

The Attitude of Using Text Books among Primary School Teachers

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Abstract

Malaysia Education Development Plan 2013 - 2025 is a transformation of educational system to equip the individuals potential through the world-class education system. The quality, design, and content organisation of primary school textbooks have also been transformed in order to increase the effectiveness and efficiency of learning resources as outlined in the PPP for 2013–2025. The goal of this study is to ascertain the level of primary school teachers' attitudes towards the use of maths textbooks and how frequently they do so. The study sample consisted of 67 Chinese National Type School Mathematics instructors from the Bangsar district of the Federal Territory of Kuala Lumpur. In order to gather data or information for the study, a questionnaire will be used. The Statistical Package for the Social Sciences (SPSS) version 29.0 was used to analyse the data. This study's findings will be presented in both descriptive and inferential form. The data was analysed using descriptive analysis, which includes frequency, percentages, and means. The study's findings indicate that primary school mathematics teachers' attitudes towards using textbooks are at a moderate level (mean = 3.42) and that textbook usage is also at a moderate level (mean = 3.30). Inferential analysis utilising the Spearman Rho coefficient will also be used to determine the relationship between the frequency of Maths textbook use and the attitude of primary school maths teachers. The study's findings demonstrate a significant relationship (r = 0.72, p 0.05) between the attitudes of primary school mathematics teachers and the frequency of textbook use in the subject. Implications of the study suggest that primary school teachers are less likely to be exposed to effective textbook usage techniques. Therefore, steps are suggested to ensure that primary school teachers make effective use of textbooks.

Keywords: Mathematics Textbooks, Attitudes of Mathematics Teachers, Activities and Exercises, Primary School Teachers

Introduction

In general, the curriculum determines the structure and content of the lessons that want to convey to students (Harun et al., 2018). Therefore, the curriculum plays an important role in forming learning concepts and skills among students. In Malaysia, the education system has implemented the Primary School Standard Curriculum (KSSR) 2017. Implementation of the curriculum is intended to born the students with knowledge and skills that are relevant to current needs to overcome the challenges of the Industrial Revolution 4.0. Therefore, the

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KSSR Mathematics curriculum needs to be better and updated from time to time so that it is always relevant to its implementation (Ikhsan & Azimah, 2017).

Transforming the Mathematics curriculum is a natural thing to do so that it is competitive with developed countries, in addition to ensure the quality of student learning. The use of mathematics textbooks, which are a basic resource for teacher teaching and student learning, play a role as the best source of measurement for analyzing and assessing the structure and content (Cheng & Silalahi, 2017). This is because the transformation of the curriculum has certainly contributed to changes in the content of Mathematics textbooks. The Malaysian Ministry of Education has laid down a vision to produce world-class mathematics textbooks that have the characteristics of quality information and communication technology (ICT), are user-friendly and have pure values that can produce outstanding educated scientists and be able to compete in global rankings by 2020.

In Malaysia, Mathematics textbooks are provided to all students through the Mathematics Textbook Loan System Program (SPBT). Mathematics textbooks are one of the important teaching aids and are often used as a source of knowledge acquisition since the formal education system was implemented in schools. Typically, Mathematics textbooks are the main reference source among Mathematics teachers as initial supplies for designing teaching and facilitating activities (Asyrani & Roslinda, 2020). On the other hand, students also learn by understanding examples of questions and answering questions contained in Mathematics textbooks (Asri et al., 2020). In the context of education in Malaysia, Mathematics textbooks are books that are used as the main basic materials and sources of information in the implementation of the Standardized Lower School Curriculum in schools. Mathematics textbooks influence not only the content presented or the way teachers teach, the homework and activities that teachers will propose to students, but also students' understanding and problem solving techniques (Daud, 2020).

Mathematics textbooks can be said to be a link between the desired curriculum and the implemented curriculum (Mullis, 2017). Therefore, the formulation of Mathematics textbooks is in line with the Standard Curriculum and Assessment Document (DKSP). This is because the adaptation of Mathematics text books in teaching and facilitating can see the impact in terms of conveying the learning content contained in the Mathematics curriculum (Fan et al. 2018). In this regard, analysis of Mathematics textbooks from the aspect of content domains must be carried out so that the delivery of learning contents can be carried out in the correct manner as intended in the National Education Philosophy (FPK) and the Malaysian Education Development Plan (PPPM) 2013 - 2025. In accordance with the direction of the Ministry of Education Malaysia via Pekeliling Ikhtisas Bil. 12/1999, teachers and students are required to use Mathematics textbooks as the main resource in class. This situation is compounded by the existence of studies which show that there is a positive effect between the use of Mathematics textbooks and the academic achievement of students. Also in teacher perceptions, a study by Fan & Kaeley (2000) found that 70.6% of teachers acknowledged the importance of Mathematics textbooks as a source of teaching and learning. However, the use of Mathematics textbooks among teachers this decade has been found to be declining. A study by Rahmat (2016) (quoted from Yussof et al., 2019) found that only 41.1% of teachers always used Mathematics textbooks.

