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Relevant features and readability of prescribed public senior secondary school mathematics textbooks in region 1 and 2 Kombo of The Gambia

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Abstract
This study examined the features and readability of approved public senior secondary school mathematics textbooks in Regions 1 and 2 Kombo of The Gambia. The objectives were to identify teachers' opinions on the quality of textbook features, investigate their perspectives on content and structure, and assess students' readability levels. A descriptive research design was adopted, and data were analyzed using frequency counts, simple percentages, mean, and standard deviation. The study sampled 240 Grade 11 students and 30 mathematics teachers from government senior schools. Three researcher-developed instruments were employed: SPPMTQ (14 items, α = .65), TPPMTS (29 items, α = .84), and CSPMTS (20 items, α = .85).
Findings revealed that teachers held positive perceptions of the structure and content of mathematics textbooks ($\bar{X}$ = 2.73, Std = 0.844). However, students showed low readability levels ($\bar{X}$ = 2.37, Std = 1.055), suggesting difficulties in engaging with textbook content. Moreover, students rarely used the textbooks for self-study or practice, limiting independent skill development.
The study recommends that the Ministry of Basic and Secondary Education (MoBSE) periodically review and revise prescribed mathematics textbooks to ensure alignment with curriculum standards and students' cognitive levels, while involving subject experts to enhance accuracy and relevance.

Keywords: Students' Engagement, Educational Policies, Teachers' Perceptions, Readability, Mathematics Textbooks.

Introduction
Mathematics stands out as one of the most universally relevant subjects, deeply embedded in nearly every aspect of daily life. It plays a central role in fields such as economics, the physical sciences, medicine, engineering, and numerous others. The concepts, principles, and techniques learned through mathematics are not merely theoretical—they are actively applied in routine human activities. This importance is captured by Aluko (1990) in Agbata et al. (2024), argued that a functional knowledge of mathematics is essential for every individual to lead a meaningful life and contribute effectively to society. These essential uses span business transactions, domestic tasks, political processes, and decision-making. Aluko further emphasized that everyone needs a foundational level of competence in basic mathematics. This perspective is supported in a contemporary study by Agbata et al. (2024), who argue that "mathematics plays a crucial role in everyday life, enhancing decision-making, financial management, problem-solving, and critical thinking," with applications ranging from budgeting and cooking to shopping and planning.

Mathematics holds a prominent position in both primary and secondary education, not with the intention of producing professional mathematicians, but due to its practical utility in daily living. Highlighting the societal importance of mathematics, Robert (1987) noted that in the United States, it underpins a wide range of essential activities, from highway engineering and energy exploration to space exploration, medical research, business operations, and maritime navigation. Ogunbanjo (1998) supported this view, stating that globally, science is recognized as a driver of technological and socio-economic advancement, and mathematics is both foundational to and the language of science.

Further emphasizing the subject's significance, Igbokwe (2003) argued that without mathematics, science would not exist, and in turn, there would be no technology or modern society. This underscores mathematics as a precursor to societal progress and a vital skill for careers in today's increasingly technological world. The understanding of mathematical

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principles is thus key to solving real-world challenges.

Recognizing this, the Gambian government has affirmed the need to take mathematics seriously within its educational system. Aminu (1990) described mathematics as vital for logical reasoning and intellectual development, describing it as the foundation of human achievement. However, despite its importance, many students struggle with mathematics. Valbona (2013) observed that mathematics is often associated with anxiety and failure due to perceptions of it being abstract and difficult, an opinion supported by student performance data in The Gambia from 2021 to 2023, as shown in Table 1.

