of all dimensions of psychological capital only efficacy is significantly contributing to Academic Achievement Motivation with Beta value (β values) of 0.394, t=3.358, and p= 0.001 turning to be significant. Therefore, it can be said that efficacy is a significant predictor of Academic Achievement Motivation. Other dimensions (Hope and Optimism) happen not to be a significant predictor of Academic Achievement Motivation whereas Resilience is an excluded variable having no role to play in the Academic Achievement Motivation of adolescents. The regression equation for the variables is formulated as under:
Academic Achievement Motivation =30.232+(0.394* Efficacy + 0.102* optimism +0.003* hope)

Conclusions

The researcher concludes that there is no significant relationship between Psychological Capital and Academic Achievement Motivation among adolescents in Jalandhar City. However, there is a significant positive relationship between efficacy (which is one of the dimensions of Psychological Capital) and Academic Achievement Motivation among adolescents in Jalandhar City. Lastly, the researcher concludes there is a significant impact of Psychological Capital as a predictor variable on Academic Achievement Motivation as an outcome variable and efficacy turned out to be a significant predictor of Academic Achievement Motivation among adolescents in Jalandhar City.

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Exploring how School Management Committees (SMCs) cope with School Finance Management in selected Primary schools in Zomba Educational Districts

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Abstract
In recent years, there is a move towards self-managing schools. This study explored how School Management Committees (SMCs) in Zomba Educational Districts were coping with the task of managing primary school finances. The study used a qualitative approach. It employed an embedded multiple-case study design and was guided by Cammack's conceptual framework. Data was generated through interviews, document analysis, and observation method. Data analysis was conducted using framework analysis. The collegial model was used as a theoretical framework to interpret the findings. The findings of this study suggest that despite its usefulness, the transition from Direct Support to Schools (DSSs) to Primary School Improvement Grants (PSIGs) had created its own set of challenges. By considering the School Development Fund (SDF), this study found that SMCs for urban schools raised more money through SDF than rural schools. The extent of poor record keeping by SMCs was higher in the management of SDF than in School Improvement Grant (SIG). SMCs in all the four schools were managing SDF as a distinct budget instead of supplementing the SIG budget. A large part of the management of SDF was done by the parent component of the SMC while the teacher component concentrated more on the management of SIGs. This study concludes that there is a need to employ the Collegial model in the management of finances in public primary schools in Malawi to counter some of the challenges that SMCs face in the management of school finances.

Keywords: Coping, school finances, multiple case study, management

Background to the Study

School Improvement Programmes are implemented in the USA, North of Ireland and Australia among other countries (U.S. Department of Education, 2006; Pricewaterhouse Coopers LLP, 2010; Gamage, 2009). In Southern Africa, there are similar initiatives, for example in Tanzania, Zimbabwe and South Africa (Mwinjuma & Baki, 2012; Nyandoro, Mapfumo & Makoni, 2013, Rangongo, 2011). What is common in implementing School Improvement Programmes (SIP) is the devolution of school management powers from a central body to specific schools through different committees.

The Malawi Primary School Education Sector has so far implemented two systems of administering school improvement grants nationwide under the School Improvement Programme. These are the Direct Support to Schools (DSS) System and the Primary School Improvement Grants (PSIG) System (Nampota, 2012; Rojas, Thomas, Bloemenkamp, Godron, & Ezekwesili, 2010).

The DSS System was initiated by the World Bank in 2005 (Nampota, 2012; Mambo, Cole & Ndala, 2012). Despite employing a bottom-up approach, the DSS grants operated through what is termed a 'paper budget' system, where the grant was not transferred to the school but was managed by the district office (Mambo, Cole & Ndala, 2012). Nevertheless, due to the positive results of DSS implementation, in 2009, Department for International Development (DfID) joined in to give funds for small scale maintenance and rehabilitation and this was the Enhanced Direct Support to Schools (EDSS) (Prew, Msimango & Chaka, 2011).

Even though the EDSS addressed some of the shortcomings of the DSS like insufficient funding, funds were still managed by the District office (Rojas et al., 2010) such that some of the shortfalls like high transaction costs, weak capacity of SMCs to effectively implement programmes, and schools with little decision-making power over resource allocation were not addressed. To further address some of the shortfalls in the DSS and EDSS, from the year 2010, public primary schools in Malawi received grants through the PSIG system (Rojas et al., 2010).

While DSS and EDSS money was controlled in some way by the DEM through issuing of cheques, SIG money was transferred from treasury direct to the school bank account requiring joint approval of the head teacher and the SMC to access and spend funds (MoEST$_b$, 2011; Mambo, Cole, & Ndala, 2012). By implication, SMCs have enormous financial responsibilities including budgeting, purchasing and record keeping.

Statement of the Problem

While the shift from DSS to PSIG has added a new dimension to management of finances at the school level, it has also in the process complicated the magnitude of the skills the SMC members need to effectively manage school finances. Added to this complexity is the lack of empirically-based studies that would demonstrate clearly how SMCs grapple with the management of finances in the PSIG program. Their experiences still remain obscure in the existing literature. This study sought to close the gap by trying to unpack and understand the experiences of SMCs in the management of school finances.

Purpose of the Study

- To explore how SMCs were coping with the task of managing school finances.

Research Questions

1. How do SMCs manage school finances?
2. What challenges do SMCs face in managing school finances?
3. How do SMC members perceive their role in managing school finances?
4. How do other stakeholders perceive the role of SMCs in managing school finances?

Significance of the Study

The study highlighted SMCs abilities, challenges and prospects of managing school finances and thus provide a window of opportunity to improve their capacity to manage and administer financial resources under the current PSIG programme. Challenges faced by SMCs in schools that were studied may be used to make inferences about capacity development needs of SMCs in other schools.

Literature Review

PricewaterhouseCoopers (2010), pointed out that managing large budgets and budgets in deficit were some of the challenges that school governors grappled with. However, little is known how SMCs are managing the budgets for the grants that are provided to schools in the PSIG program including funds raised locally at the school level. Little is known about challenges SMCs face in managing SIGs and other funds.

As one way of implementing financial controls and to ensure mutual trust between the Government and the SMCs, the financial management guidelines MoEST, (2011) demand that the SMC should have finance and procurement sub-committees. It is important to have the two sub-committees to ensure fairness, transparency, and accountability in purchasing goods or services for the school and in managing all funds including SIG (MoEST, 2011). For example, the management of SIG requires that all financial transactions should have the necessary supporting documents such as receipts and quotations. The Guidelines also state that SMC members are supposed to complete forms for each transaction. It is the information on the forms that is supposed to be used to report the transactions to the community, DEMs, PEAs, and other stakeholders, who are in turn responsible for monitoring the implementation of SIP activities funded by the SIG (MoEST, 2011).

In terms of auditing of the SIG, there is no specific mention of the engagement of independent auditors at school level basically because of the cost of paying for such a service. However, MoEST (2010) pointed out that there is a fungibility and fiduciary risk associated with the PSIP programme. As a way of managing this risk, a strategy that was put forward is to invest in the National Local Government Finance Committee quality audit team which may ensure that District audits of all primary schools are done at least once in three years (MoEST, 2010). It is, however, not known where this is happening in schools.

This study explored how SMCs were coping with fundraising and managing the funds that were raised including SIG funds. Much as MoEST (2008) and Nampota and Chiwaula (2011) pointed out that SMC members were limited by their low level of education, there is a need to consider how the different levels of education of the SMC members affect the way they manage finances. Despite the requirement in the financial management guidelines $MoEST_b$ (2011) for SMCs to complete the forms for record-keeping, report to PTA, and act as controls in the management of finances. There is no empirical evidence to show what is happening in the current PSIG programme as regards record keeping, reporting, and implementation of controls in the management of finances.

Conceptual framework

A framework for assessing financial management capacity developed by Cammack (2007) was used to guide the study on what questions to ask and what issues to look at in the management of finances by SMCs.

Figure 1: Specific tasks of strong financial management

Source: Adapted from Cammack (2007)

If one would like to assess an organisation's financial management capacity, there are a number of questions one would ask under each task which, together with one's knowledge about the organisation, help to build a good overview of finance management (Cammack 2007). The financial management guidelines provided the contextual framework in which questions were asked under each of the four tasks in Cammack's conceptual framework to establish how SMCs in Malawi public primary schools were managing finances. As Cammack (2007) advances, strong financial management is achieved by successfully performing these tasks.