The typical education system in schools sees the role of Mathematics teachers having a big influence on the effectiveness of the teaching process and the ease of learning (PdPc). The tendency of students to be interested in certain subjects is often related to "who is the teacher who teaches?" iand "how does the teacher teach?" (Stronge, 2018). The education system in Malaysia which emphasizes student-centred learning today requires Mathematics teachers to act as facilitators in learning PdPc, compared to conventional methods such as giving advice or 'chalk and talk'. Nowadays, the role of a Mathematics teacher has changed drastically compared to before where the Mathematics teacher was considered the main source for obtaining information. Mathematics teachers in the modern era are responsible for delivering learning content, creating a learning environment that is active and constructive and encourages students to express problems or ideas. iMathematics teachers need to be wise to ensure that the PdPc they manage becomes a meaningful experience for their students. Mathematics teachers who are competent and highly motivated are able to have the greatest influence on their students. iIn the context of this study, the stages of lower school teachers' attitudes towards aspects of the content of Mathematics textbooks and the stage of use of Mathematics textbooks will be emphasized.

In Malaysia, the role of Mathematics teachers in the PdP process is very large. Various reading materials such as books, newspapers and magazines are a learning media tool that is considered very important. Teachers have a very important role in choosing appropriate and good mathematics books to achieve the goals of the PdPc process in class (Yahya, 2016). Reading is fundamental in forming a person's self towards gaining knowledge and various new information. Through the activity of reading, a person can find himself as a source of reference both to himself and to other people. Teachers have the role of encouraging and motivating people to be interested in learning so that the culture of reading can continue to be implemented. Report show that a qualified teacher provides support and motivation in cognitive, emotional and social forms to his students. This clearly proves that a good teacher is not just a transmitter of teaching content, but also conveys emotions and spreads social awareness about the specialized field being represented. The effectiveness of an individual teaching process also depends on the relationship between knowledge and pedagogical skills of a teacher. An imbalance between these two aspects will cause the teaching carried out to be ineffective, thereby giving rise to misconceptions or mistakes (Omari, 2018).

Shulman et al (2016) have put forward the idea that extensive knowledge in the subject being taught does not make a teacher an expert, but is accompanied by skills in conveying teaching content so as to arouse student interest. Bullough (2020) has reported on the efforts that teachers are actively making to create a creative learning atmosphere. In the context of our country, the introduction of the Malaysian Education Development Plan document (2013-2025) has also outlined the importance of developing teacher competency through improving teaching quality.

The current issue related to this study is the issue of differences in teacher perceptions regarding the use of Mathematics textbooks. Mathematics teachers may have positive or negative attitudes towards the Mathematics textbooks used in teaching. They may consider Mathematics textbooks to be relevant, appropriate and follow the curriculum, or conversely, consider Mathematics textbooks to be insufficient and not appropriate to students' needs (Wong & Lu, 2021). Aziz et al (2020) study shows that Mathematics teachers who have a

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positive attitude towards Mathematics textbooks tend to stick to the content of Mathematics textbooks strictly, without much improvement or variation in teaching. Or conversely, they may be flexible and creative in using the Mathematics textbook as a guide but also introduce additional activities and materials to enrich the student's learning experience. The attitude of Mathematics teachers can be influenced by several factors, including the quality of Mathematics textbooks, suitability to teaching styles, relevance to everyday life, variety of learning resources and changes in the curriculum and student needs.

The need for a phased study of the attitudes of elementary school Mathematics teachers towards the use of Mathematics textbooks is to see whether immediate educational reform needs to be carried out. This study focuses on the attitude of elementary school teachers towards aspects of the content of Mathematics textbooks and the frequency of use of Mathematics textbooks in a teacher's PdPC. Recent studies have emphasized the effectiveness of teacher teaching as an important factor in delivering a subject. Students who are eligible to take part in the Science program are considered to be able to overcome those who still have concerns about studying Mathematics. This concern influences the reception of science in schools which is very dependent on the role of the teacher (Siddiqui & Khan, 2018), moreover teachers are the first individuals who will be referred to by students if there are misconceptions or uncertainties about a theory, concept or topic being studied.

