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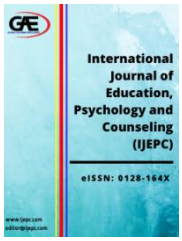

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NEEDS ANALYSIS FOR THE DEVELOPMENT OF A PROBLEM-SOLVING TEACHING MODULE FOR SPECIAL REMEDIAL MATHEMATICS (PSTM)

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Abstract:

This study is part of a needs analysis for developing the Problem-Solving Teaching Module for Special Remedial Mathematics (PSTM), targeting remedial mathematics students in Level 2 of primary school. The research focuses on understanding the necessity of such a module among educators. Data collection involved 100 remedial and primary school mathematics teachers in the Petaling Perdana district, Selangor, using purposive sampling and a questionnaire with five Likert-scale items. The quantitative analysis, conducted using SPSS version 25, employed descriptive statistics to assess mean values and percentages. Results revealed a high demand for the module, with a mean score of M=4.49 and 99% of respondents supporting its development. These findings will guide the design and development of the PSTM in subsequent phases. The study provides foundational insights into aspects that need emphasis, such as the integration of the Understanding Numeracy Level Model for Primary School (UNLMPS). Teachers strongly endorsed the need for the module, citing its potential to clarify and enhance the structure of problem-solving activities tailored to the capabilities of remedial students. The study's implications offer guidance for researchers in developing an effective module that aids Stage 2 remedial students in mastering essential mathematical problem-solving skills.

Keywords:

Mathematics, Special Remedial Education, Problem Solving, Teaching Module

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Introduction

The Special Remedial Program (SRP) is a crucial educational initiative designed to address foundational learning deficits in reading, writing, and arithmetic (commonly referred to as the "3Rs"). These skills form the cornerstone of a student's ability to engage with the broader curriculum and succeed academically. However, some students face persistent challenges in mastering these basics due to a combination of environmental, social, emotional, and non-cognitive factors, as highlighted by Roslan and Mohd Yusoff (2017). For instance, students may struggle with attention, emotional regulation, or social interaction, all of which affect their ability to learn effectively (Samsudin et al., 2017).

Recognizing these challenges, the Ministry of Education Malaysia (MOE) developed the SRP as an intervention aimed at ensuring educational equity and preventing at-risk students from falling further behind. By providing targeted support, the program addresses the specific needs of students who are not benefiting from mainstream teaching methods. Among the focus areas of the SRP, mathematics has emerged as a critical subject requiring dedicated remedial efforts. Mathematics is not only essential for academic achievement but also plays a pivotal role in developing logical reasoning, problem-solving, and decision-making skills. These competencies are foundational for participation in the modern workforce and everyday life. Despite its importance, many remedial students struggle to grasp basic mathematical concepts, often due to a lack of personalized and effective teaching strategies.

This article specifically examines the Special Remedial Mathematics Program (SRMP), which is designed to enhance the mathematical skills of students in remedial education. The SRMP emphasizes mastery of essential numeracy skills, such as basic arithmetic operations (addition, subtraction, multiplication, and division), understanding numerical concepts, and applying these skills in practical contexts like managing time and money. The overarching goal of the SRMP is to align with Malaysia's national educational agenda by supporting the development of human capital. By equipping students with robust mathematical foundations, the program not only promotes academic success but also prepares students to contribute meaningfully to the nation's economic and social development (Ministry of Education Malaysia, 2019).

Background of the Special Remedial Program (SRP)

The Special Remedial Program (SRP) was established in the 1960s as a strategic initiative of the Malaysian Ministry of Education (MOE) to address persistent challenges among students in acquiring basic literacy and numeracy skills, commonly referred to as the "3Rs" (reading, writing, and arithmetic). These foundational skills are essential not only for academic achievement but also for enabling students to manage daily life and prepare for future employment opportunities. The SRP was designed as a targeted intervention to close learning gaps and promote educational equity for students at risk of falling behind in the mainstream education system (Saidin & Mohd Bukhari, 2023).

To strengthen its implementation, the SRP was enhanced through the New Primary School Curriculum (*Kurikum Bersepadu Sekolah Rendah* - KBSR) in 1983, which focused on a holistic and systematic approach to foundational education. This curriculum emphasized basic literacy and numeracy, providing structured remedial sessions to help struggling students. The primary objective of remedial education, as outlined in the program, is to address and rectify learning deficiencies, ensuring that students are equipped with essential skills to keep pace with their peers (Mohd Asnorhisham & Abdul Rahim, 2017). One of the notable features of the SRP

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is its adoption of the Withdrawal System, where students experiencing learning difficulties are temporarily removed from mainstream classes to receive specialized support. This system is particularly applied in critical subjects such as Malay language and mathematics. After demonstrating progress, these students are reintegrated into regular classrooms, ensuring a seamless transition back into the mainstream curriculum.

Over time, several complementary initiatives were introduced to reinforce the goals of the SRP:

- Early Intervention Reading and Writing Classes (KIA2M): A program focused on addressing early literacy challenges.
- 3M Remedial Program (PROTIM): Designed to strengthen students' basic skills in reading, writing, and arithmetic.
- Literacy and Numeracy Program (LINUS): A comprehensive program to elevate literacy and numeracy levels nationwide.