Table 1: Three Year Analysis of WASSCE results in Mathematics in the Gambia between 2021 - 2023

Period	Student Number	Credit (%)	Pass (%)	Fail (%)
2021	15146	1818 (12%)	2575 (17%)	10754 (71%)
2022	13725	1098 (8%)	2196 (16%)	10439 (76%)
2023	15848	1268 (8%)	2060 (13%)	12519 (79%)

Data from 2021 to 2023 consistently show that students' achievement in mathematics across Gambian public senior secondary schools has remained below average. In 2021, only 1,818 out of 15,146 candidates, just 12% achieved a credit pass in mathematics, while 71% failed. This trend continued in 2022, with only 8% (1,098 out of 13,725) earning a credit pass and 76% failing. The pattern worsened in 2023, where out of 15,848 candidates, 1,268 (8%) had credit passes and 12,519 (79%) failed. These statistics point to a chronic issue in students' mathematical performance.

A variety of factors contribute to this persistent underachievement. These include peer influence, teacher quality and commitment, parental support, student motivation, and self-efficacy. However, one of the most critical and often overlooked contributors is the quality and readability of the mathematics textbooks used in schools. Textbooks play a foundational role in the teaching and learning process. They serve not only as a guide for educators but also as the most accessible resource for students. Especially in a subject like mathematics, which follows a sequential learning path, a well-structured textbook is essential. Afolabi (2014), notes that textbooks are a fundamental source of knowledge and are the most accessible form of formal learning material for both teachers and students. He stresses that a poor-quality textbook can significantly contribute to students' low academic achievement. Fatoba (2014) reinforces this point, suggesting that the ability to understand a mathematics textbook correlates directly with a student's comprehension of the subject.

Shanahan and Shanahan (2012), defined readability as the ease with which a reader can understand written text which is vital. A textbook must communicate ideas clearly, with a structure and language appropriate to the students' level. They argued that many students need explicit instruction on how to interpret the specialized structure and vocabulary often found in mathematics textbooks. Similarly, Omiko (2011) emphasizes that the readability of a textbook directly impacts both student understanding and teaching effectiveness. A high-quality mathematics textbook, therefore, must be readable, engaging, and comprehensive in its content coverage.

Nwafor (2015) defines readability as the extent to which a textbook is used, understood, and found interesting by students. Adams, Pegg, and Mellissa (2015), agree that readable textbooks help students build understanding and confidence in mathematics. These texts must be well-organized, logically progressive, and tailored to the cognitive levels of learners. Morohunfola (2015), explains that textbooks stimulate interest and help teachers overcome classroom limitations. They provide vivid illustrations, detailed explanations, and structured content that can captivate learners' attention. The absence of effective textbooks, particularly in mathematics, could significantly hinder student progress. Aggarwal (2001), suggests that a quality mathematics textbook should contain features such as a table of contents, illustrations, diagrams, reference materials, and step-by-step problem-solving guides.

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In many low-resource settings like The Gambia, textbooks must be durable and portable, given the limited availability of electricity and digital learning tools (Nweze, 2003). The printed textbook remains the primary learning resource in many classrooms. Therefore, to improve mathematical understanding, textbooks must be explicit in their instructions and structured in a way that supports interpretation, logical progression, and application (Shanahan and Shanahan, 2012). Okafor (2009) identifies four key characteristics that should guide textbook selection: content quality, text complexity, structure, and the degree of reader engagement. Fatoba (2014) adds a fifth—visual communication through diagrams, pictures, and tables. These elements are especially critical in mathematics, where concepts often benefit from visual representation.

Akani and Abonyi (2011), note that many mathematics textbooks used in schools contain examples and contexts unfamiliar to most students. This disconnect can create a barrier to understanding and reduce the textbook's effectiveness. They argue that improving the quality of instructional textbooks is crucial, especially in developing countries, where teacher shortages and limited access to online learning materials make textbooks the main source of information. Macaulay (2010), adds that quality teaching materials make concepts easier to grasp and help students learn more effectively. In this context, textbooks should not just be informative but must be tailored to the learners' realities and learning styles.