Although various past studies have supported teacher quality factors in the teaching and youth process (Clough, 2019; Zientek, 2017). A related study was also carried out by Johari (2016) which showed a high negative score (below 50%) for the components of content and relevance of the text for Malay Literature subjects. Apart from that, a study related to achievement using Mathematics textbooks was also carried out by Robert & Stanley (2014) who made a comparative study between traditional learning, namely Programmed Learning Sequence (PLS) and Contract Activity Packaged (CAP). He found that the traditional method which includes the method of verbally reading rather than writing a Mathematics text shows a higher level of achievement compared to other methods.

Problem Statement

Based on Astro Awani's report on January 2 2022, lecturer at the Center for Education and Welfare Studies at Universiti Kebangsaan Malaysia (UKM), Dr Anuar Ahmad stated that efforts to reform the primary school education system need to be implemented immediately to preserve a higher quality education system. He also stated that 2022 is the right year for the education sector to implement reforms to ensure the sector returns to its foundations after the country was affected by the flood issues and the COVID-19 pandemic. He is of the opinion that educational reform regarding the curriculum must be carried out immediately because the existing curriculum is seen to be somewhat outdated and may no longer be relevant for students who are human resources in the 10 to 15 year period that will come and we need an educational curriculum that is competitive and more ifuturistic. Apart from that, he also stated that elementary school education is facing the issue of a curriculum that is too busy and too much, which also causes teachers to not try to do more fun activities and develop students' learning potential compared to countries that have more advanced education systems. Imagination such as Singapore, Japan, Australia or Finland. This is also evident in the 2018 Organization for Economic Co-operation and Development (OECD) statement which emphasizes the need for educational transformation through curriculum renewal that is more

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relevant to developing 21st century skills, such as critical thinking, collaboration skills and digital literacy.

The process of teaching and facilitating (PdPc) in the world of education depends on several factors such as the selection of teaching materials (Combs, 2019). Selection of books or reading materials that are not appropriate to the students' level of understanding is likely to cause students to fail to master the message they want to convey. Many teachers often face problems in selecting and providing reading materials for students due to a lack of good teaching materials (Zamri et al., 2013). Reading materials are used by students and teachers in the PdPC process nowadays, even though they are somewhat challenged and face competition from other teaching aids such as computers, television and the internet. Mathematics textbooks are teaching materials and facilitation for students and teachers. The educational system that is currently being developed has resulted in the importance of Mathematics textbooks being very large and playing an important role for all parties (Affandi, 2016). This explanation explains that Mathematics textbooks are the main aspect that is directly involved in student learning. Mathematics textbooks are one of the main references for students that can help them understand the lessons and enable them to succeed in examinations or exams in the future. As an effort to harmonize the education system in schools, the Ministry of Education has provided Mathematics textbooks as a main reference for both teachers and students, this is in line with the guidelines for middle level students only. The usability of Mathematics textbooks is also influenced by how a teacher uses them. This shows that studies regarding the level of elementary school teachers' attitudes towards the effectiveness of textbook content and the level of frequency of use of Mathematics textbooks need to be given attention by reviewers.

Based on a study by Osman & Kosnin (2016), Mathematics teachers' attitudes towards textbooks are low. This is caused by several issues such as the content of Mathematics textbooks being too dense and the presentation of Mathematics textbooks unable to attract students' interest in studying Mathematics. The limited content of Mathematics textbooks also causes Mathematics teachers' attitudes towards textbooks to be low. Some teachers may feel that the existing Mathematics textbooks are not complete or in-depth enough in explaining Mathematical concepts. They feel that textbooks cannot convey the content of Mathematics in an interesting or sufficient way (Krawec, 2022). Teachers believe that textbooks are not always relevant to students' needs or do not link mathematical concepts to real world situations. They want to take a more contextual approach and show the application of Mathematics in everyday life (Skott & Lenn, 2014). Every teacher has different teaching preferences and styles. Some teachers feel that Mathematics textbooks are too structured and limit their freedom in presenting Mathematics material. They prefer to use more diverse and interactive approaches and sources (Crespo, 2020). Some teachers feel that Mathematics textbooks do not follow the latest developments in Mathematics teaching approaches. They want to look for more innovative resources, such as educational technology or more interactive teaching methods (Drijvers, 2013).

Mathematics teachers prefer to use internet materials compared to Mathematics textbooks because Internet materials are easily accessible and widely available via electronic devices, such as computers, tablets or smartphones. Teachers can quickly search for online resources related to the topic being taught (Warschauer 2014). Wang & Gee (2017) study also shows that advances in technology have made it possible to develop applications, software

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and websites specifically designed to support Mathematics learning. Internet materials often offer interactivity, simulations and videos that can help illustrate Mathematical concepts better than traditional textbooks. The Internet provides access to a variety of educational resources, including video tutorials, interactive learning materials, practice questions and discussion forums. Teachers can use these resources to explore variations in teaching approaches and provide more engaging learning experiences for students (Chuang & Ho, 2017). Internet materials are always more up to date than Mathematics textbooks which may be less relevant or out of date with current developments in Mathematics. The internet provides access to the latest research, real-world applications and case examples that can help teachers enrich Mathematics learning (Huang & Liaw, 2018).