***Planning and Budgeting*:** In financial management, organizations set their objectives for the year and estimate the associated costs to achieve them, resulting in the creation of an annual budget (Cammack 2007). As the year progresses, the management committee and managers continuously compare actual performance with the budget forecasts.

***Accounts Record-Keeping*:** A fundamental aspect of financial management involves maintaining accurate and up-to-date accounting records of all transactions (Cammack 2007). These records serve as the foundation for managing the organization's finances and form the basis for both internal decision-making and external financial reporting. By ensuring meticulous record-keeping, organizations can gain a comprehensive understanding of their financial status and performance.

***Financial Reporting*:** Financial reporting constitutes the production of annual accounting statements and reporting to various stakeholders, including beneficiaries, donors, and potentially governmental entities. These reports provide a comprehensive overview of the organization's financial health and activities, offering transparency and accountability to those invested in the organization's success (Cammack 2007).

***Financial Controls*:** The management committee and managers bear the responsibility of implementing robust financial controls that safeguard the organization's assets and minimize the risks of errors and theft. Examples of financial controls include expenditure authorization systems, ensuring appropriate checks and balances are in place when making purchases (Cammack 2007).

***External Audit*:** An external audit serves as an annual independent review that evaluates the effectiveness of various financial management tasks, including planning, budgeting, record-keeping, and financial controls (Cammack 2007). This comprehensive examination helps build robust financial management capacity within the organization and ensures compliance with financial regulations and best practices.

In summary, effective financial management in organizations involves strategic planning and budgeting, meticulous accounts record-keeping, transparent financial reporting, implementation of robust financial controls, and annual external audits. These practices

contribute to an organization's financial stability, accountability, and capacity for informed decision-making, fostering its overall success and sustainability.

Theoretical framework

The collegial model (Bush, 2003) was employed as the theoretical framework in looking at the structure of the SMC and the way it organizes itself through sub-committees and the SMC as a whole. The model was also used to discuss the findings that emerged from the study-especially emphasizing the working relationships among those involved in school management.

Collegial models encompass various theories that emphasize the distribution of power and decision-making among some or all members of an organization (Bush, 2003). Brundrett (2008) defines collegiality more broadly as stakeholders engaging in dialogue and cooperation with one another. Therefore, collegial models posit that organizations establish policies and reach decisions through a process of discussion that leads to consensus, with power shared among certain or all members of the organization who are perceived to share a common understanding of the institution's goals. In collegial models, the notion of shared decision-making is considered instrumental in achieving organizational effectiveness and fostering a collaborative and harmonious working environment. Collegial models are often favoured in educational contexts, as they align with the principles of democratic governance and collaborative problem-solving. However, successful implementation of collegial models requires effective communication, a supportive organizational culture, and a commitment to inclusivity and transparency in decision-making processes.

Scholars have pointed out that “the closest we can come to authentic local participatory planning is if the negotiation process between planners and the local people is structured in such a manner that they engage in the process as equal partners” (Chinsinga, 2003, p.139). Additionally, the spirit of give and take is necessary for participatory planning among all the stakeholders in grassroots development, which, among others, include government officials and the intended beneficiaries of development interventions (Chinsinga, 2003). This study interrogated to find whether stakeholders are operating like equal partners in financial management as recommended by Chinsinga (2003).

Methodology

The study used a qualitative research approach. Qualitative research is an approach in which researchers are concerned with understanding the meaning that people attach to their experiences or phenomena within their society (Ritchie & Lewis, 2003). Hence for this study, the researcher visited schools for data generation, which enhanced the understanding and analysis of the way SMC members were coping with the management of finances in primary schools.

Research design

This study used a multiple-embedded case study design as shown in Figure 2.

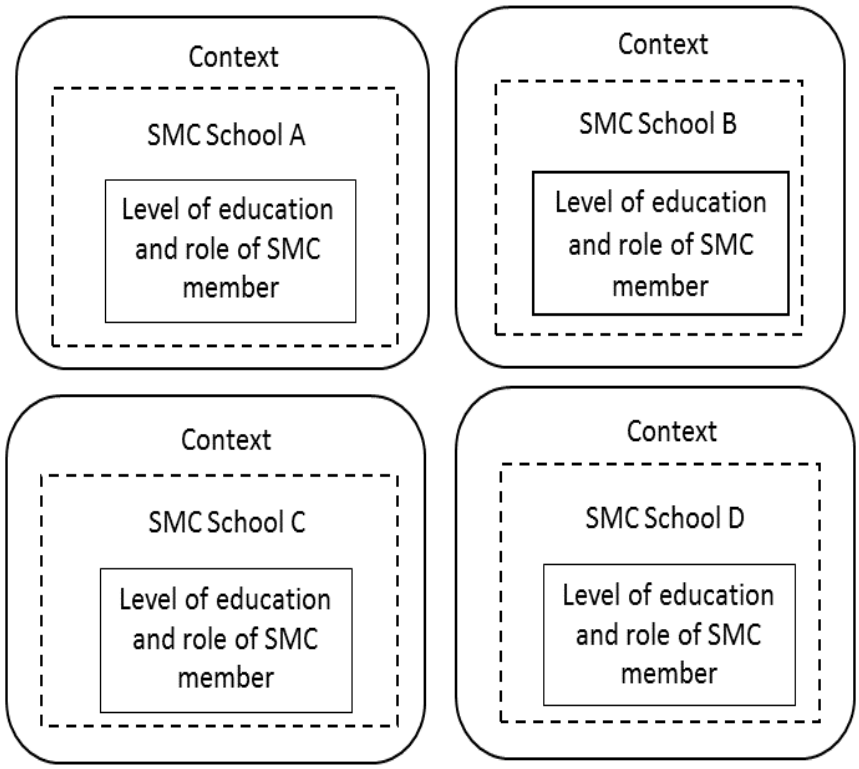

Figure 2: Multiple embedded case study containing SMC as a unit of analysis

Source: Adapted from Yin (2009)

According to Yin (2009, p.53), "a multiple case study design is one which may contain more than a single case". In this study, each of the four schools as shown in Figure 2 represented a single case with the SMC as the unit of analysis that was used to explore how SMCs were coping with the management of finances. Yin (2009, p.50) further states that "if within a single case, attention is also given to a subunit or subunits such that the study involves more than one unit of analysis then the study is said to be an embedded case study". For all SMCs in the four schools in this study, an embedded design was used to explore how members with different levels of education understood their role in managing finances. SMC members' roles and levels of education represented an embedded unit of analysis. The overall design for this study was therefore a multiple-embedded case study.

Sampling

Purposive sampling was used. Participants were included in the sample because they were likely to be knowledgeable and informative about the phenomena the researcher was investigating. Two schools in the urban setting and another two from a rural setting in Zomba Educational Districts were purposefully sampled. Seven SMC members from each of the four schools were purposefully sampled. When sampling these, the focus was on their levels of education, and members with higher levels of education together with those with lower levels of education were all sampled. The researcher also interviewed four PEAs, one from each of the four schools. Two officers responsible for school administration from the DEM rural and the other from the DEM urban office were interviewed. These officers were selected because it was assumed that they may have a good understanding of the role of SMCs in managing school finances.

Data Generation Methods

Richards (2009) states that case studies are strengthened by using multiple methods and viewing the topic in several ways. In order to strengthen this study, multiple data generation methods were used**.** These included; documents and archival records, direct observation, and key informant interviews.

Key informant interview

Patton (1990) in Rubin and Babbie (2011) suggests that one way to provide more structure than in the completely unstructured informal conversational interview while maintaining a relatively high degree of flexibility is to use the interview guide. In this study, an interview guide was employed in order to enable the researcher to be focused on the same predetermined topics and issues while remaining conversational and free to probe into unanticipated circumstances and responses. The interview was conducted with the selected key informants in the study.

Document Analysis and Archival Records

All available documents relating to how SMCs manage school finances, such as agendas and minutes of the meetings held, 2014 financial reports and budgets, annual SMC programmes, and financial management guides were analysed. Archival records in the form of budgets and their corresponding financial reports for the years 2013 and 2012 were also used to understand how finances were being managed in schools.