Given this background, the current research was undertaken to assess the readability and instructional relevance of the mathematics textbooks prescribed for public senior secondary schools within Regions 1 and 2 of Kombo in The Gambia. This study aims to evaluate whether these textbooks support or hinder students' mathematical understanding, with the goal of informing curriculum planners and educational authorities about the need for improved learning materials. As poor textbook readability emerges as a significant factor affecting students' performance, targeted intervention in this area could yield substantial improvements in learning outcomes. Reports from examination bodies reveal that students' performance in Mathematics in The Gambia has remained consistently below the national average. While various factors, such as teaching methods, student attitudes, peer influence, parental involvement, and socioeconomic background, may contribute to this trend, the precise causes of underachievement are yet to be clearly determined. One critical but underexplored factor is the quality and readability of the prescribed Mathematics textbooks used in public senior secondary schools. Despite their central role in instruction, few studies have assessed these textbooks. This study, therefore, aims to examine the key features and readability of the approved Mathematics textbooks used in Region 1 and the Kombo areas of Region 2 in The Gambia.

Research questions

The following research questions would be proposed to direct and guide the study:

RQ 1: What is the opinion of teachers on the quality of features of approved secondary school Mathematics textbooks in public senior secondary schools in The Gambia?

RQ 2: What is the opinion of teachers on the structure and content of the Mathematics textbook in public senior schools in The Gambia?

RQ 3: What is the students' level of readability of content of approved secondary school Mathematics textbooks in public senior schools in The Gambia?

Methodology

The multistage sampling technique employed in this study reflects a structured, step-by-step selection process. First, two educational regions (Regions 1 and 2) were purposively chosen from The Gambia's seven zones due to their relatively large student populations. Within each selected region, three public senior secondary schools were randomly sampled to ensure representativeness. From each of these schools, stratified sampling was applied by selecting 40 Grade 11 students and five Mathematics teachers, thereby producing a balanced sample of 240 students and 30 teachers. This sequential approach demonstrates how the multistage technique moved from broad regional selection to school-level randomization and finally to targeted student–teacher sampling. Three self-developed research instruments were used for the study. The instruments were validated and trial tested by using 11 Mathematics teachers from 4 senior secondary schools which were both private and public schools. These teachers and their schools were not included in the sample for the study. The instrument on

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Students' Perception on Prescribed Mathematics Textbook Questionnaire had reliability index of 0.65 (SPPMTQ, 14 items, α = .65), the *Teacher's Perception on Prescribed Mathematics Textbooks Scale* (TPPMTS, 29 items, α = .84) *and Content and Structure of Prescribed Mathematics Textbook Scale* (CSPMTS, 20 items, α = .85). Data were analyzed using descriptive statistics including frequency, percentage, mean, and standard deviation.

Results and Findings

Rq1: What is the opinion of teachers on the quality of features of approved secondary school Mathematics textbooks in public senior secondary schools in The Gambia?

