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Content Analysis and Readability of Prescribed Secondary School Mathematics Textbook in Ogun State, Nigeria

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Abstract. The periodically reviewed syllabuses are reflected in the school textbooks and textbooks are viewed as mediators between general intentions stated in the syllabus and classroom instruction as they provide the links between aims and reality. They also pointed out the crucial role of the textbook and teachers' manual in helping teachers to teach the concept with relational understanding. This implies that learning and understanding of some mathematics topics have not only been frustrated by the nature of the topics but also by the clumsy methods and instructional materials used by the teachers. The good understanding that the students need in mathematics could be acquired in mathematics textbooks and this informs the need for mathematics textbooks to be readable. Thus, this study focused on content analysis and readability of prescribed secondary school mathematics textbook in Ogun State, Nigeria. The descriptive research design of survey type was used while the Multi-stage sampling technique was used in selecting the sample. Four research questions and two hypotheses were raised and tested using mean scores and Pearson Product Moment Correlation respectively. Data collection was carried out using two research instruments – Teachers' Perception on the Content of Prescribed Mathematics Textbook Questionnaire (TPCPMTQ, r = 0.85) and Assessment of Students' Readability of Content of Prescribed Mathematics Textbook Questionnaire (ASRCPMTQ, r = 0.82). The results showed that teachers perceived that the prescribed mathematics textbook lacked some content quality as the average mean $\bar{X}$ = 2.49 while the organization and presentation features' qualities were also lacking as the average mean $\bar{X}$ = 2.30. This revealed that the prescribed mathematics textbook lacked technical language and information related to reality. The findings also revealed that majority of the students found the textbook content sometimes confusing and difficult to read as the average mean $\bar{X}$ = 2.20. It was therefore recommended that policy makers and educational planners in the state should see to how the prescribed mathematics textbook could be improved to make it more students' friendly.

Keywords: Content Analysis, Gender, Mathematics textbook, Readability.

1. Introduction

In Nigeria, Mathematics occupies a high profile in the primary and secondary school curriculum not because students are expected to become mathematicians but because of its application in everyday life. The needs for mathematics in the society are many, amongst them are for commercial activities, business transactions,

domestic activities, and so on. Again, mathematics is the only subject that forms a strong binding force among various branches of science and without it knowledge of science often remains superficial. In spite of its importance, mathematics is associated with anxiety and failure because of the public opinion that it is difficult, abstract and inaccessible (Valbona, 2013)

The use of mathematics textbook in teaching and learning of mathematics is of paramount importance as it plays a key role in effective teaching and learning. The textbook provides a framework for what is taught and how it is taught. It also imparts a sequence that is followed in a particular subject. Given the sequential nature of mathematics, the mathematics textbook becomes a vital component for mathematics achievement. According to Afolabi (2014), textbook serves as a basic source of knowledge and formal learning, as well as the learning aid closet to the students and the teaching aid closet to the teachers. He therefore concluded that textbook is one of the factors responsible for low or dwindling achievement of students in Mathematics. Omiko (2011) also said mathematics textbook is one of the source materials for both the teachers and the learners. To him, the good understanding that students need will be acquired in Mathematics textbooks and this informs the need for Mathematics textbooks to be readable. He therefore concluded that textbooks are valuable and useful tools to the teachers if the content coverage and readability level are of high quality. Nwafor (2015), opined that the readability level of book implies the extent to which the students use, read and understand the textbook at optimum speed and find it interesting. Adams, Pegg and Mellissa (2015), stated that Mathematics textbooks are generally helpful to both teachers and students because readers can gain new knowledge and understanding from reading varieties of mathematics-focused texts.

