

ANALYSIS OF THE PRACTICAL VALUES OF MATHEMATICS USED IN SENIOR SECONDARY SCHOOL TEXTBOOKS IN RIVERS STATE.

by

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Abstract

This work analyzed the practical values of mathematics in senior secondary school textbooks in Rivers State. Five purposes of the study, five research questions and four hypotheses guided the study. Descriptive survey design method was used. A sample of 2000 senior secondary schools students two (SSS2 students) were selected. A 20 items questionnaire title analysis of practical values in senior secondary school mathematics textbooks (APVSMT), consisting of 3 sessions, namely A, B and C respectively. Section A dealt with textbooks acquisition and usage, section B is about textbook illustrations and examples while section C was on topics in the mathematics textbooks and their relevance to practical situation. Percentage, mean and standard deviation (SD) were used to answer research questions while independent sample t-test was used to test the hypotheses. The findings of the study revealed that new general mathematics textbook is the most popularly used mathematics textbook by SSS2 students in Rivers State. The study also revealed that examples and illustrations used in the New general and comprehensive mathematics textbooks are relevant to practical situations. Based on the findings, it was recommended among others that teachers should be encouraged to use examples and illustrations while teaching, since examples and illustrations are relevant to practical situations. Authors of mathematics textbooks should include application of mathematical concepts to real life in each of the topic in mathematics, so that students will be aware of the practicability of the subject (mathematics).

Key Words: Practical values, Mathematics and Mathematics textbooks.

Introduction

The importance of mathematics in the society is quite enormous. A visit to the schools will reveal that different textbooks are used in various categories of schools. Quest to assess these textbooks and their relevance towards the attainment of the practical values of the subject (Mathematics) becomes quiet imperative.

Mathematics which is a science of quantity and space can also be seen as the study of the measurement, relationships and properties of quantities and set using numbers and symbols (Odili, 2006). Hence mathematics provides the key to understanding the created order of nature, this has been frequently fulfilled by the biblical passage, that God had ordered all things in measures, numbers and weight (Genesis 6:15).

The objectives of mathematics are numerous and vital. Some of the objectives as specified by Sidhu (2006) includes:

- Knowledge and understanding
- Skill
- Attitude
- Application
- Appreciation

Each of the above mentioned objectives is further simplified into smaller units and components. For example, application objectives which form an integral part of this work, helps the students to be able to:

- i. Solve mathematical problems independently

- ii. Make use of mathematical concepts and processes in everyday life.
- iii. Develop ability to analysis, to draw inferences, and to generalize from the collected data and evidence.
- iv. Think and express precisely, exactly and systematically by making proper use of mathematical language.
- v. Develops the ability to use mathematical knowledge in the learning of other subjects especially sciences.
- vi. Develops the students' ability to apply mathematics in his order future vocational life (Sidhu, 2006).

In the modern age of science and technology, emphasis is given to science subjects such as Physics, Chemistry, Biology, Medicine and Engineering. Mathematics which is the mother of all sciences by any criterion also is an efficient and necessary tool being employed by these sciences. As a matter of fact, all these science progress only with the aid of mathematics so as aptly remarked mathematics is a science of all science and art of all arts. Mathematics as a creation of human mind is concerned chiefly with ideas processes and reasoning, it is much more than arithmetic, more than algebra, more than geometry also more than trigonometry, statistics and calculus.

Mathematics includes all of them, primarily; mathematics is a way of thinking, a way of reasoning it gives an insight into valuable discipline of teaching-learning programmes of school subjects everywhere in the world of curious children.

A lot of textbooks on mathematics are in used in senior secondary school. Most of these mathematics textbooks are written because many use it as a means of getting money after selling mathematics textbooks. Mathematics textbook is one of the ways or means through which the knowledge of mathematics can be transfer from one generation to another. Some of the illustration in the textbooks aid understanding of the concept while some hindered understanding of the concept. Gbamanja (1989) highlighted how textbook illustration facilitate teaching/learning situation. This is because textbooks authors seems to have difficulty in appreciating the fact that textbook illustration represent problem at all to learners.