Ethical Consideration

- Informed consent was sought from all institutions or/and interviewees.

- Anonymity – schools were identified by letters; and, interviewees were not allowed to use their names. The researcher used the word "representative" to identify members who were interviewed at the DEM Urban and Rural offices.

- Schools were visited and interviewees were not exposed to anybody else other than the researcher to ensure confidentiality and privacy.

- The study did not pose physical or psychological harm to interviewees and they were all assured of that.

- Findings were presented honestly and objectively.

Data Analysis

This study used Framework analysis to analyse data (Srivastava & Thomson, 2009; Lacey & Luff, 2001). Framework analysis was employed as follows:

- Familiarisation – this involved reading and understanding what was written in the transcripts.

- Identifying a thematic framework - The researcher identified themes in line with Cammack's Conceptual framework. Nodes were created using identified themes.

- Indexing – portions or sections of the data that corresponded to a particular sub-theme were identified and coded onto their corresponding sub-themes using Nvivo: Transcribed data was thus coded using Nvivo which helped to bring responses for the same question from different interviewees at each school together;

- Charting - the specific pieces of data that were indexed in the previous stage were arranged in charts of the sub-themes and themes using Nvivo. This helped to bring responses on the same theme from all the SMCs together.

- Finally, mapping and interpretation - key characteristics as laid out in the charts were condensed and analysed.

Limitations of the study

One of the limitations of this study relates to the focus on four SMCs from four primary schools in Zomba Educational Districts. Given the context of Zomba Educational Districts, this may limit the ability to generalize results to other SMCs in other Districts in Malawi. However, the approach to case selection did ensure that the four schools varied on key criteria that allowed the research questions to be examined in fairly diverse settings that were in rural and urban settings that facilitated understanding of how SMCs were managing finances and generalizing the results to other similar contexts. In addition, a

high participation rate was achieved, with strong representation from all four cases and other stakeholders that were actively involved in monitoring how finances were managed in primary schools. Furthermore, Yin (2009) suggests employing a theory in a case study to enable analytical generalization. This study used the Collegial model to interpret the findings in order to enable analytical generalization and achieve external validity. However, it would be particularly useful to study additional SMCs for schools in other districts to determine if similar findings could be obtained.

The other limitation was the non-availability of some financial and archival records for documentary analysis. Despite this challenge, by triangulating data obtained from the different sources, the researcher was able to gain an understanding of how members were carrying out their roles and establish how SMCs were coping with the management of finances.

Results

Management of School Finances

To establish how the finances are being managed in schools, the study looked at how the schools; source income; draw their budgets; account and keep records; report finances; control finances; audit finances; and finally, how SIP activities are monitored.

Source of income

There were two major funds that were managed by SMCs in all the four schools. The major funds were the SIG and SDF. School B had Airtel Tower as the third major source of income. Urban Schools A and B received a relatively higher amount of SIG funds than rural Schools C and D as shown in Table 2.

Table 2: Number of SIGs provided to school A, B, C and D from 2012 to 2014 and their corresponding enrolments

YEAR	SIG FUNDS AND ENROLMENT	SCHOOL A	SCHOOL B	SCHOOL C	SCHOOL D
2014	SIG FUNDS	K1 078 020	K1 397 683	K927 757	K600 000
	ENROLMENT	2252	3200	1415	1038
2013	SIG FUNDS	K900 000	K1 100 000	No records	K422 612
	ENROLMENT	2241	2515	No records	934
2012	SIG FUNDS	K350 000	No records	K300 000	K200 000
	ENROLMENT	2020	No records	1228	911

Source: Researcher analysed data (2015)

SIGs were given to schools based on enrollment. Urban schools A and B had a higher enrolment and therefore received a relatively higher amount of SIG funds. Urban Schools also raised more money through SDF contributions than rural schools. For instance, the results from interviews, documentary analysis and archival records indicated that at School A, each learner contributed K500 per year towards SDF while at School B, each learner contributed K200.00 per term which translated to K600 per year. On the other hand, at rural Schools C and D, each learner contributed K250 per year towards SDF. In addition, urban schools A and B had other means of raising additional money through classroom rentals. The findings mean that SMCs in urban schools A and B had the potential to raise more money through SDF contributions than SMCs in rural schools C and D. This further increased the differences in terms of the amount of money received between urban and rural schools.

Drawing budgets

When budgeting for SIG, SMCs in all the four schools prepared budgets based on the three NESP goals and the money was withdrawn from the bank three times following the three NESP goals. Thus, the SMC was at first withdrawing money for quality and relevance, then access and equity and finally the SMC was withdrawing money for the third NESP goal known as management and governance.

When it comes to the management of SDF, all the schools were managing funds raised as a parallel budget instead of supplementing the SIG budget. Funds were thus managed as two distinct budgets and that was the SIG budget and SDF budget. When asked about this a respondent from school B reported that "you cannot mix SIG and SDF, the two are different and they are also audited differently." However, this was a departure from what had been stated in the financial management guidelines that require the SDF to supplement the SIG budget. Possibly, there is a need for orientation of SMC members on this.

There were also differences in the way SMC members were collecting SDF contributions from learners. The parent component and the teacher component of the SMC were working as a team to collect SDF contributions at school A. At School B, two store clerks and teachers were at first collecting SDF contributions. Because of the suspicion that store clerks were misappropriating the money and later, teachers collected SDF contributions alone. While at Schools C and D, the major part of the collections of SDF contributions was done by the parent component.

In all the schools, a larger part of managing SDF was done by the parent component of the SMC while the larger part of managing SIG was done by the teacher component. Although there was speculation of misappropriation of money, especially rentals, to a larger extent, the SMC at School A was able to manage finances better because the parent

and teacher component of the SMC were working together and there were controls like issuing receipts to learners who had paid the SDF contributions. What emerges above, therefore, is a certain degree of variations across schools in the management of school finances.

Accounts Record-keeping

There were budgets and corresponding receipts in all the four schools in the year 2014 for SIGs. There were no receipts in the years 2012 and 2013 at School C. There were no budgets and corresponding receipts in the year 2012 for School B. When it comes to SIG, SMCs in all the schools maintained a stock book in which they were recording items bought, items received, the number of items issued out and the balance after issuing out. On the other hand, there were no budgets and corresponding records for SDF in all the schools. This implies that there was poor record keeping in the management of SDFs than SIG.

Financial Reporting

In general, there were corresponding reports for SIG. In the case of SDF, there were no corresponding reports. What also transpired as the interviewees were responding to the question on whether the SMC was reporting to PTA was that there were no handovers between one SMC and the next SMC after elections at Schools B, C and D.

The findings also show that there were differences in the four cases as regards posting reports on the notice boards. At School A and B for instance, there was a summary of activities done under each of the three NESP goals and their corresponding costs on the notice board in the Head teacher's office. At Schools C and D, reports were not posted on the notice board. At School C, when asked why they did not post reports on the notice board one key informant reported that "we are always careful when handling issues of finances, if we post the reports on the notice board people will take advantage and know what is there in the school and in the end make plans to steal school property." While at School D members interviewed said that they did not post reports on the notice board instead reports were just read out during meetings. In general, PTA members in all cases were able to question some of the transactions or expenses in the financial reports produced by SMCs.

Financial Controls

This study established that there were some controls which were implemented by SMCs in all the schools and there were also other controls which were implemented in specific schools. For instance, the four schools had SIP bank accounts which were evidenced by bank deposit slips. SMCs in all the schools were conducting stocktaking of assets. Documentary analysis and archival records indicated that all the schools maintained a stock book for materials bought and materials issued.

SMCs in the four schools under study also had SMC sub-committees. Responses from the interviewees indicate that all the four schools had finance and procurement sub-committees and other sub-committees such as the mother group to guide girls on how to conduct themselves in school and a project committee to look at development activities in the school. There were also other controls which were specific to certain schools. For instance, at School A, the SMC issued receipts to learners who had contributed SDF while in the other three schools, receipts were not issued to learners. Again, schools A, B and C had SDF bank accounts. There were deposit slips for SDF bank accounts for Schools A and B. There was however no evidence of deposit slips for the SDF bank account for school C. While School D did not have an SDF bank account. There were also differences in the way the SMC acted as a control in the four schools. For example, unlike the other three schools, at school A, the parent and teacher component of the SMC were working as a team to collect SDF contributions from learners.