Mathematics being a compulsory subject to pass in order to gain admission into higher institution requires learning materials that combines durability with portability, and that can be used where there is no electricity or any other source of power (Nweze, 2003). Thus, the reading of appropriate mathematics textbook will enhance the knowledge of the subject matter and application of such knowledge to problem solving. This implies that mathematics text must be explicit in instruction, interpretive in nature, structure and language conventions (Shanahan and Shanahan, 2012). This was widely acknowledged by various researchers (Ziriki, 2012; Frank, 2006; Fatoba, 2014 & 2015; Nwafor, 2015; Tobrise, 2005). According to Okafor (2009), there are primarily four main characteristics that are relevant to be considered in selecting a textbook. These include the content, the complexity of the text, how the text is built using different forms of connective markers and genre patterns, and the degree of involvement and active reader's participation that the text invites to. A fifth characteristic was suggested by Kress (2003) as the use of other forms of communication, pictures, tables and diagrams. Akani and Abonyi (2011), argue that many mathematics textbooks available to the students are those that contain uncommon examples or cite experience that only small percentage of students may gained from. They said further that in as much as the textbook is the main source of information an individual needs for knowledge update and skill acquisition, it is necessary to improve the quality of the instructional textbooks. In addition, they viewed textbooks as basis of knowledge particularly in the third world countries where there is chronic shortage of qualified teachers and online educational services.

Based on the aforementioned characteristics, only the content index of mathematics textbook is to be considered in this study as there is officially approved Mathematics textbook by the Ministry of Education in Ogun State, Nigeria. Content indices are lists of words or phrase ('headings') and associated pointers ('locators') to where useful material relating to that heading can be found in mathematics textbook. The content indices of Mathematics textbook enhance students learning ideas of the contents in the textbook and also serve as a catalyst to instigate the reading interest of the students showing the organogram of the contents in the

textbook (Akani & Abonyi, 2011). Thus, content indices readability attempts to quantify the reading grade level at which a typical student can read a text. Indices are designed to help the reader find information quickly and easily. Aggarwal (2001) suggested guidelines upon which the relevance and adequacy of textbook features could be evaluated. These include - physical features, author, content, organization and presentations, language, exercise and illustration, and general.

(i) Physical features

- **Paper:** the paper used in the textbook should be of superior quality
- **Binding:** it should have quality strong and durable binding
- **Printing:** it should have quality printing, bold font and easily readable font.
- **Size:** bulky and thick. It should be handy
- **Cover:** it should have an appealing and attractive cover page.

(ii) Author

- Qualified author should write it
- Experienced teacher should write it
- Competent teachers should write it
- It should be written by committee of experts constituted by the state government
- For the authors**,** certain minimum academic and professional qualifications may be prescribed.

(iii) Content

- It should be child centered
- The subject matter should be arranged from simple to complex and concrete to abstracts.
- The subject matter should create interest in the student.
- It should be objective oriented
- It should be written according to prescribed syllabus
- It should satisfy the demands of examination
- The answers given at the end of each section should be correct
- It should include the recent developments in Mathematics relating to the content dealt with.
- Oral mathematics should fine its due place in the textbook.

(iv) Organization and presentation

- It should provide for individual differences.
- There should be sufficient provision for revision, practice and review.
- It should stimulate the initiative and originality of the students
- It should offer suggestion to improve study habits.
- It should facilitate the use of analytic, synthetic, inductive, deductive, problem solving and heuristic approaches to teaching.
- Content should be organize with a psychological consideration
- Content should be organize in a logical way
- It should suggest project work, fieldwork and laboratory work.

(v) Language

- The language used in the textbook should be simple and easily understandable and within the grasp of the student.
- The style and vocabulary used should be suitable to the age group of students for whom the book is written.
- The term and symbols used must be those, which are popular and internationally accepted
- It should be written in lucid, simple, precise and scientific language.

(vi) Exercise and Illustrations:

- The illustrations should be accurate
- The illustrations should be clear and appropriate
- It should contain some difficult problems
- It should contain exercises to challenge the mathematically gifted students.
- There should be well-graded exercises given at the end of every topic.

- The exercise should develop thinking and reasoning power of the pupils.

(vii) General:

- At the end of book, there should be tables and appendices.
- The textbook should be of latest edition with necessary modifications
- The book should be of moderate price and readily available in the market.
- He therefore concluded that a good Mathematics textbook must have a table of contents, illustrations, charts or other references that can facilitate both students and teachers to do wonders in the subject.