Mathematics has gotten many educational values which determine the need of teaching the subject in schools. These values are follows:

- i. Practical value
- ii. Cultural value
- iii. Disciplinary value

The practical value of the subject "Mathematics" is such that every category of human beings irrespective of their profession makes use of it in their daily life. Sidhu (2006) asserted that:

One cannot do without the use of fundamental processes of this subject in daily life. A common man can get on sometimes very well without learning how to read and write, but he can never pull on without learning how to calculate. Any person ignorant of its fundamental processes and skill to use them are the preliminary requirements of a human being these days. (P.3)

We have to calculate how much we have to pay for everything. A house wife also needs mathematics for looking after her house, preparing family budgets and estimates, writing various expenses and noting down various household transactions. Mathematics is

needed by all of us whether rich or poor, high or low. Not to speak of engineers, bankers, accountants, businessmen, planners, etc. even petty shopkeepers, carpenters and laborers need mathematics not only for earning their livelihood but also to spend wisely and save for future needs.

Statement of Problem

Despite, the various mathematics textbooks used for teaching and learning in schools, many senior secondary school students still find the subject difficult and uninterested to study.

Mathematics is one the core subjects at the senior secondary school level (FRN, 2004) Students are expected to pass the subject (mathematics) at least with Credit level before they will be admitted into institutions of higher learning.

It has been observed that most students lack interest in mathematics due to the abstract nature and non-practicability of the subject, in their life and in the society. Because of this lack of interest, you see most of the secondary school students and secondary school leavers, lacking the application or practicability of mathematical concepts to real life situations.

Most of the problems happening in our society on a daily basis are as a result of the lack of application of mathematical concepts. Buildings collapse due to lack of proper measurement of constituent of the concrete, abandon of projects (in complete projects) due to lack of adequate budgeting and mis-management of funds made for the projects. On this note the study tends to analyze the practical values of mathematics in senior secondary school textbooks in Rivers State, Nigeria.

Purpose of the Study

The purpose of the study is to analyze the practical values of mathematics in senior secondary school textbooks.

In specific terms, the study sought to:

1. Identify the most popular mathematics textbooks among senior secondary school students.
2. Identify the mathematics textbooks that students find most fascinating in terms of usage and application to practical situation.
3. Determine the different perspective of male and female students' choice of mathematics textbooks in terms of usage and application to practical situation.
4. Determine whether examples and illustration in the new general mathematics textbook are relevant to practical situations
5. Determine whether examples and illustration in the comprehensive mathematics textbook are relevant to practical situation.

Research Questions

To make this research more empirical, the following questions raised

1. Which mathematics textbook is popularly used by senior secondary school students in Rivers State?
2. Which mathematics textbooks do students find most effective in terms of usage and application to practical situation?
3. What are the views of male and female SSSS on the choice of mathematics textbooks as related to practical values?

4. To what extent are the examples and illustrations in the new general mathematics textbooks relevant to practical situations?
5. To what extent are the examples and illustrations in the comprehensive mathematics textbooks relevant to practical situations?

Hypotheses

The following hypotheses are formulated to guide the study:

1. There is no significant difference in the mean scores of senior secondary students who find new general mathematics textbook more effective in terms of usage and application to practical situation and those who find comprehensive mathematics.
2. There is no significant difference in the perception of male and female SSSS on the choice of mathematics textbooks in terms of usage and application to practical situations.
3. There is no significant difference in the means scores of senior secondary school students of those who believed that examples and illustrations in the new general mathematics textbook are relevant to practical situation and those that believe not.
4. There is no significant difference in the means scores of senior secondary school students of those who believed that examples and illustrations in the comprehensive mathematics textbook are relevant to practical situation and those that believe not.

Methodology

Descriptive survey design was adopted for this study: The population consist of all SS 2 students of 2018/2019 session in public secondary schools in Rivers State.

A simple random sampling technic was used to composed the sample of 2000 SS 2 students, 100 students each from 20 selected public secondary schools in Obio Akpor, Portharcourt and Eleme Local Government Area of Rivers State.

The instrument used for data collection was questionnaire named Analysis of Practical Values in Secondary School Mathematics Textbook (APVSMT). The instrument consist of 20 items questions.

The questions are divided into three sections, namely A, B and C respectively. Section A deals with statement on textbooks acquisition and means of usage. Section B on text illustration and examples while section C on topics in the mathematics textbooks and their relevant to practical value. The statements in section B an section C are constructed on four likert scale of very high extent (VHE), high extent (HE), low extent (LE) and very low extent (VLE)

The instrument (APVSMT) was validated by both experts in mathematics education and in measurement and evaluation.