The gap in research in this study is the lack of research on the suitability of Mathematics textbooks. The educational curriculum is reviewed periodically but the suitability of teaching materials is rarely disputed. Most studies examine the pedagogical or technological effectiveness of teaching aids, but very rarely the quality of textbooks is examined. Cheng & Silalahi's 2017 study has analyzed the content of textbooks but is not sufficient to show the suitability, effectiveness and quality of mathematics textbooks as a whole. This shows the lack of data regarding the use of textbooks in our country, whereas textbooks are the main reference material for teaching and learning.

Study Objectives

The aim of this study is to identify the level of attitude of elementary school teachers towards aspects of the content of Mathematics textbooks and the frequency of use of Mathematics textbooks in Chinese Middle Schools in teaching and youth education. In particular, the objectives of this study are to

- 1. Examining the attitude of elementary school Mathematics teachers towards aspects of the content of Mathematics textbooks
- 2. Examining the frequency of use of Mathematics textbooks by elementary school teachers in PdPc.
- 3. Identify the relationship between elementary school Mathematics teachers' attitudes towards the use of Mathematics textbooks.

Study Issues

The study carried out tried to answer the following study questions

- 1. What are the attitudes of elementary school Mathematics teachers towards aspects of the contents of Mathematics textbooks?
- 2. What is the frequency of use of Mathematics textbooks by elementary school teachers in PdPc?
- 3. Is there a relationship between the level of attitude of elementary school Mathematics teachers towards the use of Mathematics textbooks?

Study Hypothesis

 H_0 : There is no relationship between the attitude level of lower school Mathematics teachers towards the use of Mathematics textbooks.

Study Methodology

This study was carried out using a quantitative review design. Quantitative study data was obtained from research question forms provided online. This study involved 67 teachers from the Bangsar Chinese National School, Bangsar Region, Kuala Lumpur Federal Territory. Samples were selected to be involved in the research question review using simple random sampling. A questionnaire form based on a 5-point Likert type scale was used, namely (1) strongly disagree, (2) disagree, (3) not sure, (4) agree and (5) strongly agree. The results of this study will be described in descriptive and inferential form. Descriptive analysis is used to obtain frequency, percentage and min. Each item will be analyzed based on the specified scale and then calculate the frequency of the scale for each given aspect using the Statistical Package for the Social Science (SPSS) version 29.0. In addition, inference analysis using the Spearman Rho coefficient will be used to determine the relationship between elementary school Mathematics teachers' attitudes and levels of frequency of use of Mathematics textbooks.

Study Gains

Respondent Profile

The study respondents consisted of 30 Mathematics teachers in the Kuala Lumpur Federal District. Regarding the gender aspect, the majority of respondents were female teachers (n = 44, 66%) compared to male teachers (n = 23, 34%). This taburani is a common phenomenon in most schools in Malaysia where the number of female teachers is higher than that of male teachers. The profile of study respondents is as in Table 1.

Table 1
Profile of Study Respondents

- i Judy N	•	
Background	Category	Count
Information		N = 67
Gender	Male	23
	Female	44
Academic	Diploma	15
qualifications	Bachelor	45
quamications	Masters	7
Teaching	5 years and below	19
experience	6-10 years	13
	11-20 years	14
	20-30 years	11
	30 years and above	10

The interpretation of the mean score is as in Table 2.

Table 2
Interpretation of the mean score

Mean Score	Interpretation of the mean score
1.00 – 2.40	Low
2.41 - 3.80	Medium
3.81 – 5.00	High

The Level of Primary School Mathematics Teachers' Attitudes Towards the Contents of Mathematics Textbooks

There are 10 items that are analyzed to determine the level of attitude of primary school mathematics teachers towards the content of Mathematics textbooks during PdPc in the classroom. Based on Table 3, item 1 (mean = 3.87) shows the level of attitude of primary school teachers towards high content aspects of Mathematics textbooks. The first item recorded the highest mean score (3.87), which is "Mathematics textbooks contain basic things that students need to learn". The lowest content effectiveness aspect of Mathematics textbooks is item 9 "There are a variety of activities suggested in Mathematics textbooks such as individual activities, groups, inside and outside the classroom, scrapbooks and so on" with a mean of 2.96. However, item 9 is still categorized as moderate where the mean score is in the range of 2.41 - 3.80. The mean of the whole item is 3.42 where it shows that the level of attitude of primary school mathematics teachers towards the content of Mathematics textbooks during PdPc is moderate. More information can be referred to in Table 3.