Auditing

This study established that auditors from the Zomba National Audit office visited School A once. However, the requirement is that the National Local Government Finance Committee quality audit team should conduct District audits of all primary schools at least once in three years (MoEST, 2010).

SIP Activity Monitoring

The Primary School Improvement Program School Improvement Plan Development and Implementation Guidelines (MoEST$_b$, 2011) require that a social audit should be conducted to enable close monitoring of the way finances are managed in primary schools. This study established that in all the four schools, DEMs, PEAs, PTAs, and other members of the community like Chiefs and Ward Councillors, were engaged in monitoring the management of finances in the four primary schools under study. Officials from the Zomba City Assembly also visited schools A and B to monitor how the SMC was using materials that were provided to build school blocks. Officials from the Ministry of Education also visited Schools A, B, and D once to monitor how SMCs were managing finances.

Challenges in the management of finances

There were also a number of challenges that SMCs faced in the management of finances in primary schools. Some of the challenges included insufficient funds; as pointed out by the SMC Chair at School B, because of insufficient funds there was also the challenge of meeting the minimum wage set by the government for wages given to watchmen that were employed by the school; failure to pay SDF contributions by some parents; unnecessary delays with respect to the time between the time SMCs obtained quotations and the entry

of money into the school bank account which consequently, resulted in a mismatch between the prices which were budgeted for and the actual prices of goods. Delayed payment of SDF contributions by some parents which made SMCs fail to do certain activities, and disagreements between parent and teacher components of the SMC as to who should collect SDF contributions from learners also ranked among key challenges.

Despite the monitoring meetings, this study noted that the monitoring process was not without shortfalls. Firstly, some of the members who were supposed to do the role of social auditing did not do it. For instance, at School C most PTA members acknowledged doing everything together with the SMC leadership thereby defying the principle of separation of power. By doing everything with the SMC, the PTA would not effectively monitor the activities of the SMC.

The second weakness borders on Chiefs and Ward Councillors' interference in the work of the SMC. For instance, at School B, the Ward Councillor asked the committee to give him the money to go and buy electrical appliances to fix the wiring at the school while at School D Chiefs wanted to accompany the procurement committee when going to town to buy materials. It appears the Chiefs had their own interests. They thought that there were other benefits which committee members enjoy and they also wanted to enjoy the same.

Stakeholder perception of their role as SMC members in the management of finances

Most of the SMC members were able to describe their role of performing their duty of managing finances and acting as controls according to their respective positions. Only the PTA Vice Chair at School D completely failed to describe her role in managing finances. When asked about her role she responded that "I do not have any role as regards management of funds in the school, that is the role of the Headteacher and I cannot interfere with him, my role is to encourage girls to work extra hard in school." This clearly shows that she did not have a clear understanding of her role, probably because she was not oriented on her role in financial management.

Although the Ex-Chairperson of the PTA for School C and the SMC Chair for School D were able to describe some of their roles, it appeared they could not cope with their roles. For instance, they were only able to write their names. The SMC Chair for School D, could not read. She was elected as SMC Chair to represent the Church in the SMC. When she was asked about authorising payments she pointed out that "when they bring payment authorisation forms to me, I ask them where I should sign. I do not know how to read so I do not bother with the rest of the information." This clearly shows that she could only endorse her name without understanding what she was signing for. One could therefore

say that she could not act as a control in the management of finances. This is probably the reason as she put it, she was ignored by other members in other activities.

Similarly, the Ex-Chairperson of PTA for School C was able to describe his role. However, he pointed out that "I am able to read Chichewa only and not English, I am able to sign the forms when brought to me." Since the authorisation forms that the Ex-Chairperson of the PTA was signing were written in English, one wonders whether he was indeed able to follow what he was signing. It is not surprising that in the end there was suspicion that funds had been misappropriated and the SMC and PTA committees in which the Ex-Chairperson of PTA was a member were disbanded.

Perception of other stakeholders regarding the role of SMC in the management of finances

When asked about his perception regarding the role of SMC in the management of school finances the DEM Rural representative pointed out that "…currently, SMCs are making improvements in the way they manage finances, in the past SMCs were having many problems, especially, financial record keeping." This shows that other stakeholders are able to note some traits of improvement in the management of school finances. When asked about the same DEM Urban representative pointed out that "… I feel like SMCs in urban schools are not very effective in terms of monitoring finances because members of SMC are busy with their various businesses and do not regularly visit their schools." The study also established that the DEM Urban representative and PEAs perceived SIG budgets to be better managed than the SDF budgets and that there was close monitoring of the SIG budget.

Discussion

The study employed the Collegial model and a framework for assessing financial management by Cammack (2007) to interpret the findings from the analysis of data from the four schools.

Collegial models assume that organisations determine policy and make decisions through a process of discussion leading to consensus (Bush 2003). According to Bush (2003, p.64), in a collegial model, "power is shared among some or all members of the organization who are thought to have a shared understanding about the aims of the institution". Chinsinga stated that "the closest we can come to authentic local participatory planning is if the negotiation process between planners and the local people is structured in such a manner that they engage in the process as equal partners" (Chinsinga, 2003, p.139). Chinsinga (2003) further stated that the spirit of give and take which is necessary to participatory planning must prevail among all the stakeholders in grassroots

development, which, among others, include government officials and the intended beneficiaries of development interventions. In this study however, this was not the case.

When managing finances in public primary schools in Malawi, the expectation is that power should be shared among the parent component and teacher component of the SMC in the management of both SIGs and money raised within the school like SDF. This should lead to consensus in the management of both SIGs and SDF ($MoEST_a$, 2011). This study has established that in some cases, the parent component did not fully involve teachers in the management of SDF as was the case with school C and D. Teachers were only informed about what was happening with the SDF. This study also established that in some instances, parents were also ignored in the management of SIG like the way the SMC Chair was side-lined at school D. There were also disagreements on who to collect SDF from learners. The problem of who collects money is not new in Malawi. Wolf, Lang, Mount, & VanBelle-Prouty (1999) have made similar remarks about Malawi where SMC and PTA sometimes collided on what they thought were their responsibilities. They both thought it was their responsibility to collect money.

So far, the National Strategy for Community Participation in Primary School Management stated that the role and responsibility of the SMC is to manage resources at the school while the role of the PTA is to mobilise communities and hold SMC to account (MoEST, 2004). This agrees with the views expressed by the PEAs who were interviewed in this study. Nevertheless, the argument of who collects SDF contributions still rages on because findings in this study show that the conflict now is not between the SMC and PTA as stated in the study by Wolf et al. but between teacher component and parent component of the SMC.

If there is no proper guidance on who collects SDF, there may be loop-holes such that the ones who collect SDF may be pocketing the money for their own personal use. The result of the misappropriation could be that parents who contribute may not continue doing so because money which is contributed goes in somebody's pocket and not the intended school use. What may follow is that there would be no mobilisation of resources from the community through SDF contributions.

As a result, aspects which encapsulate collegiality like increased involvement of both parents and teachers, shared accountability and shared decision-making in such cases may not be realised. On the other hand, both parents and teachers as members of the SMC were involved in collecting SDF contributions from learners and management of SIG at School A. This way, shared involvement and decision making in the management of both SIG and SDF may be realised. Indeed, one of the features in collegial models is that decisions are reached by consensus rather than division or conflict. The reasoning behind this is that collegiality is acclaimed as a way for members to benefit from the support and expertise

of their colleagues (Bush 2003). This means that if the teacher component and parent component work together, one way in which the SMC may benefit from involving the teacher component in the management of SDF, for example, is record keeping. Similarly, the SMC may benefit from the parent component in terms of implementing controls like social auditing and raising funds in the management of both SIG and SDF finances at the school.