Reliability of the instrument was obtained using cronbach alpha. For this purpose, 50 SS 2 students were selected using simple random sampling method from 5 public secondary schools, 10 from each school that were not used in the study. This was retrieved after being filled for calculation.

The 50 copies of questionnaire retrieved was scored and coded into the computer for reliability of the instrument. The reliability coefficient value of (0.88) obtained using cronbach alpha was high enough to guarantee the use of the instrument for the study.

The questionnaires were administered successfully; introductory letters together with 2000 questionnaire was given to the respondents by the researcher who explained to them the need for them to respond honesty to the items of the instruments. The questionnaires distributed were retrieved within a week's interval, and a frequent count of each questionnaire item was made of points to be examined.

Results and Analysis

The analysis of data was presented using tables, mean, standard deviation and independent t-test.

Research Question One:

Which mathematics textbook is popularly used by senior secondary student in Rivers State?.

Table 1: Popularly used textbooks

S/N	NAME OF TEXTBOOKS	RESPONDED
1	New general mathematics	712
2	Comprehensive	570
3	Essential mathematics	400
4	Countdown mathematics	200
5	Others	118
	Total	2000

Table 1 shows that new general mathematics was the most popular textbooks, having a score of 712 followed by comprehensive textbooks which has the score of 570. The essential mathematics is the third having the score of 400 followed by countdown 200 and others which is the least 118.

Research Question Two

Identify the mathematics textbooks that students find most fascinating in terms of usage and application to practical situation.

Table 2 Response on most fascinating mathematics textbooks.

S/N	NAMES OF TEXTBOOKS	RESPONDED	PERCENTAGE
1	New general mathematics	712	35.6
2	Comprehensive	570	28.5
3	Essential mathematics	400	20.0
4	Countdown mathematics	200	10.0
5	Others	118	5.9
	Total	2000	100

Table 2 shows the most fascinating mathematics textbooks in terms of usage and application to practical situation. According to the table 35.6% of the student see new general mathematics as most fascinating mathematics textbooks, followed by comprehensive mathematics textbook which has 28.5%, while essential mathematics textbook has 20%, countdown mathematics textbooks has 10% and other mathematics textbooks is 5.9%. Based on the above result, new general mathematics text is the most fascinating mathematics textbooks in terms of usage and application to practical situation in Rivers State.

Research Question Three

What are the views of Male and Female SSSS on the choice of mathematics textbooks as related to practical values?

Table 3 choice of Male and Female students on mathematics textbooks.

Gender	Number of respondent	Mean	Std. Dev.
Female	989	3.89	.00906
Male	1011	3.91	.01450

The result shows that female mean score is 3.89 and the male mean score is 3.91. Thus, the male see mathematics textbook as related to practical values more effective.

Research Question Four

To what extent are the examples and illustration in the new general mathematics textbook relevant to practical situations?

Table 4 response of student on new general mathematics textbook illustration and examples

S/N	TEXTBOOKS ILLUSTRATIONS AND EXAMPLES	VHE	HE	LE	VLE		RESPONDED	MEAN	STD. DEV	DECISION
	Items	4	3	2	1		N			
5	The language and the grammar used by the author(r) is simple and easy to understand	600 (2400)	112 (336)	- (60)	- (70)	2736	712	3.84	0.364	A
6	I like the illustration and presentation of ideals made in the textbook.	500 (2000)	200 (600)	12 (24)	-	2624	712	3.68	0.500	A
7	The example in the textbook are simple	700 (2800)	12 (36)	-	-	2836	712	3.98	0.129	A
8	The example in the textbook are well explanatory	550 (2200)	150 (450)	12 (24)	-	2674	712	3.76	0.467	A
9	The example in the textbook are easily understood	620 (2480)	80 (240)	12 (240)	-	2744	712	3.85	0.400	A
10	The textbook has exercise questions for learners at the end of each chapter.	600 (2400)	112 (336)	-	-	2736	712	3.84	0.364	A
11	The exercise questions in the textbook are simple	500 (2000)	100 (300)	50 (100)	62 (62)	2462	712	3.46	0.955	A
12	The exercise questions in the textbook are orderly arranged, in term of complexity.	680 (2720)	32 (96)	-	-	2816	712	4.00	0.207	A
	GRAND TOTAL							3.80		

The figure in parentheses is the total of each item cell A=Accepted

Table 4 displays the figures for the extent which the examples and illustrations in the new general mathematics textbooks shows relevant to practical life. In a likert-type scale of this format, a men score of 2.5 connotes neutrality, while a mean score beyond 3.0 signifies positive response. Thus, grand total mean score of 3.80 indicate that the new general mathematics textbook consist of relevant examples and illustration to practical life. The answer to research question 3 is that the new general mathematics textbooks consist of relevant examples and illustration to practical situation.