2. Statement of the Problem

Achievement in Mathematics over ten years revealed that a high percentage of secondary school students performed poorly in the subject. Stakeholders in Ogun State, Nigeria ascribed mathematics failure to poor teacher's performance, teachers' competence, experience, age, students' attitude towards mathematics, socio-economic background and other home variables not because they have made analysis or critical evaluation of textbooks used in senior secondary schools in the state. Based on this aforementioned statement, this study sought to investigate the content analysis and readability of prescribed secondary school Mathematics textbook in Ogun State, Nigeria so as to establish a basis for a true critique to enhance improvement.

3. Research Questions

The following research questions were raised:

- What is the perception of teachers on the quality of features of prescribed secondary school Mathematics textbook in public secondary school in Ikenne local government area?
- What is the perception of teachers on the structure and content of the prescribed Mathematics textbook in public secondary school in Ikenne local government area?
- What is the students' level of readability of content of prescribed secondary school Mathematics textbooks in public secondary school in Ikenne local government area?
- What is the perception of students towards the readability of prescribed Mathematics textbook in public secondary school in Ikenne local government area?

4. Hypotheses

H_{01}: There is no significant correlation between teachers' years of experience and analysis of content of prescribed secondary school Mathematics textbooks in public secondary school in Ikenne local government area**.**

H_{02}: There is no significant correlation between gender of student and level of readability content of prescribed secondary school Mathematics textbooks in public secondary school in Ikenne local government area.

5. Methodology

Research Design - The study adopted a descriptive research design and a survey type was employed as the manipulation of variables was not possible.

Population - The population for this study consists of all the SS II Mathematics teachers and students in Ikenne local government area of Ogun State, Nigeria.

Sample and Sampling Techniques - Multi-stage sampling technique was used for this study. First, simple random sampling technique was used to select Ogun East Senatorial District from the three senatorial districts in Ogun State. Second, simple random sampling technique was used to select Ikenne local government area from the nine local government areas in Ogun-East Senatorial district. In the local government area selected, there are 11 public senior secondary schools out of which seven schools were selected using convenience sampling technique. In each of the participating school,

simple random sampling technique was adopted to select 30 SS II students while all the Mathematics teachers of the selected schools were used. Altogether, a total of one local government area, seven public senior secondary schools, 210 students and 30 Mathematics teachers were used for the study.

Instrumentation – Two research instruments were developed and employed by the researchers to collect data for the study. The first instrument was for the teachers and was titled 'Teachers' Perception of the Content of Prescribed Secondary School Mathematics Textbook Questionnaire' (TPCPMTQ) while the second instrument was for the students and was titled 'Assessment of Students' Level of Readability of Content of Prescribed Mathematics Textbook Questionnaire' (ASRCPMTQ). The teachers' questionnaire consists of three sections; section A deals with the demographic data of the teachers, section B consists of items on Mathematics textbook assessment rating scale while section C contained items on structure and content of the Prescribed Mathematics textbook. The students' questionnaire also consists of three sections. Section A contained the demographic data of the students, section B contained information on the ideal sub-topics for each chapter of the prescribed Mathematics textbook and students were asked to circle those sub-topics that were not in the recommended Mathematics textbook in Ogun State, Nigeria while section C was to elicit information on perception of students towards the readability of the prescribed Mathematics textbook.

Reliability of the Instrument

The reliability of the Teachers' perception on the Content of Prescribed Mathematics Textbook Questionnaire (TPCPMTQ, r = 0.85) and Assessment of students' Readability of Content of Prescribed Mathematics Textbook Questionnaire (ASRCPMTQ, r = 0.82) were established using Cronbach alpha.

Procedure for Data Collection

Data were collected from teachers and students of the selected schools in Ikenne local government area by the researchers. The researchers administered the questionnaire to the respondents and collected them on completion. Copies of the instruments fully responded to, were utilized and data collection lasted for 14 working days.

Method of Data Analysis - The data collected were analyzed using frequency counts, percentages and mean while the hypotheses were tested using inferential analysis of Pearson Product Moment Correlation to measure the relationship between teacher's years of experience and analysis of content of prescribed mathematics textbook, also relationship between students' gender and level of readability of the prescribed mathematics textbook.

6. Results and Findings

Research Question one: What is the perception of teachers on the quality of features of prescribed secondary school mathematics textbooks in public secondary schools in Ikenne local government area?