Table 2: Teacher Perception on Prescribed Mathematics Textbook

	Physical features	**Response Categories**					
		SA	**A**	**D**	**SD**	**??**	**Std**
1	The paper of the textbook used is of higher quality	9	16	4	1	3.10	0.76
2	It has durable binding	11	12	4	3	3.03	0.96
3	It has readable font.	13	15	2	-	3.30	0.79
4	It is bulky and thick	15	7	7	1	3.20	0.93
5	It has an appealing cover page.	15	9	4	2	3.23	0.94
6	It has suitable central that permit for curve of binding	8	15	6	1	3.00	0.79
	Content features						
7	Textbook content boosts individual development in mathematics	17	11	1	1	3.47	0.73
8	Topics/sub-topics are arranged from concrete to abstracts and from simple to complex	16	9	3	2	3.27	0.98
9	Themes/sub-themes generates concentration for me in mathematics.	15	14	1	-	3.43	0.68
10	It's written down agreeing to approved course outline	8	11	5	6	2.73	1.05
11	It satisfies the demands of examination	10	14	2	4	3.07	0.87
12	Corrects answers are given at the end of each section	13	10	2	5	3.13	0.94
13	It includes recent developments in mathematics	9	11	4	6	2.83	1.02
14	The textbook contain lists of recommended readings that interest me.	5	15	3	7	2.73	0.87
	Organization and presentation features						
15	Offers personal changes.	8	16	1	5	3.03	0.77
16	Has enough establishment for review, practice and revision,	12	13	1	4	3.20	0.81
17	It stimulates initiatives and originality	10	13	2	5	3.03	0.89
18	It improves study habits.	13	12	2	3	3.20	0.89
19	It accelerates the usage of inductive, deductive, synthetic, analytic, problem solving and heuristic approaches to teaching.	11	12	1	6	3.10	0.85
20	It suggests project work	5	9	6	10	2.43	1.01
	Language Usage						
21	the textbook language is easily comprehensible and simple and within the understanding of the students	16	12	1	1	3.43	0.73
22	The expression and style used in book is appropriate to the age group of students for whom it is written	13	15	2	-	3.30	0.79
23	The language is written, in a simple, precise, and lucid way	17	12	1	-	3.50	0.68
	Exercise and Illustrations						
24	The illustrations are accurate	9	17	1	3	3.13	0.73
25	The illustrations are clear and appropriate	9	16	2	3	3.07	0.83
26	It comprises several challenging questions.	14	11	1	4	3.27	0.83
27	Comprises drills to test the arithmetically talented students.	16	9	1	4	3.33	0.84
28	At the end of every topic there are well-graded exercises	15	13	2	-	3.37	0.81
29	Rational and cognitive power of students is develop through exercises.	12	14	1	3	3.23	0.77

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Table 2 revealed that in terms of physical features, teachers' responses suggest a generally favorable view of the physical features of the mathematics textbook. The highest-rated feature is readability of font, while all features had means above 3.0, indicating a majority agreement with positive statements. Standard deviations are mostly below 1.0, reflecting moderate to low variability, meaning teachers tended to agree with one another.

In terms of content features, the teachers generally agree that the textbook supports individual growth, has well-organized topics, and engages learners (Items 7, 8, 9). However, concerns were arising in areas like; alignment with the official curriculum, inclusion of recent developments, quality or relevance of recommended readings (Items 10, 13, 14). The strongest content points are motivation and engagement, while the weakest are teachers feel the textbook does not fully follow the official curriculum and does not provide enough additional resources to enhance or extend learning external materials.

In terms of organization and presentation features, the teachers view the textbook as generally well-organized and effective in reinforcing learning through practice, problem-solving, and study habits. It's also seen to encourage critical thinking and diverse teaching strategies to some extent. However, the lack of emphasis on project work stands out as a weakness (Item 20). This may reflect a missed opportunity for promoting hands-on, exploratory, or real-world applications of mathematics.

Teachers expressed a high level of satisfaction with the textbook's use of language, particularly its clarity, simplicity, and suitability for senior secondary school students. This category received the highest average ratings among all evaluated features, highlighting language usage as one of the textbook's strongest assets. The feedback was not only overwhelmingly positive but also notably consistent, reflecting a strong consensus that the textbook's language effectively supports comprehension and enhances the learning experience.

In terms of exercise and illustrations, teachers rate this section very positively, especially in the areas like well-graded exercises, challenging questions, drills for talented students which covered all the items in this section. These suggest the textbook not only supports differentiated instruction but also helps build cognitive and problem-solving skills. The illustrations are considered both accurate and appropriate, enhancing understanding of content. This category is one of the strongest areas of the textbook, showcasing good pedagogical design through exercises and visuals.

RQ 2: What is the view of teachers on the content and structure of the Mathematics textbook use in senior schools in The Gambia?