Research Question Five

To what extent are the examples and illustrations in the comprehensive mathematic textbook relevant to practical life.

Table 5 response of student on comprehensive mathematics textbook illustration and examples

S/N	TEXTBOOKS ILLUSTRATIONS AND EXAMPLES	VHE	HE	LE	VLE	-	RESPONDED	MEAN	STD. DEV	DECISION
	Items	4	3	2	1		N			
5	The language and grammar used by the author(s) is simple and easy to understand.	270 (1080)	200 (600)	30 (60)	70 (70)	181 0	570	3.18	0.994	A
6	I like the illustration and presentation of ideals made in the textbook.	500 (2000)	30 (90)	20 (40)	20 (20)	215 0	570	3.77	0.676	A
7	The examples in the textbook are simple.	450 (1800)	100 (300)	20 (40)	-	214 0	570	3.75	0.506	A
8	The example in the textbook are well explanatory.	400 (1600)	100 (300)	20 (40)	50 (50)	199 0	570	3.50	0.921	A
9	The example in the textbook are easily understood.	420 (1680)	100 (300)	50 (100)	-	208 0	570	3.65	0.636	A
10	The textbook has exercise questions for learners at the end of each chapter.	424 (1696)	78 (234)	68 (136)	-	206 6	570	3.62	0.688	A
11	The exercise questions in the textbook are simple.	460 (1840)	80 (240)	30 (60)	-	214 0	570	3.75	0.540	A
12	The exercise questions in the textbook are orderly arranged in term of complexity.	410 (1640)	70 (210)	70 (140)	20 (20)	201 0	570	3.53	0.841	A
	GRAND TOTAL							3.59		

The figure in parentheses is the total of each item cell A=Accepted.

Table 5 displays the figures for the extent which the examples and illustrations in comprehensive mathematics textbooks shows relevant to practical life. In a likert-type scale of this format, a mean score of 2.5 connotes neutrality, while a mean score beyond 2.5 signifies positive response. Thus, grand total mean score of 3.59 indicate that the new general mathematics textbook consist of relevant examples and illustration to practical life. The answer to research question 3 is that the new general mathematics textbooks consist of relevant examples and illustration to practical situation.

HO₁: There is no significant difference in the mean scores of senior secondary school students who find new general mathematics textbooks more effective in terms of usage and application to practical situation and those who find comprehensive mathematics textbooks.

Table 6a mean score of effective textbooks

Textbooks	N	Mean	Std. Deviation	Std. Error Mean
Effective comprehensive	570	3.590	.71511	.04469
New general Mathematics	712	3.800	.42186	.02071

Table 6b independent sample T-test analysis of significant difference of means score of SSSS2 who find new general mathematics textbooks more effective.

	Levene's test for equality of variances		t-test for equality of means						
	F	Sig	T	Df	Sig (2 - tailed)	Mean difference	Std error difference	95% confidence interval of the difference	
								Lower	upper
Equal variance assumed equal.	428.996	.000	118.880	569	.000	2.30	.0193	2.26	2.34
Variances not assumed			44.25	261	.000	2.30	.0309	2.24	2.36

An independent-sample t-test was conducted to compare the response of senior secondary school two (SSSS2) students of those who are of the view that new general mathematics textbook examples and illustration to real life situation and those that are not. There are a significant difference in scores for positive response (M=.73, SD=.715) and negative responsive (M=3.89, SD=.422) condition; T (569)= 118.880, P=.000. These results suggest that at degree of freedom 569, the T-value is 118.880 and the P -value is .000 which is less than the significant value of 0.05. The null hypothesis is accepted, it means that there is significant difference.

HO₂: There is no significant difference in the perception of male and female SSSS on the choice of mathematics textbooks in terms of usage and application to practical situations.