Lofthouse in Singh and Manser (2002, p.57) asserts that "the introduction of collegial style of management should be focused on how to extract the best from people and hence create the most effective and efficient educational climate possible". This also implies that if members are not given proper roles they may fail the Collegial model. For example, this explains the situation of the SMC Chair at School D. The SMC Chair for School D could not read and write yet she was elected as SMC Chair. The expectation according to the financial management guidelines is that the SMC Chair should sign authorisation forms but after understanding what is written therein. According to the Collegial model, the SMC Chair at School D was not given the proper role. She could have probably been given another position in the SMC after taking into consideration her strengths and weaknesses in order to extract the best from her.

Collegial models assume a common set of values held by members of the organisation such that it is always possible to reach agreement about goals and policies (Bush, 2003). Bush (2003) further asserts that these values may arise from the socialization which occurs during training and the early years of professional practice. Training was provided to SMC members in all the four schools under this study on how they were supposed to manage SIGs in order to socialise the SMC members in the management of finances. This could probably explain the reason SMCs in the four schools managed SIGs better than funds raised within the school under SDF. On the other hand, there were no financial management guidelines and no training which specifically targeted the way SMCs were supposed to manage SDF as a parallel budget. The expectation according to the PSIP financial management guidelines is that money raised within the school will not be managed as a parallel budget but instead supplement the SIG budget ($MoEST_b$, 2011). This is the reason there was no training specifically targeting how SMC members could manage SDF. So, there was no socialization in the way SMCs in the four schools under this study were supposed to manage SDF or funds raised within the school as a parallel budget. This explains one of the reasons for poor management of SDF by SMCs.

The conceptual framework of the study looks at planning and budgeting, financial reporting, financial controls and accounts record keeping. Firstly, planning and budgeting brought confusion as to who should be in control of the SDF funds between the parent component and the teacher component. The schools also failed to supplement the SIG budget by SDF funds as demanded by the guidelines. When it comes to financial

reporting, SDF funds were not reported unlike SIG funds and schools were not transparent enough to communicate how they have spent SDF funds. Furthermore, financial controls were also not there especially in the rural schools where the parent component of the SMC lacked literacy hence it was easily manipulated by the teacher component. Lastly, accounts record keeping was good for SIG funds only unlike for the SDF funds that had no records. Using Cammack (2007) conceptual framework, it is conspicuous that there was good financial management for SIG funds unlike the SDF funds. There is a need therefore, to orient SMCs on their role in SDF fund management at the same time ensuring that there is an equal power relationship between the teacher component and the parent component of the SMCs.

Conclusion

The major argument in this study is that SMCs were managing SDF as a parallel budget instead of supplementing the SIG budget and at the same time a greater extent of poor record keeping was in the management of SDF. On a larger part, the management of SDF was done by the parent component of the SMC. If SDF is not properly managed, ownership of managing primary schools by the community may not be developed. There is a need therefore, to employ the Collegial model in the management of finances in public primary schools in Malawi in order to counter some of the challenges in the management of finances and benefit from the assumptions in the Collegial model like how to extract the best from people, a spirit of give and take and a common set of values which may arise from the socialization on how to manage the SDF in which SMC members were not socialised.

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Factors affecting quality of education in four rural primary schools in Mangochi district in Malawi

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Abstract

Quality primary education is a fundamental human right that is highly relevant for individuals and societal development. Despite the universal calls for increased access to quality primary education, there are clear disparities in providing quality primary education between and within regions. Four rural primary schools in Mangochi District in southern Malawi were selected for participation in an investigation of site-specific factors affecting quality education. We used an emergent framework of quality education in low-income countries, focusing on the intersecting contexts of policy, schools, the home and community. To collect data, we used semi-structured qualitative interviews involving headteachers, teachers, primary education advisors (PEA) and senior education officers at district and national levels. Research participants described their observations of factors that affect the provision of quality education and impede educational attainment in the four rural primary schools. The findings from the study indicate that the four primary schools experience weak infrastructure, teacher shortage and a lack of teaching and learning materials. We conclude by highlighting implications for practice that may help address the quality of education in rural schools in Malawi.

Keywords: Education for all, Malawi, rural primary schools, quality education

Introduction

This study is concerned with the provision and quality of primary education in rural Malawi. For many years, the international community has acknowledged the importance of education and agreed on various declarations, such as the 1948 Universal Declaration of Human Rights, which asserted that "everyone has a right to education" (United Nations [UN], 1948). The 1990 Jomtien Proclamation of *Education for All* (EFA) and the 2000 *Millennium Development Goals* (MDG) both emphasize the need for increased access to universal education and training (Orodho et al., 2013). In 2015, EFA was expanded through *Sustainable Development Goal* (SDG) Number 4 (United Nations, 2018), to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all."

In 1994, in response to EFA goals, Malawi became one of the first sub-Saharan African (SSA) countries to establish free primary education (FPE), acknowledging education as a right but also essential for the country's development and the improvement of living standards (Chimombo, 2009; Mzuza et al., 2014). This declaration was the most critical factor for the rapid increase in primary school enrolment in Malawi. From 2008-2018, primary school enrolment increased by 47.1% (Ministry of Education, Science and Technology [MoEST], 2019). However, this sharp rise in enrolment was not accompanied by increased teacher recruitment, adequate classrooms, and teaching and learning materials (TLM) (MoEST, 2021; Mzuza et al., 2014). Although a programme was established to train teachers to meet this demand, it did not achieve the desired results (Lewin et al., 2003). The number of school classrooms increased by 12% from 2004-2013 (World Bank, 2016), but this was insufficient to accommodate all learners.

To ensure that all learners are learning in purpose-built classrooms, 36,000 classrooms are needed nationwide (United Nations Children's Fund [UNICEF], 2019). A survey conducted by the MoEST (2021) indicated that in each year group, learners had to share textbooks in English, Chichewa, and Mathematics, in ratios from 2 learners per textbook up to 9 learners per textbook. In 2014 it was determined that in 43% of surveyed primary schools, no learner enrolled in Standard 5 (S5) was observed using a mathematics textbook (World Bank, 2016). It was commonly observed that the schools rationed the textbooks supplied, with only a portion of distributed textbooks used during teaching. This strategy of "hoarding" textbooks occurs because schools are not assured of a regular and prompt supply (World Bank, 2016).

There is a clear indication that despite the universal call for quality primary education, access to it differs between regions. Increased enrollment in Malawi following FPE, for example, only tells part of the story. Regarding participation and attainment, about 81% of children in SSA are enrolled in primary schools and only 63% complete primary education, compared to the global 84% primary completion rate (United Nations Educational, Scientific and Cultural Organization, [UNESCO], 2019). Furthermore, 88% and 84% of school children in SSA do not reach the minimum proficiency level in reading and mathematics respectively, by the time they reach the primary school completion age of around 14 years (UNESCO, 2017).

Quality education not only impacts the individual's personal development and health, employability, innovation and economic growth; it also affects society by encouraging social cohesion (Idrees & Siddiqi, 2013; Ismail, 2015; UN, 2018; World Bank, 2018). This should motivate countries, especially those described as low-and lower middle-income, to allocate more funding towards the education sector to support education for all. In particular, the targeting of rural primary schools, mainly because people living in rural areas are generally less affluent (Chikhungu et al., 2020), should be a deliberate government choice.

To achieve EFA in SSA, many countries, including Malawi, have increased their public spending on education (MoEST, 2021). For example, in the 2020/2021 fiscal year, Malawian public expenditure on education reached 4.6% of the GDP, similar to other countries in the SSA region (MoEST, 2021). During this period, Malawi spent 49% of the education budget on primary education (World Bank, 2021). However, most of the budget (over 90%) for schools in Malawi goes towards recurrent expenditures, such as teachers' salaries (MoEST, 2021), leaving little to invest in infrastructure and TLMs.

To study quality education, a conceptual understanding of what it entails is necessary. Tikly (2011) proposes that quality education enables all learners to:

> …realise the capabilities they require to become economically productive, develop sustainable livelihoods, contribute to peaceful and democratic societies and enhance well-being. The learning outcomes that are required vary according to context but at the end of the basic education cycle, must include threshold levels of literacy and numeracy and life skills, including awareness and prevention of disease. (p. 10)

Within this definition, the context is essential and must be considered when studying quality education. According to Tikly (2011), good quality education results from the interaction between three contextual factors: the policy context, the school context, and the home/community context of the learner. Each factor needs enabling inputs (Tikly, 2011). The policy context entails recognising teachers' and headteachers' experiences and views in order to align professional development with the national curricula to support schools in implementing and monitoring changes and development. In the school context, to minimise the gap between education outcomes and parents' expectations, listening to parents and observing the relevance of the curriculum is important. In the home/community context, parents can create an enabling and supportive home learning environment.