Table 3: Analysis of the Content and Structure of Prescribed Mathematics Textbook

S/N	The textbook:	SA	A	D	SD	??	Std
1	Is good for studying math	14	12	3	1	3.30	0.79
2	Is mainly made for students to study	12	12	4	2	3.13	0.90
3	Is complemented by a group of assignment	10	17	2	1	3.20	0.71
4	Is complemented by chapter test sheets	5	16	8	1	2.83	0.75
5	Is in series, solutions, test sheets, group of assignments	6	15	-	9	2.90	0.71
6	Brings new material with examples with solutions to exercises	10	15	3	2	3.10	0.85
7	Does not have precise practical linguistic that are interpretable for students	3	15	5	7	2.53	0.90
8	Has the problems ordered according to the degree of difficulty	5	15	3	7	2.73	0.87
9	Has no complex sentences in it	5	8	6	11	2.40	1.00
10	Was printed in a legible style which is the maximum significant with respect to wording	8	14	1	7	2.97	0.81
11	Has the results of the problems in the textbook included.	6	16	1	7	2.90	0.76
12	Has additional information clearly separated from compulsory information	2	11	8	9	2.23	0.94
13	Does not have information related to realism	3	6	9	12	2.10	0.96

14	Have a recap at the end of each chapter	9	7	2	12	2.77	0.97
15	Does makes students exercise problem solving methods with comfort	12	12	1	5	3.17	0.83
16	Has essential information emphasized in colours.	5	6	8	11	2.27	1.05
17	Have many representations	11	13	2	4	3.10	0.86
18	Have the formulae proof	10	12	4	4	2.93	1.02
19	It has problems that increase the calculation abilities of students	2	5	13	10	1.87	0.94
20	The math textbook is free of errors	5	3	8	14	2.17	1.02

In terms of overall appropriateness and usefulness of the recommended mathematics textbook for use in public senior secondary schools in the Gambia, the teacher showed general satisfaction with the mathematics textbook's role in learning and supporting its student to study (Items 1, 2)

In terms of support materials for assignments, tests and solutions, Items 3, 4, 5, 6, 11, 18 show that the textbook is generally well-complemented by assignments (X= 3.20), chapter tests (2.83), and solution sets (2.90). It introduces new materials with solved examples (3.10), includes problem results (2.90), and provides formulae proofs (2.93). This indicates that the textbook supports structured, guided practice and self-assessment, though some areas like chapter tests are slightly less emphasized.

In terms of content structure and clarity, items 8 and 14 reflected a moderate level of structured progression and summarization with the mean values of 2.73 and 2.77 respectively. However, items regarding clarity are less favourable with (Items 7, 9, 12) showing that clarity and accessibility of information may be problematic with the least mean of 2.23. This implies that the language complexity and organization of information are weak

Items 10, 16 shows that the legibility of the textbook is moderately high (X= 2.97), suggesting decent readability while Item 16 which emphasizes essential information with colours scored low (X= 2.27), indicating that visual cues for important content are lacking. In terms of engagement and cognitive development, Items 15 and 17 (X= 3.17 and 3.10 respectively, reflected positive engagement. However, Item 19 which discussed how the textbook *improves calculation abilities,* scored the lowest (Mean = 1.87), suggesting a major weakness in developing computational skills.

In terms of authenticity and accuracy of the prescribed mathematics textbook for public senior secondary schools in the Gambia, the teachers' responses for (Items 13, 20) suggested that Some solution and proof inclusion indicate concerns about the textbook as some solutions contain errors and lacks realism, relevance and accuracy.

RQ 3: What is the students' level of readability of content of approved secondary school Mathematics textbooks in senior secondary schools in The Gambia?