Table 3
Level of teacher's attitude towards content aspects of Mathematics textbooks

No	Statement	VDA	DA	N	Α	VA	Mean
1	Mathematics	3	5	10	29	20	3.87
	textbooks contain basic things that students need to	(4.48%)	(7.46%)	(14.93%)	(43.28%)	(29.85%)	
	learn.						
2	Mathematics	5	10	12	23	17	3.55
_		_	_	(17.91%)			3.33
	with the Curriculum	,	,	,	,	,	
	and Assessment						
	Standard Document (DSKP).						
3	Math textbooks	7	9	14	24	13	3.40
	explain concepts	(10.45%)	(13.43%)	(20.90%)	(35.82%)	(19.40%)	
	accurately.						
4	The contents of the	4	18	18	14	13	3.21
	Mathematics textbook across the	(5.96%)	(26.87%)	(26.87%)	(20.90%)	(19.40%)	
_	curriculum.	_					
5	The content of the	5	15	12	21	14	3.36
	Math textbook is in accordance with the	(7.46%)	(22.39%)	(17.91%)	(31.34%)	(20.90%)	
	student's level of						
	intelligence.						
6	Mathematics	8	12	9	18	20	3.45
	textbooks contain	(11.94%)	(17.91%)	(13.43%)	(26.87%)	(29.85%)	
	elements of thinking						
	skills and challenge						
_	students' minds.	_	_				
7	PdP proposals in		8	13	22	19	3.63
	Mathematics	(7.46%)	(11.94%)	(19.40%)	(32.84%)	(28.36%)	
	textbooks use a variety of methods						
	variety of methods						

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	such as drills, inductive and deductive.						
8	The style of the	15	12	8	17	15	3.07
	presentation in the Mathematics	(22.39%)	(17.91%)	(11.94%)	(25.37%)	(22.39%)	
	textbook attracts						
	students' interest in learning.						
9	There are a variety of	16	12	11	15	13	2.96
	•		(17.91%)	(16.42%)	(22.39%)	(19.40%)	
	proposed in						
	Mathematics						
	textbooks such as						
	individual activities,						
	groups, inside and						
	outside the						
	classroom,						
10	scrapbooks and so on. The use of language	5	9	7	24	22	3.73
10	and terminology in	_	_	•	(35.82%)	(32.84%)	3.73
	Mathematics	(7.40/0)	(13.43/0)	(10.4370)	(33.0270)	(32.0470)	
	textbooks is clear and						
	easy to understand.						
	Average mean						3.42

The Frequency of Use of Mathematics Textbooks by Primary School Teachers in PdPc

Table 4 shows the level of frequency of teachers using Mathematics textbooks during teaching and facilitation. There are 8 items analyzed in this section. The findings show that the second item recorded the highest mean score, which is 3.82, which mentions "The use of Mathematics textbooks helps the development of PdP". The item with the lowest mean score is the third new item that mentions "The use of Mathematics textbooks motivates students to learn" which is 2.78. This shows that Mathematics textbooks help a lot in the development of PdPc but the material available in Mathematics textbooks does not motivate students to learn. For the whole item the level of frequency of use of Mathematics textbooks is a mean of 3.30 which has shown that the level of frequency of teachers using Mathematics textbooks in teaching and facilitation is moderate. More information can be referred to in Table 4.

Table 4
Level Frequency of use of Mathematics textbooks by primary school teachers

No	Statement	VDA	DA	N	Α	VA	Mean
1	The use of Mathematics	5	11	8	28	15	3.55
	textbooks in PdP	(7.46%)	(16.42%)	(11.94%)	(41.79%)	(22.39%)	
	facilitates the teacher's						
	work.						
2	The use of Mathematics	3	5	13	26	20	3.82
	textbooks helps the	(4.48%)	(7.46%)	(19.40%)	(38.81%)	(29.85%)	
	development of PdP.						
3	The use of Math	12	21	13	12	9	2.78
	textbooks motivates	(17.91%)	(31.34%)	(19.40%)	(17.91%)	(13.43%)	
	students to learn more.						
4	The use of Mathematical	7	13	10	18	19	3.43
	textbooks is capable of	(10.45%)	(19.40%)	(14.93%)	(26.87%)	(28.36%)	
	developing students'						
	thinking.						
5	The use of Mathematics	10	15	10	16	16	3.19
	textbooks improves the	(14.93%)	(22.39%)	(14.93%)	(23.88%)	(23.88%)	
	quality of PdP.						
6	I use Mathematical	11	13	5	20	18	3.31
	textbooks to make the	(16.42%)	(19.40%)	(7.46%)	(29.85%)	(26.87%)	
	PdP method successful						
	in the classroom.						
7	I use Mathematical	13	15	11	15	13	3.00
	textbooks in every	(19.40%)	(22.39%)	(16.42%)	(22.39%)	(19.40%)	
	subject content skill.						
8	I carried out the	12	12	6	18	19	3.30
	activities suggested in	(17.91%)	(17.91%)	(8.96%)	(26.87%)	(28.36%)	
	the Mathematics						
	textbook completely.						
	Average mean						3.30