This quality of education framework, also referred to as 'EdQual' (Tikly, 2011) was used in analysing the findings of this study. Our focus here is to elucidate the stakeholders' perspectives in examining the quality of education in four rural primary schools in Malawi**.**

Provision of primary education in rural areas

There are persistent challenges in providing quality primary education in many SSAs and other low- and lower middle-income countries (LMICs). This has led to an ongoing learning poverty. In many LMICs, rural learners consistently underperform compared to their urban peers (Sumida & Kawata, 2021). One reason for this disparity in performance is school characteristics, with rural schools reported as having more dilapidated infrastructure, fewer qualified teachers, and fewer resources, such as teaching and learning materials, compared to urban schools (Chakanika et al., 2012; Sumida & Kawata, 2021).

Adverse living and working conditions, along with a lack of basic amenities such as electricity and portable water, are constraints to deploying teachers to rural areas. For the learners, long distance and mobility challenges during rainy seasons have been found to undermine school attendance (Chakanika et al., 2012). Additionally, many teachers in rural areas feel overburdened with teaching duties in poorly funded schools. They also feel isolated, and lack access to financial, recreational, and health services. This can lead to low teacher morale and ineffective teaching (Shikalepo, 2020).

In their research, Ishii and Meke (2022) examined the impact the family, teacher, school, and community may have on reading scores in Malawi. Their findings suggest a clear rural-urban divide in the performance level of learners, where rural learners perform worse. Kayange (2020) surmised that the disparity in the learning environment between rural and urban primary schools adversely affects learners' performance. Research indicates that most teachers in rural primary schools in Malawi are less likely to live on school grounds and instead rent "questionable" accommodation (Kayange, 2020, p. 173) in nearby villages. These teachers commute to school by foot or bicycle, and often arrive tired. Teachers in Kayange's (2020) study were found to be eager to request a transfer to urban areas, and if their request was denied, many were prepared to resign. Such resignations further exacerbate the already high learner-teacher ratios in rural schools.

The purpose of this study was to shed light on the quality of primary education provision in four rural schools in one district in Malawi. We explore some site-specific factors in in rural Mangochi District to answer the following research question:

> *What factors affect quality education in four rural primary schools in Mangochi District in Malawi?*

In the next section, we will describe the context of the study.

Context of the study

Conditions of schooling in rural areas in Malawi are poor (Kayange, 2020; MoEST, 2020; Sosu et al., 2019). About 84% of Malawians live in rural areas (National Statistics Office, 2019), and 89% of primary schools are in rural areas (MoEST, 2018). In Malawi, around 26% of children in rural areas complete their primary education, compared to approximately 50% nationwide (Watkins & Ashforth, 2019). Class sizes are larger in rural primary schools with the teacher/learner ratio 1:70 compared to the national average rate of 1:62 (MoEST, 2021). This reduces individual learner participation in class discussions (Kayange, 2020).

School infrastructure in rural areas is generally of poor quality (Erlendsdóttir & Mtika, 2023; Kayange, 2020). Only 26% of Malawian primary schools have electricity, and a large proportion of these are in urban areas or cities (MoEST, 2020). Consequently, urban

city schools are more likely to have computers and printers than rural ones. Furthermore, rural primary schools are generally far from many learners' homes, meaning they must walk a long distance to get to school (Kayange, 2020). This can be unsafe for children, especially during the rainy season.

In Malawi, there are 33 educational districts subdivided into zones, with a primary education advisor (PEA) in each zone covering, on average, 15 primary schools. Providing pedagogical support to headteachers and teachers is one of the PEAs' responsibilities, along with offering in-service training for teachers. PEAs also collect statistical data for their schools and act as bridges between the schools/zone and the district education office (MoEST, 2018). The PEAs are answerable to the district education manager (DEM). The primary responsibilities of the DEMs are to oversee the delivery of education services in the district. They are responsible for development planning and the education budget, advising local education authorities on government policy and deploying teachers to schools and other related issues.

The Malawi Government policy agenda is to improve equitable access to quality learning for all children (MoEST, 2021). The country's aspiration for 'education for all' has increased the demand for educational resources to such an extent that budget allocation has been unable to keep up (UNICEF, 2019). Regardless, the qualified teacher/learner ratio in Malawian primary schools has decreased in recent years, but has not reached the official target of 1:60 (MoEST, 2022), which is still deemed too high for effective teaching and learning (Mtika & Gates, 2011). In addition to the high qualified teacher-learner ratio, there is an imbalance in the deployment of teachers, with rural schools often struggling to attract qualified teachers (Asim et al., 2019; UNICEF, 2019). The shortage of teachers' housing is a concern, with only around 23% of teachers living on school grounds (MoEST, 2019), while others rent accommodation further away from the school and commute to school on foot.

Official statistics show that educational outcomes in Malawi are persistently poor, with only one in three enrolled learners completing the eight-year primary school cycle (MoEST, 2019; World Bank, 2016). Those who complete primary school have been shown to lag behind students in other countries in the region in English, mathematics and science examinations administered by the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) (Awich, 2021). It is against this backdrop that the current study was conducted.

Research design and methodology

In this study, we explore site-specific factors that affect the quality of rural primary education in four schools in Mangochi district. The objective is to gain insights into specific issues related to the provision of quality education through first-person accounts from teachers, headteachers, and other educational officials. We used qualitative semi-

structured interviews to better understand participants' experiences and perspectives. Semi-structured interviews were most apt due to their flexibility and ease with which the field researcher can ask probing questions to gain a deeper understanding of the participant's views and ideas (Bryman, 2012). Data were collected from April to July 2016.

The research question underpinning the study was: *What factors affect the quality of education in four rural primary schools in Mangochi District in Malawi?*

Participants

Four rural primary schools in Mangochi District were selected for participation, each in a different education zone. The schools were selected from 12 primary schools in four different education zones in the district. The four schools which were selected had expressed willingness to be part of the study. Participant selection was both purposive and pragmatic, based on participants' availability and willingness to participate. Six teachers from each participating school were interviewed, as were their headteachers and four PEAs from different zones representing the participating schools. Senior education officers from the office of Basic Education at the MoEST and from the office of the district education manager in Mangochi were also interviewed. The teachers were interviewed in pairs, while other participants were interviewed individually. During data collection, the field researcher spent five consecutive days at each school on average.

An overview of the four participating schools is given in Table 1. The four selected primary schools were in impoverished communities with a high teacher/learner ratio and poor infrastructure.

Table 1: Overview of the four participating schools

Number/name of the school	Hillside[1] Primary School	Chambo Primary School	Baobab Primary School	Lakeview Primary School
Number of learners	1529	1711	3554	1063
Teachers	38 (of which 30 were qualified)	22 (of which 20 were qualified)	54 (of which 49 were qualified)	12 (of which 6 were qualified)
Teachers' housing	7	5	5	4
Staff room	No	No	No	No
Teacher/learner ratio				
Infant section (S 1-2)	1:117:	1:227	1:145	1:121
Junior section (S 3-5)	1:80	1:121	1:109	1:121
Senior section (S 6-8)	1:66	1:29	1:113	1:31
Open-air classes (due to lack of infrastructure)	8 (18 total classes)	2 (12 total classes)	17 (30 total classes)	0 (11 total classes)
Electricity	No	No	Partial	No
Pass rate	45%	36%	57%	30%

The schools varied in size but all experienced a high teacher/learner ratio. The teacher/learner ratio gradually decreased. For example, at Chambo Primary School, the teacher/learner ratio decreased from 1:227 in S1-S2, down to 1:29 when learners reached S6-S8. There was limited availability of teachers' houses on school grounds and all schools, except Lakeview Primary School had open-air classrooms. None of the participating schools had electricity, except for partial electricity at Baobab Primary School, where the headteacher's office was powered by a small single solar cell. All these conditions have the potential to adversely affect the quality of education. Of the four

[1] The names of the schools are pseudonyms.

participating schools, Baobab Primary School was the only school with an overall pass rate above 50%, the other schools had an overall pass rate below 50%.