Table 1: Teacher Analysis of the Content of Mathematics Textbook

Physical features	**SA**	**A**	**D**	**SD**	$\bar{X}$	**STD**
The paper used in the textbook is of superior quality	7(23.3%)	23(76.7%)	0	0	3.23	0.11
It has durable binding	7(23.3%)	23(76.7%)	0	0	3.23	0.11
It has readable font.	20(66.7%)	10(33.3%)	0	0	3.67	0.13
It is bulky and thick	7(23.3%)	15(50.0%)	8(26.7%)	0	2.97	0.10
It has an appealing cover page.	6(20.0%)	13(43.3%	11(36.7%)	0	2.83	0.10
It has adequate inner margin that allow for curvature of binding	3(10.0%)	16(53.3%)	11(36.7%)	0	2.73	0.09
Average Mean					**3.11**	**0.11**
Content features						
The content of the textbook encourages personal growth in	9(30.0%)	13(43.3%	2(6.7%)	6(20.0%)	2.83	0.10

mathematics						
The topics/sub topics are arranged from simple to complex and concrete to abstracts.	9(30.0%)	12(40.0%)	4(13.3%)	5(16.7%)	2.83	0.10
The topics/sub-topics creates interest for mathematics in me.	12(40.0%)	15(50.0%)	3(10.0%)	0	3.30	0.11
It is written according to prescribed syllabus	5(16.7%)	11(36.7%)	4(13.3%)	10(33.3%)	2.37	0.08
It satisfies the demands of examination	4(13.3%)	6(20.0%)	9(30.0%)	11(36.7%)	2.10	0.07
The answers given at the end of each section are correct	5(16.7%)	5(16.7%)	7(23.3%)	13(43.3%	2.13	0.07
It includes recent developments in mathematics	3(10.0%)	7(23.3%)	9(30.0%)	11(36.7%)	2.13	0.07
There are lists of suggested readings that interest me in the textbook	3(10.0%)	9(30.0%)	7(23.3%)	11(36.7%)	2.20	0.07
Average Mean					**2.49**	**0.08**
Organization and Presentation features						
It provides for individual differences.	1(3.3%)	6(20.0%)	11(36.7%)	12(40.0%)	1.87	0.06
It has sufficient provision for revision, practice and review.	9(30.0%)	12(40.0%)	4(13.3%)	5(16.7%)	2.83	0.10
It stimulates initiatives and originality	7(23.3%)	12(40.0%)	3(10.0%)	8(26.7%)	2.60	0.09
It improves study habits.	2(6.7%)	13(43.3%	5(16.7%)	10(33.3%)	2.23	0.08
It facilitates the use of analytic, synthetic, inductive, deductive, problem solving and heuristic approaches to teaching.	4(13.3%)	7(23.3%)	6(20.0%)	13(43.3%	2.07	0.07
It suggests project work	3(10.0%)	11(36.7%)	5(16.7%)	11(36.7%)	2.20	0.08
Grand Mean					**2.30**	**0.08**
Language						
The language used in the textbook is simple and easily understandable and within the grasp of the students	4(13.3%)	10(33.3%)	5(16.7%)	11(36.7%)	2.23	0.08
The style and vocabulary used is suitable to the age group of students for whom the book is written.	7(23.3%)	8(26.7%)	5(16.7%)	10(33.3%)	2.40	0.08
It is written in lucid, simple, precise language.	7(23.3%)	9(30.0%)	3(10.0%)	11(36.7%)	2.40	0.08
Average Mean					**2.34**	**0.08**
Exercise and Illustrations						
The illustrations are accurate	6(20.0%)	11(36.7%)	11(36.7%)	2(6.7%)	2.70	0.09
The illustrations are clear and appropriate	7(23.3%)	12(40.0%)	11(36.7%)	0	1.77	0.06
It contains some difficult problems	6(20.0%)	24(80.0%)	0	0	3.20	0.11
It contains exercises to challenge the mathematically gifted students.	19(63.3%	11(36.7%)	0	0	3.63	0.13
There are well-graded exercises at the end of every topic.	10(33.3%)	20(66.7%)	0	0	3.33	0.11
The exercises develop thinking and reasoning power of students.	10(33.3%)	20(66.7%)	0	0	3.33	0.11
Average Mean					**2.99**	**0.10**

Source: Field 2018

Grand Rule: A mean score of 2.5 and above was taken to indicate high level of perception of teachers on the quality feature of prescribed secondary school Mathematics textbooks while a mean score less than 2.5 implies low level of perception of teachers on the quality feature of prescribed secondary school Mathematics textbook in public secondary schools in Ikenne local government area.