The relationship between the level of attitude of primary school Mathematics teachers towards the level of use of Mathematics textbooks

Based on the Shapiro-Wilk test, the data show a normal distribution if the significance level is $p \ge 0.05$. However, the significant value in this study (p = 0.019) is smaller than 0.05. This being the case, the Spearman Rho Correlation test was used to analyze the relationship between the level of attitude of primary school Mathematics teachers towards the use of Mathematics textbooks.

Table 5
Correlation Test Results

		Level of Use of Mathematics
		Textbooks
The level of attitude of	Pearson Correlation	0.719
Mathematics teachers	Sig. (2 tailed)	0.019
towards aspects of the	N	67
content of Mathematics		
textbooks		

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This study found that the Pearson Correlation coefficient showed the existence of a very strong and significant positive linear relationship between the level of attitude of primary school Mathematics teachers towards the level of use of Mathematics textbooks (r = 0.72, p < 0.05). Based on the analysis results of this study, it can be concluded that there is a relationship between the level of attitude of primary school Mathematics teachers towards the level of use of Mathematics textbooks in PdPc.

Discussion

The Level of Elementary School Mathematics Teachers' Attitudes Towards Aspects of Mathematics Textbook Content

Findings show that the effectiveness of Mathematics textbooks in terms of content is only at a moderate level. Teachers accept the use of Mathematics textbooks as a basic reference for students. Mathematics textbooks are teaching and facilitation materials that become important and authentic sources of knowledge. Mathematical textbooks are used as the basis of reading for certain subjects in addition to other reference books. The content of the new Mathematics textbook does not conflict with the National Education Philosophy (FPK) in developing individual potential comprehensively and integrated to create a balanced and harmonious person in terms of physical, emotional, spiritual, intellectual and social (JERIS). Teachers also agree that Mathematics textbooks explain concepts accurately with the use of clear and easy-to-understand language and terms. Most teachers agree that Mathematics textbooks suggest various activities that can be carried out such as individual activities, group activities, inside and outside the classroom, scrap books and so on. However, there is new content that is less suitable, especially drills for exam preparation. This causes teachers to be forced to find new materials for reinforcement and new drills related to aspects of the content of the Mathematics textbooks that cannot meet the requirements of the examination for the students in the school. The teachers agree that the new questions proposed in the Math book are accurate and easy to understand but the teachers prefer to take the questions from the activity books in the market. The teachers use less and adapt the materials in the book less Mathematics because they think that the content of Mathematics textbooks is not suitable for the students' intelligence level. Every Mathematics textbook needs to meet the conditions such as the use of language, the correct spelling of terms, the use of new language adjustments, and the use of vocabulary should be appropriate for the student's level.

The Frequency of Use of Mathematics Textbooks by Primary School Teachers in PdPc

The study found that the average mean score for the factor of frequency of use of Mathematics textbooks in teaching and facilitation was 3.60. This situation shows that the level of frequency of use of Mathematics textbooks during PdPc is only at a moderate level. Primary school teachers are less able to adapt and apply the use of Mathematics textbooks in the classroom. The use of Math textbooks in the classroom facilitates the observation and application of the curriculum in the classroom. Mathematics textbooks are a new source of ideas and activities compared to instructional materials or other materials. There are several reasons why teachers use Mathematical textbooks in the classroom, among them is to develop new materials in the classroom that have been acquired, teachers have limited time to build their new teaching materials and finally because the school often receives pressure from outside management. However, the findings show that teachers feel that the use of Mathematics textbooks is one of the best methods and can be used in a variety of situations and events.

The relationship between the level of attitude of primary school Mathematics teachers towards the level of use of Mathematics textbooks

According to the findings of the last study in this study, H_0 is rejected because there is a significant relationship between the level of attitude of primary school Mathematics teachers towards the level of use of Mathematics textbooks. This means that in this study population, the higher the level of attitude of primary school Mathematics teachers, the higher the level of use of Mathematics textbooks in teaching and facilitation, or vice versa.