Data analysis

In this study, we aimed to answer the research question: What *factors affect the quality of education in four rural primary schools in Mangochi District in Malawi?* All interviews were transcribed verbatim and thematically analysed according to the coding framework by Braun & Clarke (2022).

Before coding began, the first author immersed herself with the data by reading, re-reading, and summarising the interviews, thus becoming intimately familiar with the data. Such "preliminary exploratory analysis" (Creswell, 2012, p. 243) gave the first author a comprehensive understanding and insight into the data. When re-reading and summarising the data, specific codes associated with the research question emerged: *teachers' housing, classrooms, teachers and teaching, teaching and learning materials,* and *family financial bearings*. The codes were then categorised into three themes, *infrastructure, human and school resources,* and *household's economic situation.*

In the findings section, excerpts of direct quotes from participants illustrate their perspectives and experiences. The participants' identifiers and school pseudonyms are provided with each quote. Thus, 'HT Baobab' refers to the headteacher at the Baobab Primary School, and 'PEA Lakeview' refers to the PEA in the Lakeview Primary School's zone. The education officers from the MoEST and the DEM's office are identified as Pers1MoEST and Pers2DEM, respectively.

In this study, we explored site-specific factors affecting the quality of education in four rural primary schools in Mangochi District in Malawi. As a result, the findings resulting from data analysis only relate to these four schools and the conditions there. Nonetheless, the findings may be transferable to other rural schools under similar conditions and experiencing similar challenges.

Ethical considerations

Ethical requirements were adhered to throughout the research process. The study's authorisation was obtained from the MoEST, and an approval from the DEM. After obtaining permission, the field researcher visited the participating schools, introduced herself to the headteachers, informed them of the study's objective, and obtained informed consent from participants with the complete understanding that they could terminate their participation and withdraw from this research at any given time without giving any reasons. A data collection plan was developed in cooperation with the headteachers. Each school was assigned a pseudonym, and all participants were assured anonymity and confidentiality.

To build rapport with participants, the field researcher began each interview with a brief personal disclosure, informing them that she was a teacher by profession and had lived in Malawi along with her family for several years. At each school, she was greeted with friendliness and observed a pleasant and cordial atmosphere among and between teachers and headteachers.

Presentation of findings

In this section, we will present findings pertaining to the three themes: infrastructure, human and school resources, and the household's economic situation.

Infrastructure

Participants in this study concurred that the most challenging aspect facing rural primary schools in Malawi is weak infrastructure. As stated by the Pers2DEM: "...because we do not have enough infrastructure, we do not have enough teachers' houses, we do not have enough classrooms.*"*

Teachers' housing

The PEA at Baobab Primary School concurred, stating: "(we need) more teachers' houses." She further described the difference for everyone when teachers are provided with accommodation on school grounds rather than renting farther away in one of the villages:

> Yes, some of the teachers come from far away, so when they arrive, they are tired. Now they cannot deliver, but when the houses are there, (she points to the teachers' houses on the school ground), teachers would live locally, so they will be early for classes.

The findings showed that some teachers were unwilling to report for duty in rural areas due to the lack of teachers' houses. According to the Pers2DEM, "most of the (teachers) will not accept (to be deployed there); they do not want to go there." The shortage of teachers' houses affects the deployment of teachers and, thus, significantly affects the quality of education in rural areas.

Classrooms

Another challenge rural schools faced was the need for classrooms, meaning many children were learning outside. The Pers1MoEST declared: "…these open-air classrooms just put limitations on the (education) system." The PEA at Baobab Primary School echoed: "The biggest challenge is a shortage of classroom blocks. You can see the other learners are learning under a tree, and today is very cold and windy."

The PEA at Lakeview Primary School also discussed the difficulties regarding the shortage of classrooms:

> It is a very big challenge; in some schools, there are not even classrooms. Like at Kari Chombo (a pseudonym), there were 2500 learners against 26 teachers, with most of the learners learning outside. So, it is a very big problem around the zone.

The Per2DEM agreed and stated:

> We do not have enough classrooms; many children are learning under trees. Moreover, if they are not learning under the trees, they are just crammed in one classroom, which is quite alarming because you need fewer learners in a class for them to learn effectively.

Overcrowded classes make in-class management time-consuming and affect teachers' instructional time. This, along with teaching in an open-air classroom, compromises quality teaching and learning, which leads to poor quality education.

Human and School Resources

Lack of teachers and teaching and learning materials are additional difficulties the participating schools faced.

Teachers and Teaching

The PEA at Lakeview Primary School elaborated on the problem of excessively large class sizes due to a shortage of teachers: “For one teacher to have more than one hundred, two hundred or even more learners, how is that teacher going to manage such a class?”

The Pers2DEM discussed the Ministry’s deployment of teachers. According to him, from 2000 to 2008, the government did not deploy any new teachers to the schools: “A good seven years, so there was a very big shortage of teachers.” However, according to him, the deployment appeared satisfactory from 2007/2008 until 2014/2015, when deployment became irregular again. The head teachers felt that the government still did not recruit and deploy enough teachers to all districts, which was also the opinion of the PEA at Hillside Primary School. He explained:

> It is difficult to recruit qualified teachers since the Malawian government's responsibility is to deploy them. For the past two years, teachers were not sent to these schools. It is only this year that new teachers have just been deployed. A whole set of teachers who graduated in 2014 have not been employed. They just stay home.

The PEA at Lakeview Primary School blamed the lack of teachers directly on the Ministry of Education. However, the PEA was hopeful that the Ministry was serious about recruiting teachers and deploying them throughout rural schools this time, noting:

> Because of a lack of funds, allocating teachers to the schools took time. But I hope the government is very serious about it this time and will send more teachers to the schools. If they do that, I hope it will work.

Due to the teacher shortage in rural schools, teachers have various other responsibilities, which sometimes take them away from their core teaching responsibility, leading to a loss of instructional time for children. For instance, during a standard 5 (S5) observation at Baobab Primary School, the field researcher witnessed how teachers were expected to carry out other commitments at school. Instead of being in class teaching, a teacher was busy outside receiving delivery of foodstuffs and organising storage. He missed the whole lesson, and due to a teacher shortage, no other teacher could be assigned to cover for him. During another field day at Hillside Primary School, a S2 teacher was absent due to illness. With no available teacher to substitute, the field researcher witnessed that another S2 teacher was expected to combine the absent teacher's class with her class in her already overcrowded classroom.

The Pers1MoEST discussed the situation in Mangochi District, which according to him is one of four districts in the country where it is hard to deploy teachers. He stated:

> Well, there are two problems, one is for teachers to stay there. Experience has shown that when we send teachers to Mangochi, half of them will have left after a year. Then the other problem is where to send teachers in the district; some places are more rural and remote than others. Getting teachers to go to more remote rural schools is a headache.

The Pers1MoEST's assertion about teachers not wanting to move to the district is supported by the headteacher at Lakeview Primary School. He voiced his concerns about remoteness and how that affects the teachers and their professional development:

> The problem is that most teachers do not like this place. It is too far; it is too remote. So, you are isolated. How can you improve yourself in teaching because we learn through cooperation with other teachers?

This shows that the headteacher realises that the isolation of teachers and the lack of a professional community is far from appealing. The shortage of teachers means that no teachers are available to cover for a teacher in the classroom when needed, contributing to poor quality of education.

Teaching and learning materials

The four headteachers deliberated on the need for teaching and learning materials and other resources their schools required. The headteacher at Baobab Primary School declared: "As I have said before, even the teaching material is not enough." According to the headteachers, their schools do not have any equipment for teachers to teach science and related subjects. The headteacher at Chambo Primary School shared: *"*Of course, when you are teaching science and those subjects, we need the equipment, but we do not have (it) here."