The Table 1 revealed the perception of teachers on the quality of features of prescribed secondary school Mathematics textbooks in public secondary schools in Ikenne local government area. The average responses of the teachers has high level of perception on the physical quality feature of prescribed secondary school Mathematics textbook and (average mean $\bar{X}$= 3.11 and Std = 0.11). Specifically paper used for the textbook is of superior quality with $\bar{X}$ = 3.23.The textbook has strong quality and durable binding with $\bar{X}$ = 3.23, and quality printing, bold and easily readable font with $\bar{X}$ = 3.67.

Research Question two: What is the perception of teachers on the structure and content of the prescribed mathematics textbook in public secondary school in Ikenne local government area?

Table 2: Perception of teachers of the prescribed Structure and Content of the Mathematics Textbook

The textbook;	SA	A	D	SD	$\bar{X}$	STD
Is good for studying mathematics	12(40.0%)	18(60.0%)	0	0	3.40	0.12
Is primarily made for students for studying	12(40.0%)	7(23.3%)	11(36.7%)	0	3.03	0.10
is supplemented by a collection of exercises	4(13.3%)	15(50.0%)	11(36.7%)	0	2.77	0.10
is supplemented by chapter test sheets	4(13.3%)	6(20.0%)	8(26.7%)	12(40.0%)	1.73	0.06
is in series, solutions, test sheets, collection of exercises	7(23.3%)	12(40.0%)	11(36.7%)	0	1.87	0.06
introduces new information with sample solutions of exercises	7(23.3%)	12(40.0%)	11(36.7%)	0	1.87	0.06
does not have mathematical technical language that are interpretable for students	3(10.0%)	14(46.7%)	4(13.3%)	9(30.0%)	2.63	0.09
has the problems ordered according to the degree of difficulty	4(13.3%)	18(60.0%)	3(10.0%)	5(16.7%)	2.70	0.09
has no complex sentences at all	18(60.0%)	5(16.7%)	5(16.7%)	2(6.7%)	1.70	0.06
is written in a readable style that is the most important with respect to wording	3(10.0%)	7(23.3%)	8(26.7%)	12(40.0%)	2.03	0.07
has the results of the problems in the textbook included.	9(30.0%)	8(26.7%)	13(43.3%)	0	2.87	0.10
has additional information clearly separated from compulsory information	3(10.0%)	12(40.0%)	5(16.7%)	10(33.3%)	2.27	0.08
does not only include the requirements of the Frame curriculum.	10(33.3%)	11(36.7%)	9(30.0%)	0	1.97	0.07
does not only convey technical information	3(10.0%)	20(66.7%)	7(23.3%)	0	2.13	0.07
does not have information related to reality	2(6.7%)	25(83.3%)	3(10.0%)	0	2.03	0.07
has summary at the end of every chapter	7(23.3%)	12(40.0%)	11(36.7%)	0	2.87	0.10
makes students practice problem solving methods with ease	0	25(83.3%)	5(16.7%)	0	2.83	0.10
has essential information emphasized in colours.	2(6.7%)	12(40.0%)	5(16.7%)	11(36.7%)	2.17	0.07
has a lot of illustration	5(16.7%)	14(46.7%)	11(36.7%)	0	2.60	0.09
has the theorems proved	10(33.3%)	20(66.7%)	0	0	3.33	0.11
does not have problems that improve the calculation skills of students	0	0	16(53.3%)	14(46.7%)	3.47	0.12
The mathematics textbook is error free	0	5(16.7%)	4(13.3%)	21(70.0%)	1.47	0.05
Average mean					**2.44**	**0.08**

Grand Rule: A mean score of 2.5 and above indicates high level of perception of teachers on the structure and content of the mathematics textbook students' used for learning of mathematics while a mean score less than 2.5 implies low level of perception of teachers on the structure and content of the mathematics textbook students' used for learning of mathematics in public secondary schools in Ikenne local government area.