Suggestions for Improvement

Based on the findings of this study, the researcher has outlined some recommendations to be given attention by certain parties. The KPM (Teacher Education Division) needs to set a new higher standard in the knowledge of the subject, redesign teaching training and hire only new teachers who reach the new high standard. This is because if new teachers are not skilled in applying or are not creative in adapting the use of iMathematics textbooks, this will cause teachers to become unmotivated and this will have a negative impact on students. There is evidence that students benefit from the knowledge efficiency of teachers (Kluwin & Moore 2015).

The quality of the content of the Math book can be improved. The curriculum specification for each subject is reviewed and all similarities and weaknesses need to be improved so that the curriculum specification is more clear. This step allows the textbook writer to better understand all the new wishes and desires implied in the curriculum and can produce a new high quality Mathematics textbook. In this study it is also suggested that the writing of the Mathematics text book is done by a panel of new writers who are skilled in interpreting the requirements of the curriculum and are capable of writing the Mathematics text book. This can ensure that the content of the Mathematics textbook is suitable for the student's level of intelligence.

Here are some improvement suggestions that can be implemented by teachers to ensure the effective use of Mathematics textbooks. Teachers need to focus on important issues and question students to eliminate student misunderstandings as a result of reading Mathematics textbooks. In addition, the teacher also needs to give questions that allow students to apply concepts from the text to explain a phenomenon. In addition, teachers need to wisely choose activities that are able to build conceptual understanding.

Summary

Teachers are the most important resource for all students, especially for elementary school students. The field of education requires a group of new teachers who are competent and knowledgeable as well as highly motivated to educate their students. Sayeed (2015) recognized that the knowledge of teachers about pedagogy and the content of the lesson is a critical new variable in schools where academic achievement is very good. In addition to that, teachers should be skilled and efficient, especially in the ability to use Mathematical tools in PdPci in the classroom. A new teacher who is not efficient will waste time, but will continue to give negativity to the students.

In relation to this, Baker, Gersten and Keating (2020) stated that although it is known that students' academic performance is different according to their respective achievement levels,

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only a few teachers try to use modified techniques in their teaching. Most teachers continue to use traditional methods such as memorizing methods and using worksheets without trying to give students an understanding of a topic such as the one suggested in the Mathematics book. For that, teachers should be efficient in balancing the PdPc needs of the students in the classroom so that their ability can be improved to a new level with the effective use of Mathematics textbooks.

Based on the study of 67 primary school teachers, it shows that the level of effectiveness of Mathematics textbooks is at a moderate level. The study has found answers to all three new research questions presented. The results of this study also show that the use of Mathematics textbooks by teachers in the classroom is moderately effective and can be improved. While the Mathematics books can be updated and used as a teaching aid and a primary teaching resource in the classroom.

References

- Affandi A. (2006). Persepsi pelajar terhadap penggunaan buku teks jawi pendidikan islam dalam pembelajaran : satu kajian ke atas pelajar tingkatan 4 sekolah menengah kebangsaan kota masai johor bahru (dissertation). Universiti Teknologi Malaysia.
- Asri, L., Oktalidiasari, D., & Darmawijoyo. (2020). Students' perception of reading and understanding mathematics textbook. *Journal of Physics: Conference Series*, 1480(1).
- Asyrani, A. S., & Roslinda, R. (2020). Exploring teachers' perceptions of primary school mathematics textbook. *International Journal of Academic Research in Progressive Education and Development*, 9(1), 286-300.
- Aziz, N. A., Zakaria, E., & Majid, N. A. (2020). The use of mathematics textbooks among primary school mathematics teachers in Malaysia. *Journal of Education and Learning*, 9(2), 187-195.
- Baker, S., Gersten, R., & Keating, T. (2020). When Less May Be More: A 2-Year Longitudinal Evaluation of a Voluntary Teacher Support Program. *Remedial and Special Education*, 21(1), 4-14.
- Bullough Jr., R. V. (2020). Pedagogical content knowledge: a study in the history of an idea. *Teaching & Teacher Education* 17(6): 655-666.
- Cheng, C. C., & Silalahi, S. M. (2017). A review and content analysis of mathematics textbooks in educational research. *Problems of Education in the 21st Century*, 75(3), 235–251.
- Chuang, H. H., & Ho, C. M. (2017). Using the Internet for Mathematics Education: A Study of Secondary Mathematics Teachers' Perspectives and Practices. *Journal of Educational Computing Research*, 55(1), 92-118.
- Clough, M. P. (2019). *Understanding the complexities in learning and teaching science: The value of a research-based framework.* Association for Science Teacher Education (ASTE) International Conference, St. Louis, MO.
- Combs, B. 2019. *Mengajar Secara Efektif*. Terj. Siti Aishah Mohd. Elias. Kuala Lumpur: Institut Terjemahan Negara Malaysia Bhd.
- Crespo, S. (2020). Seeing more than Right and Wrong Answers: Prospective Teachers' Interpretations of Students' Mathematical Thinking. *Journal for Research in Mathematics Education*, 31(3), 303-333.
- Daud, Z. (2020). A Comparative Analysis of Fractions in Chinese and Pakistani Primary School Mathematics Textbooks. *International Journal of Academic Research in Progrssive Education and Development*, 9(1), 14-38.