Table 4: Students' Responses on Readability of Approved Mathematics Textbook

S/N	Questions	SA	A	D	SD	??	Std
1	My mathematics textbook is good and easy to understand that's why I like to study it.	63	108	28	41	2.20	1.01
2	The approved mathematics textbook is quality and relevant for studying mathematics.	68	102	33	37	2.16	1.01
3	Availability of textbooks has a great influence on my understanding and success in mathematics.	101	91	16	32	1.91	1.01
4	I engage in self-study and solving exercises in mathematics because the approved mathematics textbook is explanatory.	65	88	32	55	2.32	1.11
5	I always feel motivated to study mathematics because the explanations in the approved textbook are straightforward.	51	90	36	63	2.46	1.10
6	My mathematics textbook has many beautiful diagrams that make me understand numerous topics in it.	54	80	42	64	2.48	1.11

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7	Most of the exercises in my mathematics textbook are not correctly solved	54	67	54	65	2.49	1.12
8	My mathematics textbook does not only convey technical information but also contain information related to realism.	55	76	45	64	2.49	1.12
9	My mathematics textbook has a lot of colourful illustration that makes me to understand the concepts better.	96	92	27	25	1.94	0.96
10	My mathematics textbook improves my calculation skills as a student.	81	92	34	33	2.08	1.01
11	The Approved mathematics textbook is free o f errors.	26	48	79	87	2.95	1.00
12	I don't comprehend the theme in my mathematics textbook because it is too abstract in nature.	40	55	61	84	2.79	1.10
13	I used my approved mathematics textbook more than my teacher's note because it explains better.	43	43	84	70	2.75	1.06
14	The language used in textbook is simple, and classwork is well-organized.	64	98	32	46	2.25	1.05

On general readability of the prescribed mathematics textbook, Table 4 revealed that most students struggle with the clarity and motivational aspect of the textbook. This assertion was observed from the students' responses to (Items 1, 2, 5, 14) as the students find the language and structure more challenging. In terms of the visual support adequacy, many students express a clear need for more images and illustrations to aid comprehension (Items 6, 9). This implies that visuals are present but possibly insufficient. In terms of support for self-learning, (Items 3, 4, 10, 13) shows that students value textbook access as it plays a major role in self-learning but they find the textbook less effective for deep, independent learning or as a replacement for teacher explanation. Thus, teacher notes are often preferred as item 13 has moderate mean of 2.75. In terms of accuracy and conceptual clarity, (Items 7, 8, 11, 12) indicated that students struggle with abstract content and see few real-world connections, which weakens understanding and engagement. The responses also revealed that there are many errors in the prescribed mathematics textbook as majority of the students have high disagreement with (Item 11, $\overline{X}$= 2.95).

Discussion of Findings

The findings of this study show that teachers generally viewed the physical features of the mathematics textbooks positively. They emphasized that the font was easy to read, the cover design was attractive, and the quality of the paper and binding made the books durable and suitable for regular classroom use. Although some teachers noted that the textbooks appeared bulky, this was not considered a major drawback. Overall, the physical features were seen as user-friendly and reliable for everyday teaching. This supports the work of Adams, Pegg, and Mellissa (2015), who argued that clear and well-structured textbooks help students build confidence and understanding in mathematics.

In terms of content, the textbooks were seen as effective in promoting student engagement and concentration, as well as providing logical progression from simple to more abstract concepts. Teachers also felt that the textbooks supported students in preparing for examinations. However, concerns were raised about weak alignment with the approved course outlines, limited inclusion of recent developments in mathematics, and inadequate recommended readings. These findings echo Omiko (2011), who stressed that the relevance and readability of a textbook directly influence both student understanding and teaching effectiveness.

The organization and presentation of the textbooks were also viewed in a moderately positive light. Teachers appreciated that the books encouraged review and practice, supported the development of good study habits, and allowed for the use of different teaching methods such as problem-solving and inductive approaches. Nonetheless, one key weakness identified was the lack of opportunities for

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project-based learning. The textbooks rarely suggested projects or practical activities, which limits opportunities for students to explore mathematics independently. Shanahan and Shanahan (2012) similarly emphasized that textbooks, as primary learning resources, must provide explicit guidance that supports application, interpretation, and active engagement.