The Table 2 revealed low level of perception of teachers on the structure and content of the Mathematics textbook students use for learning of Mathematics in public secondary schools in Ikenne local government area with average mean responses (average mean $\bar{X}$ = 2.44 and Std = 0.08).

Research Question three: What is the students' level of readability of content of prescribed secondary school mathematics textbook in public secondary school Ikenne local government area?

Table 3: Readability level of content of prescribed secondary school mathematics textbooks

Readability scores Interpretation	Frequency n=210	Percent
Very Confusing [20-29]	73	34.8
Difficult [30-49]	65	31.0
Standard [60-69]	23	10.9
Fairly easy [70-79]	18	8.6
Easy [80-89]	16	7.6
Very Easy [90-100]	15	7.1
Means	**2.45**	
Standard deviation	**0.01**	

Source: Field 2018

Table 3 above revealed low level of readability of content of prescribed Mathematics textbook with $\bar{X}$ = 2.45 and Std = 0.01, majority 34.8% of the respondents are very confused with the content of prescribed Mathematics textbook, 31.0% of the respondents falls in the level difficult readability of content of prescribed Mathematics textbook, 10.9% of the respondents falls in the standard readability level of content of prescribed Mathematics textbook, 8.6% respondents falls in the fairly easy readability level of content of prescribed Mathematics textbook, 7.6% also falls in the easy readability level of prescribed mathematics textbook while the least 7.1% of the respondents falls in the very easy readability level of content of prescribed Mathematics textbook.

Research Question four: What is the perception of students towards the readability of prescribed mathematics textbook in public secondary school in Ikenne local government area?

Table 4: Perception of Students towards the Readability of prescribed Mathematics Textbooks

	SA	**A**	**D**	**SD**	$\bar{X}$	**STD**
I like to study with my mathematics textbook because it is good and easy to understand	36(17.1%)	37(17.6%)	31(14.8%)	106(50.5%)	2.01	0.01
The textbook's language is easy and exercises are ordered according to the degree of difficulty that is easy for me to solve	23(11.0%)	54(25.7%)	58(27.6%)	75(35.7%)	2.12	0.01
My mathematics textbook does not only convey technical information but contain information related to reality	44(21.0%)	24(11.4%)	68(32.4%)	74(35.2%)	2.18	0.01
I hope that the textbook could have more pictures, so that I can understand better	100(47.6%)	54(25.7%)	18(8.6%)	38(18.1%)	3.03	0.01
Usually I will not study the textbook but for the explanations in it	39(18.6%)	38(18.1%)	63(30.0%)	70(33.3%)	2.22	0.01
I do not usually understand all exercises in my textbook e.g word problems and others thus I need additional explanation from my teacher	109(51.9%)	65(31.0%)	13(6.2%)	23(11.0%)	1.62	0.01
My mathematics textbook has a lot of colourful illustrations that make me to quickly understand many of the topics and sub-topics in it	36(17.1%)	33(15.7%)	52(24.8%)	89(42.4%)	2.08	0.01
My mathematics textbook has the theorems proved and memory improving exercises that also improves my calculation skills as a student	67(31.9%)	23(11.0%)	73(34.8%)	47(22.4%)	2.52	0.01
The mathematics textbook is error free	21(10.0%)	32(15.2%)	79(37.6%)	78(37.1%)	1.98	0.01
I do not understand the content in my mathematics textbook	68(32.4%)	83(39.5%)	28(13.3%)	31(14.8%)	2.10	0.01
I am familiar with my textbook more than my mathematics teacher's note because it elaborates more of what I have been taught	33(15.7%)	22(10.5%)	58(27.6%)	97(46.2%)	1.96	0.01
My mathematics textbook always disgusts me to study because anytime I solve exercises I don't get answers to know if I am correct	65(31.0%)	52(24.8%)	31(14.8%)	62(29.5%)	2.57	0.01
Average mean					**2.20**	**0.01**

Grand Rule: A mean score of 2.5 and above indicates high level of perception of students towards the readability of prescribed mathematics textbook while a mean score less than 2.5 implies low level of perception of students towards the readability of prescribed mathematics textbook in public secondary schools in Ikenne local government area.