- Drijvers, P. (2013). Digital Technology in Mathematics Education: Why It Works (or Doesn't). *ZDM Mathematics Education*, 45(6), 883-892.
- Fan, L., & Kaeley, G. S. (2000). The Influence of Textbooks on Teaching Strategies: An Empirical Study.
- Fan, L., Trouche, L., Qi, C., Rezat, S., & Visnovska, J. (2018). *Research on Mathematics Textbooks and Teachers' Resources*. Switzerland: Springer International Publishing.
- Huang, H. L., & Liaw, S. S. (2018). The Impact of Web 2.0 Technologies on Learning Effectiveness in Taiwanese Higher Education: A Mixed Method Study. *The Internet and Higher Education*, 36, 1-11.
- Ikhsan, O., & Azimah, W. K. (2017). Teachers' view on KSSR mathematics document standard of curriculum. *Jurnal Pendidikan Sains Dan Matematik Malaysia*, 7(2), 19-30.
- Kluwin, T., & Moore, D. F. (2015). The effect of the intergration on the mathematics achievement of hearing-Impaired adolescents. *Exceptional Children*. 52 (2): 153-160.
- Krawec, J. L. (2022). What is Mathematics Good For? An Examination of the Purposes and Roles of Mathematics Textbooks. *The Journal of Mathematical Behavior*, 22(4), 455-479.
- Mullis, I. V. S. (2017). Introduction. In Mullis, I.V.S., & Martin, M.O. (Eds.), *TIMSS 2019 Assessment Frameworks*, 11-25. Boston College: TIMSS & PIRLS International Study Center.
- Organisation for Economic Co-operation and Development (OECD). 2018. *The Future of Education and Skills: Education 2030*. Paris: OECD Publishing.
- Morales, O. (2018). Becoming a More Effective Science Teacher. The Florida State University.
- Osman, S., & Kosnin, A. M. (2016). Mathematics Teachers' Attitudes towards the Use of Textbooks in the Classroom. *Eurasia Journal of Mathematics, Science and Technology Education*, 12(3), 663-672.
- Robert, S. E. (2014). *Effects of traditional, programmed learning sequenced, and contract activity packaged instruction on sixth-grad student achievement and attitudes*. St. John University, New York: School and Human Services.
- Sayeed, A. (2015). The Relationship Between Teacher Knowledge and Student Achievement in Mathematics. *Journal of Education and Learning*, 4(1), 126-135.
- Shulman, L. (2016). Those who understand: Knowledge growth in teaching. *Educational Research*, 15(2): 4-11
- Siddiqui, Z., & Khan, M. S. (2018). Oxidation, glycation and glycoxidation The vicious cycle and lung cancer. Seminars in Cancer Biology, 49, 29 36.
- Skott, J., & Lenn, C. (2014). Perceptions of the Nature of School Mathematics and Mathematics Teaching and Learning in the Twenty-First Century: Implications for Mathematics Textbook Design. *Journal of Curriculum Studies*, 46(1), 44-70.
- Stronge, J. H. (2018). Qualities of Effective Teachers. ASCD
- Wang, Y., & Gee, L. (2017). The Impact of Digital Game-Based Learning on Students' Math Skills: A Systematic Review and Meta-Analysis. *Educational Psychology Review*, 29(4), 717-749.
- Warschauer, M. (2014). *Technological Change and the Future of CALL. In S. Fotos & C. M. Browne (Eds.), New Perspectives on CALL for Second Language Classrooms*, 15-25. Mahwah, NJ: Lawrence Erlbaum Associates.
- Wong, S. L., & Lu, L. W. (2021). Elementary School Mathematics Teachers' Views of the Mathematics Textbook: A Mixed Methods Study. *International Journal of Science and Mathematics Education*, 19(5), 831-853.

Vol. 13, No. 1, 2024, E-ISSN: 2226-6348 © 2024

- Othman, Y. (2016). *Mengajar Membaca Teori Dan Aplikasi*. Pahang: PTS Publications & Distributor Sdn. Bhd.
- Zientek, A. (2017). *Effective Elements Of Science Teacher Professional Development*. The University of Wisconsin.