Language use was considered one of the strongest features of the textbooks. Teachers consistently reported that the language was simple, precise, age-appropriate, and accessible to learners. This suggests that students can easily follow the content without being discouraged by technical complexity. Macaulay (2010) also highlighted that high-quality learning materials must employ clear and straightforward language to enhance comprehension and retention.

Teachers further highlighted the usefulness of exercises and illustrations in the textbooks. Exercises were considered well-graded, sufficiently challenging, and capable of fostering critical thinking and problem-solving skills. Similarly, illustrations were regarded as accurate and clear, helping to clarify abstract concepts. However, this finding contrasts with Akani and Abonyi (2011), who noted that in many cases mathematics textbooks contain examples that are unfamiliar to students and may therefore create barriers to understanding.

Interestingly, students' perceptions of the textbooks differed from those of teachers. While teachers valued the structure and clarity of the materials, students found the textbooks less helpful for independent study. They reported challenges such as abstract explanations, a lack of sufficient visuals, frequent errors, and language that was sometimes difficult to follow. As a result, many students relied more on teachers' notes than on the textbooks themselves. These findings align with Aggarwal (2001), who argued that effective textbooks must include features such as diagrams, illustrations, reference materials, and step-by-step problem-solving guides to truly support independent learning.

In summary, while teachers recognized the strengths of the textbooks in terms of physical features, content delivery, and language use, students found them less effective as independent learning tools. This highlights a gap between the intended use of the textbooks and the actual experience of learners in the classroom.

Conclusion

The approved mathematics textbook for senior secondary schools in The Gambia does not fully meet student expectations in readability, clarity, and support for independent learning. While access and some diagrams support learning, many students report difficulty understanding the language, error-filled solutions, and lack of motivating or relatable content.

This study explored the readability and effectiveness of prescribed Mathematics textbooks in public senior secondary schools in The Gambia, focusing on Regions 1 and 2. Despite Mathematics being a core subject essential for students' success in various fields, the study revealed that student performance in Mathematics has remained consistently below the national average between 2021 and 2023. While several factors contribute to this trend, such as teaching methods, student attitudes, peer influence, and socioeconomic factors, the quality and readability of textbooks stand out as critical areas requiring attention.

The analysis of the prescribed Mathematics textbooks indicated that while there is some satisfaction with aspects such as language clarity, engagement, and coverage of content, other areas such as clarity of explanations, inclusion of real-world applications, and the overall accessibility of the materials need significant improvement. In addition, both teachers and students expressed concerns about the effectiveness of the textbooks in supporting learning and developing the necessary mathematical skills.

Recommendations

Review and update textbooks regularly: The Ministry of Basic and Secondary Education (MoBSE) should periodically review and revise the prescribed Mathematics textbooks to ensure the content is current, relevant, accurate, and aligned with students' cognitive levels and

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curriculum standards. Collaboration with subject matter experts should be encouraged to maintain the accuracy and reliability of content.

Enhance textbook readability and design: Authors and publishers should improve the readability of Mathematics textbooks by simplifying language, using age-appropriate vocabulary, and incorporating engaging visual aids such as diagrams, illustrations, color codes, and real-life examples that promote better understanding and retention.

Include more practice exercises and step-by-step solutions: Textbooks should offer a balanced mix of solved examples, practice problems, and self-assessment tools. Clear, step-by-step solutions to exercises help reinforce learning and build students' confidence in solving mathematical problems independently.

Provide teacher training on textbook use: Teachers should receive regular professional development on how to effectively use the textbooks to support diverse learners. Training should include strategies for differentiating instruction, incorporating textbooks into lesson planning, and addressing readability challenges.

Conduct student-centered evaluations of learning materials: Before approving Mathematics textbooks for use, students' feedback should be sought regarding the language, layout, and usefulness of the materials. This ensures the materials meet learners' needs.

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