The Table 4 revealed low level of perception of students towards the readability of prescribed mathematics textbook in public secondary school in Ikenne local government area with average mean responses (average mean $\bar{X}$ = 2.20 and Std = 0.01). specific items are; I do not usually understand all exercises in my mathematics textbook (e.g word problems and others), thus, I need additional explanation from my teacher with $\bar{X}$ = 1.62, I am familiar with my textbook more than my Mathematics teacher's note

because it elaborates more of what I have been taught with $\bar{X}$ = 1.96, the Mathematics textbook is error free with $\bar{X}$ = 1.98, I like to study with my Mathematics textbook because it is good and easy to understand with $\bar{X}$ = 2.01, my Mathematics textbook has a lot of colourful illustrations that make me to quickly understand many of the topics and sub-topics in it with $\bar{X}$ = 2.08, and I do not understand the content in my Mathematics textbook with $\bar{X}$ = 2.10.

Hypotheses Testing

Hypothesis One

H_{01}: There is no significant correlation between teachers' years of experience and analysis of content of prescribed secondary school mathematics textbooks in public secondary school Ikenne local government area**.**

Table 5: Person Product Moment Correlation between teachers' years of experience and analysis of content of prescribed mathematics textbooks

		Content Analysis
Years of experience	Pearson Correlation	.502**
	Sig. (2-tailed)	.005
	N	30

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5 above revealed and significant relationship between teachers' years of experience and analysis of content of prescribed Mathematics textbook, (r = 0.502 and P < .05). This mean that the higher their years of experience the higher their perception toward analyzing of content of the prescribed mathematics textbook. Thus, the null hypothesis was rejected and the alternative hypothesis which states that there is significant relationship between teachers' years of experience and analysis of content of prescribed Mathematics textbook in public secondary school was accepted.

Hypothesis Two

H_{02}: There is no significant correlation between gender of student and level of readability content of prescribed secondary school mathematics textbooks in public secondary school Ikenne local government area.

Table 6: Person Product Moment Correlation between gender of student and level of readability content of prescribed mathematics textbooks

		level of readability content of mathematics textbooks
Gender	Pearson Correlation	-.242**
	Sig. (2-tailed)	.000
	N	210

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6 above revealed a negative but weak significant relationship between gender of student and level of readability content of prescribed Mathematics textbooks, (r = -0.242 and P < .05). This means that the females have higher readability level than their male counterpart. Thus, the null hypothesis which stated that "there is no significant relationship between gender of student and level of readability content of prescribed Mathematics textbook in public secondary school was rejected and alternative hypothesis was accepted.

7. Discussion of Findings

The findings of teachers' perception on the quality of features of the prescribed secondary school Mathematics textbook in public secondary schools in Ikenne local government area revealed that physical features quality has high level of teachers perception with an average mean of $\bar{X}$ = 3.10 and standard deviation of 0.11. Specifically, paper used for the textbook is of superior quality with $\bar{X}$ = 3.20. The textbook has strong quality and durable binding with $\bar{X}$ = 3.20 and quality printing, bold and easily readable font with $\bar{X}$ = 3.67. The content features' quality of the prescribed Mathematics textbook in public secondary schools in Ikenne local government area has low level with average mean $\bar{X}$ = 2.98 and Std = 0.10. Specific items are; textbook is written according to prescribed syllabus with $\bar{X}$ = 2.83, it satisfies the demand of examination with $\bar{X}$ = 2.60, the answers given at the end of each section are correct with $\bar{X}$ = 2.93, it include recent developments in mathematics with $\bar{X}$ = 2.67 and there are lists of suggested readings interest in the textbook with $\bar{X}$ = 2.50.