Sometimes teachers tried to buy some teaching and learning aids to use with their learners using their own money. The headteacher at Lakeview Primary School remarked: *"*Yes, they buy some science materials, like bulbs and wires." The PEAs concurred and stated that the lack of teaching and learning resources was a big problem for the schools. The PEA for Hillside Primary school had this to say: "Yeah, we do not have enough textbooks in most of these schools. So, learners have to share books with five or six others, sharing one book." The findings indicate that the need for more teaching and learning materials is an ongoing problem for the participating schools.

The PEA at Lakeview Primary School also noted that the community sometimes contributed teaching and learning materials. For instance, when parents are told about the lack of materials, they send empty cartons to schools which teachers could use to make teaching and learning materials. They even brought animal hides to school to make drums for music lessons. None of the four schools had computers, and only one had (limited) electricity. Despite this, some teachers showed ingenuity and resourcefulness when responding to the demands of the national curriculum, such as was observed by the researcher when a teacher drew a diagram of computers on cardboard when teaching IT class.

These findings indicate that all four schools were experiencing a shortage of teachers and a lack of teaching and learning materials which, for obvious reasons, affected the quality of teaching and education.

Household's economic situation

The families in the rural areas where the four participating schools are located were generally perceived by senior education officers and headteachers to be poor. These participants mentioned family poverty as an issue that rural schools face and this affects the quality of education. According to Pers2DEM: "Most people in rural areas are poor, so it is difficult for them to make meaningful contributions towards the development of their schools."

The headteacher at Hillside Primary School also considered poverty to be one of the challenges of keeping children in school, as children often needed to help their families procure food. Other participants also mentioned how poverty affected education and learners' attendance, as the following statements indicate: “Because of poverty, parents try and find work for their children” (HT Chambo Primary School); “Learners drop out of school because of poverty; they look for work” (HT Baobab Primary School); “Poverty is playing its part. You have some very poor families, and as long as their child knows how to read and write, they can look for a job” (Pers2DEM).

These examples, as perceived by the education personnel, show that the fundamental needs of the families, such as having food, take precedence over sending a child to school. It could be argued that poverty is thus one of the significant factors affecting rural schools.

Discussion

The findings of this study demonstrate that the four participating schools experience similar persistent challenges which affect the quality of education. We are aware that our findings are similar to other previous studies and this, we consider, to be a cause for concern given that a lot of government and international agencies have invested heavily in the education system in Malawi with the view to improving the quality of education. However, the efforts appear to have not made much difference. It might be that some of the on-going efforts may not be necessarily addressing the root causes of poor-quality education especially in rural schools. For example, there is currently a policy of rural allowance (hardship allowance) to retain teachers in rural schools, which does not appear to be working. In addition, the government implemented the National Education Sector Plan (NESP) 2008 – 2017 (MoEST, 2008), which does not appear to have led to significant improvement in the quality of education both for rural and urban primary schools (MoEST, 2020).

Furthermore, despite the increased public expenditure on education, the education sector has been unable to provide quality education and to keep up with the rapid rise in enrolment (UNICEF, 2019; World Bank, 2021). The problem of infrastructure in rural primary schools is prevalent. For instance, regarding teachers' housing, 19% of teachers in Mangochi District are provided housing on school grounds compared to 23% nationwide (MoEST, 2018).

The lack of teachers' housing on school grounds affects the deployment of teachers to rural areas. Additionally, the shortage of teachers' houses on the school premises means that teachers had to rent accommodations far from the school. In such cases, teachers had to walk to get to school and arrived tired. This aligns with other research findings (e.g., Erlendsdóttir & Mtika, 2023; Kayange, 2020) findings, and it hinders teachers' ability to conduct effective lessons. Many rural teachers also leave their teaching positions due to acute accommodation problems and remoteness (Chakanika et al., 2012).

To compensate teachers in rural areas for the hardship they encounter, the government issued a policy of hardship allowance to teachers who were placed in remote areas (Asim, et al., 2019). However, due to the limited funding and low amount available for each teacher, this incentive does not seem to have worked as intended. This is an issue that requires further consideration, given that financial incentives are likely to be more effective for teachers who are generally poorly paid.

The lack of classrooms hinders the learning process in many ways. Despite the perpetual shortage of classrooms, the pupil/permanent classroom ratio (PpCR) has mostly stayed the same in recent years. For instance, in 2020, it was still measured at 116:1 (MoEST, 2020), which remains too high for quality teaching and learning. Besides, official statistics demonstrate the disparity between rural and urban areas. According to MoEST (2019), the PpCR in urban schools was 98:1 compared to 119:1 in rural schools.

Access to human and teaching resources is an integral part of quality education, which is a real challenge affecting the primary education sector in Malawi in general and rural primary schools in particular (MoEST, 2019). The persistent disparity in the deployment of teachers between rural and urban primary schools contributes significantly to poor-quality teaching due to large classes, which adversely affects educational attainment (Asim et al., 2019).

The findings of this study further indicate that overcrowded classes are a substantial problem in rural primary schools in Malawi, and they concur with official statistics, which show that the average qualified-teacher/learner ratio is 1:62 (MoEST, 2022). Large class sizes affect teachers' ability to support individual learners and reduce teacher-learner instructional time. This affects the quality of education. Despite that, as Table 1 demonstrates, there is an exceedingly higher ratio in early grades (i.e., S1 and 2) in the four participating rural schools. Such a high teacher/learner ratio is one of the reasons affecting rural learners' performance (Chakanika et al., 2012; Sumida & Kawata, 2021). The findings further expose how teachers' instructional time can be limited for different reasons, such as other responsibilities at school and the unavailability of teachers to cover classes during teachers' absences. Where a teacher has to teach a large class, very little education occurs in such circumstances, which further perpetuates the current situation.

The study's findings in relation to household economic situations are similar with other research findings regarding families' financial challenges and how this may factor into the quality of education. Financial hardship is one of the most pervasive reasons why learners drop out of school (Chikhungu et al., 2020). Poor parents have been found to require the help of their children to provide for their families. This may force them to miss school to help parents with chores to generate income. Therefore, attending school may not be a priority (Kayange, 2020). Poverty is more severe in rural areas and is coupled with poor

parental education. These two issues mean that learners may not have appropriate home support, such as the procurement of textbooks.

When looking at our findings through the lens of the emergent framework on quality education in low-income countries (Tikly, 2011; Tikly & Barrett, 2010) and the interconnecting contexts of policy, school, and home/community, it becomes evident that numerous improvements are needed before learners in rural primary schools in Malawi are assured of quality education.

To promote the national policy of education for all and realise relevant teaching and learning expectations, policymakers need to guarantee sufficient funding for basic infrastructure and textbook procurement and distribution. In the Malawian school context, for quality teaching and learning to be evident, learners should be able to access appropriate textbooks and use resources and other teaching and learning materials effectively. In the Malawian home/community context, parents need to work more closely with schools to support their children with education. However, parental education and economic status may affect this.

Based on the findings, our implications for practice for education authorities are twofold:

i) The government may consider making the recruitment and deployment of teachers to rural schools a priority. However, for this to succeed, it is necessary that appropriate accommodation is provided to incentivise would-be rural primary school teachers. This may complement the rural allowance policy. The strategic deployment would address overcrowded classes. This could enhance the quality of learning and teaching.
ii) The government may consider targeted funding for teaching and learning materials. This would enhance the effectiveness of the teacher and improve academic attainment of learners.

Conclusion

In conclusion, the importance of quality primary education cannot be underestimated, and investing in education pays off as it contributes to social cohesion and economic productivity. The scarcity of funding in the context of the Malawian education system, and the concomitant lack of infrastructure and access to resources, undermines the quality of education in rural schools and directly hinders the drive for EFA, which Malawi has embraced.

The issue of teacher/learner ratio in rural areas must be narrowed considerably, as it affects the quality of education. Ishii and Meke (2022) suggested that to improve school performance, more qualified headteachers and teachers are needed in rural areas, along with teaching and learning resources and community involvement. Better conditions of

schooling in rural areas are essential to give rural children quality education opportunities. The young population of Malawi is large and fast-growing, with around 1.3 million learners entering the school system each year (World Bank, 2021). Since 84% of the population lives in rural areas, the majority of these students enter the rural school system. The expected increase will put further pressure on the already limited educational resources in rural schools. Thus, perhaps, urgent action is necessary to address factors affecting quality education in rural primary schools in Malawi.

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