Table 7a mean, standard deviation in perception of Male and Female SSS students.

Gender	N	Mean	Std. Dev.	Std. Error mean
Male	1011	3.8853	.046105	.01450
Female	989	3.9110	.28486	.00906

Table 7b independent sample T-test analysis on the perception of Male and Female SSS students on choice of textbooks.

	Levene's test for equality of variances		t-test for equality of means						
	F	Sig	T	Df	Sig (2 - tailed)	Mean difference	Std error difference	95% confidence interval of the difference	
								Lower	upper
Equal variance assumed equal.	11.658	.001	-1.499	1998	.134	-.026	.0172	-.059	.008
Variances not assumed			-1.501	1689	.132	-.0258	.017	-.059	.007

An independent-samples t-test was conducted to complete male and female SSSS on the choice of mathematics textbooks in terms of usage and application to practical situation. There was a significant difference in scores for male and female choice of mathematics textbooks in terms of usage and application to practical situation. The male score (M=3.89 SD=.461) and the female score (M=3.91, SD=.285) with the condition; t (1998) = -1.50 p=.001. These results suggest that a degree of freedom 1998, the t-value is -1.50 and the p value is .001 which is less than the significant value of 0.05. Its shows that the views of male

and female SSSS on the choice of mathematics textbooks in terms of usage and application to practical situation are significant. The null hypothesis is accepted.

HO₃: There is no significant difference in the mean scores of SSS2 students of those who believed that examples and illustration in the New general mathematics textbook are relevant to practical situation and those that believed not.

Table 8a Mean scores of SSS2 students of those who believed and those who believed not in new general mathematics.

BELIEVED	N	Mean	Std. Deviation	Std. Error Mean
SCORES THOSE WHO BELIEVED	587	4.0000	.00000	.00000
THOSE WHO DO NOT BELIEVED	125	1.3440	.47695	.04266

Table 8b Independent sample T-test analysis of significant difference between students who believed and those believed not in new general mathematics textbook.

	Levene's test for equality of variances		t-test for equality of means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean difference	Std error difference	95% confidence interval of the difference	
								Lower	upper
Equal variance assumed	5427.871	.000	135.3	710	.000	2.66	.196	2.62	2.69
Variances not assumed	62.3	.124	.000	2.66	0.427	2.57	2.74		

An independent – samples t-test was conducted to compare the response of senior secondary school two (SSSS2) students of those who are of the view that new general mathematics textbook examples and illustration to life situation and those that are not. There was a significant difference in scores for those who believe (M = 4.000, SD =.000) and those who did not believe (M = 1.30, SD = .477) condition; t (710)= 135.3, p =.000. These results suggest that at degree of freedom 710, the t – value is 135.3 and the p value is .000 which is less than the significant value of 0.05. its shows that those who are in the view that examples and illustrations in the new general mathematics textbook are relevant to practical situation and those that believe not is significant.

HO₄: There is no significant difference in the mean scores of SSS2 Students of those who believed that examples and illustrations in the comprehensive mathematics textbook are relevant to practical situations and those that believed not.

Table 9a mean scores of SSSS2 students of those who believed and who believed not in comprehensive textbooks.

Believed	N	Mean	Std. Deviation	Std. Error Mean
Scores those who believed	470	3.5745	.49495	.02283
those who do not believed	100	1.3000	.46057	.04606

Table 9b Independent sample T- Test analysis of significant difference of those believed and those who believed not in comprehensive textbooks.

	Levene's test for equality of variances		t-test for equality of means						
	F	Sig	T	Df	Sig (2 tailed)	Mean difference	Std error difference	95% confidence interval of the difference	
								Lower	upper
Equal variance Assumed	37.64	.000	42.23	568	.000	2.27	.054	2.17	2.38
Variance not Assumed		44.25	151.7	.000		2.27	0.51	2.17	2.37

An independent – samples t-test was conducted to compare the response of Senior Secondary School two (SSSS2) students of those who are of the view that comprehensive mathematics textbook examples and illustration to life situation and those that are not. There was a significant difference in scores for positive response (M = 4.000, SD = .000) and negative responsive (M = 1.30, SD = 460) condition; $t(568) = 42.23, p = .000$. these results suggest that at degree of freedom 568, the t- value is 42.23 and the p value is .000 which is less than the significant value of 0.05. its shows that those who are in the view that example and illustrations in the comprehensive mathematics textbook are relevant to practical situation and those that believed not is significant.