Organization and presentation features quality of the prescribed secondary school Mathematics textbook have low level and average mean responses of the perception of the teachers (average mean $\bar{X}$ = 2.95 and Std = 0.10). Specific items are; It facilitates the use of analytic, synthetic, inductive, deductive, problem solving and heuristic approaches to teaching with $\bar{X}$ = 2.70 and it suggests project work with $\bar{X}$ = 2.40. Language features quality of the prescribed secondary school Mathematics textbook have low level with average mean responses of the perception of the teachers (average mean $\bar{X}$ = 2.94 and Std = 0.10). Specifical items are; the style and vocabulary used is suitable to the age group of students for whom the book is written with $\bar{X}$ = 2.90 and it is written in lucid, simple, precise language with $\bar{X}$ = 2.90. The exercise and illustrations features quality has high level with average mean responses of the perception of the teachers (average mean $\bar{X}$ = 3.21 and Std. = 0.10). Specific items are; it contained some difficult problems with $\bar{X}$ = 3.20, it contained exercises to challenge the mathematically gifted students with $\bar{X}$ = 3.63, there are well-graded exercises at the end of every topic with $\bar{X}$ = 3.33 and exercises develop thinking and reasoning power of students with $\bar{X}$ = 3.33. This finding is consistent with the findings of Afolabi (2013), Nwafor (2015), Fatoba, 2014 & 2015. The finding above also corroborated with the findings of Femema; Sowder & Carpenter (1991) Johansson (2003), Frang (2006) and Valverde, Bianchi, Wolfe, Schmidt and Houang, (2002). Frang (2006) opined that the structure and content of mathematics textbook is likely to have an impact on actual classroom instruction as well as students' academic achievement in mathematics. Also, Smith (2005) observed that an average child does not benefit from textbooks as a result of lack of understanding of the language writing of the textbooks. This was supported by Kalejaiye (2005) who reported that the results of most researchers on language of presentation showed that there are more English words to be learnt in Mathematics textbooks than in English textbooks. He noted that Mathematics terms, notations and symbols are also some new things to be learnt which are introduced in Mathematics textbooks. Thus, Shanahan and Shanahan, (2012) revealed that to comprehend mathematics text, most students require explicit instruction in the specialized structure, language conventions and interpretive use in these texts.

The hypothesis 1 which states that there is no significant correlation between teachers' years of experience and analysis of content of prescribed mathematics textbook in public secondary school Ikenne local government area revealed a significant relationship between teachers' years of experience and analysis of content of prescribed Mathematics textbook, (r = 0.502 and $P < .05$). This mean that the higher their years of experience the higher their perception toward analyzing of content of the prescribed mathematics textbook. Thus, the null hypothesis was rejected and the alternative hypothesis which states that there is significant relationship between teachers' years of experience and analysis of content of prescribed Mathematics textbook in public secondary

school was accepted. This is in relation with the result finding of Thiyagu (2010) who agreed that teachers with higher education teaching experience ranging from 5 to 25 years have better understanding of the content of prescribed mathematics textbook than the new entrants.

The second hypothesis revealed that there is significant relationship between gender of student and level of readability content of prescribed Mathematics textbook in public secondary school Ikenne local government area. This means that the females have higher readability level than their male counterpart; this is contrary to Cheng & Sari-Muthia (2017) who observed that there is a general belief that boys are superior to girls in terms of cognition and logical reasoning and even in academic performance. It was also supported by Valbona (2013) who asserted that factors that affect students' academic achievement in science subjects include sex role stereotype, masculine image, female socialization process and inability to withstand stress.

8. Recommendations

Based on the findings of this study, the following recommendations are proffered:

- Mathematics textbook should not be prescribed by Ministry of Education in Ogun State for public secondary schools; rather, it should be for individual differences to personal growth in mathematics.
- Researchers, authors and mathematics teachers should get the perception of best, average and poor students in mathematics before/to upgrade/implement the prescribed mathematics textbooks.
- Students as the end user of the textbook, counselors and parents are advice to help students towards readability level of mathematics textbook prescribed.
- Policy makers, educational planners, teachers, educators and government are to review the prescribed mathematics textbook for better understanding of the content by the students. This can be achieved when the age and level of the students are put into consideration.
- Teachers with more than 10 years of experience in teaching Mathematics should also be given the opportunity to be part in reviewing of prescribed Mathematics Textbook.
- Authors and publishers should make sure that the textbooks are error free.

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