Discussion of findings

The discussion of the result of this study is made under the following sub-headings. The findings revealed that new general mathematics textbooks is the most popularly used mathematics textbooks by SSSS in Rivers State. According to table 4 out of 2000 SSSS respondents, 712 students used new general mathematics, 570 used comprehensive mathematics textbook, 400 students used essential mathematics, 200 used countdown mathematics and 118 students used other mathematics textbooks. Table 5 revealed that 35.6% find new general mathematics textbook more effective in terms of usage and application to practical situation, 28.5% comprehensive, 20.0% essential mathematics, 10.0% countdown and 5.9% others. By this result, new general mathematics textbooks is found to be the most effective mathematics textbooks in terms of usage and application to practical situations in SSSS in Rivers State. The result of the hypothesis that there is no significant difference in the view of male and female SSSS on the choice of mathematics textbooks in terms of usage and application to practical situations relevant that at degree of freedom 1998, the t-value is -1.50 and the p-value is .001 which is less than the significant value of 0.05. It shows that the view of male and female SSSS on the choice of mathematics textbooks in terms of usage and application to practical life is significant, therefore null hypothesis is accepted.

Table 6a shows that the grand total mean score of 3.80 indicate that new general mathematics textbooks consist of relevant examples and illustration of practical situations. The hypothesis which stated that, there is no significant difference in the mean score of SSS2 students of those who believed that examples and illustrations in the new general mathematics textbooks are relevant to practical situation and those that believed not. Table 8b suggest that at the degree of freedom 710, the t-value is 135.3 and p-value is .000 which is

less than significant value of 0.5. it shows that those who are of the view that examples and illustration in new general mathematics textbooks are relevant to practical situation and those that believed not is significant. This work agree with Meric and Erdine (2014) provides an analysis of mathematics teacher use of curriculum materials, interviews shows how they use curriculum material specifically textbooks. These results of the interviews indicated that mathematics teachers used textbooks to make instructional decisions, and they mostly adapted problems and examples in constructive way.

Table 5 shows that the grand mean of 3.59 indicate that comprehensive mathematics textbook consist of relevant examples and illustration to practical situations.

On the hypothesis that there is no significant difference in the response of SSS2 students of those who of the view that examples and illustration in the comprehensive mathematics textbooks are relevant to practical situation and those that are not. Table 9a and 9b shows that there was significant difference in scores positive response ($M=3.57$, $SD = .495$) and for the negative response ($M=1.30$ $SD=.461$) with a condition; $t(568) = 42.23$, $p = .000$). These result shows that at degree of freedom 568, the t-value is 42.23, $p=.000$, which is less than the significant value of 0.05, indicate that examples and illustration in the comprehensive mathematics textbook are relevant to practical situations.

This work agree Meric and Erdine (2014) provides an analysis of mathematics teacher use of curriculum materials, interviews shows how they use curriculum material specifically textbooks. The results of the interviews indicated that mathematics teachers used textbooks to make instructional decisions, and they mostly adapted problems and examples in constructive way.

Conclusion

Based on these findings, it was concluded that the analysis of the practical values of mathematics in Senior Secondary School Textbook in Rivers State is effective based on the SSSS student responses. The perspectives that the students indicated in the study showcase areas to be reflected on the mathematics textbook users (the teachers and the student) and other stakeholders in order to improve practical values in mathematics textbooks. In other words, new genera; mathematics textbook are highly effective in practical illustration in real life situation.

Findings from the study revealed the efficacy of the example and illustration in new general mathematics textbooks and comprehensive textbook for application for practical life.

Recommendations

The following recommendations were considered appropriate and relevant based on the findings of the study:

1. Examples and illustration should be used in teaching mathematics, since it is relevant to practical situations.
2. Authors of mathematics textbooks should include application of mathematics concepts to real life in each topic in mathematics textbook, in order for the users of the textbook to be aware of the practicability of the subject (mathematics).
3. Professional bodies such as the Mathematical Association of Nigeria should encourage the use of examples and illustration in mathematics teaching, organized seminars, workshops and conferences for teacher.

4. Mathematics teachers in secondary school should use variety of examples and illustration in their teaching method. And also offer themselves for periodic analysis of the mathematics textbook for application of practical values.

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