While LINUS and PROTIM were phased out in 2019 and 2017 respectively, the Primary Literacy and Numeracy (PLaN) program, launched in March 2020, continues to build on these earlier efforts. PLaN ensures that remedial interventions remain relevant and aligned with contemporary educational challenges.

The Special Remedial Mathematics Program (SRMP)

Mathematics is a core area of focus within the SRP due to its foundational role in developing logical reasoning, analytical thinking, and problem-solving skills. However, many students in remedial programs struggle with basic mathematical concepts due to gaps in their prior knowledge, lack of interest in the subject, or behavioral challenges (Saidin & Mohd Bukhari, 2023).

The Special Remedial Mathematics Program (SRMP) aims to address these challenges by concentrating on nine essential mathematical skills:

1. Pre-numbers (basic number recognition and understanding).
2. Number concepts.
3. Whole numbers.
4. Addition.
5. Subtraction.
6. Multiplication.
7. Division.
8. Money concepts.
9. Time and scheduling skills.

The program is structured to guide students from mastering pre-numeracy concepts to more advanced problem-solving techniques. This progression ensures that students develop a strong mathematical foundation, enabling them to tackle more complex mathematical tasks in the future.

Assessment and Screening Tools

A critical component of the SRMP is the Basic Mathematical Skills Mastery Instrument (*Instrumen Penentu Penguasaan Kemahiran Asas Matematik* - IPPKAM), a screening tool used to evaluate students' proficiency and determine the appropriate level of intervention. IPPKAM categorizes students into three performance levels:

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1. Score 0–21: These students are referred to medical professionals to assess potential special education needs (*Murid Berkeperluan Khas* (MBK)).
2. Score 22–39: These students qualify for specialized remedial mathematics sessions under the SRMP.
3. Score 40–50: These students are deemed ready to reintegrate into mainstream classrooms and continue learning under the guidance of subject teachers.

This categorization helps teachers identify the specific needs of their students and design interventions tailored to their unique challenges. For example, students with the lowest scores receive early, intensive support to prevent further academic regression, ensuring they do not fall irreversibly behind their peers. By providing early and targeted support, the SRP aims to unlock the potential of every student, empowering them to participate fully in both academic and societal contexts. This approach aligns with Malaysia's broader educational objectives of nurturing a skilled and adaptable workforce capable of driving the nation's socio-economic development (Saidin & Mohd Bukhari, 2023; Mohd Asnorhisham & Abdul Rahim, 2017). The SRP, particularly through its mathematics-focused interventions, is a critical tool in ensuring that all students, regardless of their starting point, have the opportunity to achieve foundational competencies. This sets the stage for lifelong learning, personal growth, and meaningful contributions to the nation's progress.

Remedial Programs at the International Level

Remedial education programs addressing learning gaps are implemented globally, reflecting a universal commitment to supporting students who struggle with foundational skills. These initiatives cater to diverse challenges, including literacy, numeracy, learning disabilities, and socio-economic disadvantages, using tailored and evidence-based approaches to ensure no student is left behind. A well-known global initiative is the International Reading Association (IRA), established in 1956. The IRA has been instrumental in promoting literacy through research-driven methods and targeted interventions, aiming to address global literacy deficits. The association collaborates with educators and policymakers to develop sustainable literacy programs, particularly in underserved communities, helping millions of children acquire essential reading skills.

Another example is the IBD Remedial Education Program in Pakistan, which focuses on students with learning disabilities, such as dyslexia and attention deficit disorders. The program employs a systematic methodology involving initial assessments and diagnostic testing to identify the strengths and weaknesses of each learner. Customized intervention plans, including specialized teaching techniques and resources, are then implemented to address individual needs. This approach has led to measurable improvements in students' academic performance and self-confidence.

Numerous studies underscore the effectiveness of structured remedial programs in enhancing student outcomes. For instance, in the Philippines, research by Capuyan et al. (2019) demonstrated that remedial mathematics classes significantly increased students' motivation and interest in the subject. The intervention focused on using interactive teaching techniques and hands-on learning tools, which not only improved academic performance but also reshaped students' attitudes toward mathematics.

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In Niger, a mathematics intervention program that integrated targeted practice sessions and learning aids yielded remarkable results. Within just three months, participating students displayed significant improvements in their mathematical skills, highlighting the value of consistent and focused practice (Maruyamaa & Kurosakib, 2021). This program also emphasized teacher training, equipping educators with effective strategies for addressing learning gaps in resource-constrained settings.

Similarly, in Greece, a comprehensive remedial education program achieved a 70% improvement in learning outcomes among participating students. The program combined diagnostic assessments, personalized lesson plans, and continuous monitoring to ensure that each student's unique needs were addressed. Notably, the intervention also included parental engagement, fostering a supportive learning environment both at school and at home (Papadogiannis et al., 2023).

In global lessons for remedial education, international examples illustrate several key principles of effective remedial education:

1. Early Diagnosis and Assessment: Programs such as the IBD initiative and the Greek remedial education model highlight the importance of initial diagnostic testing to identify specific learning needs.
2. Personalized and Adaptive Interventions: Tailored teaching methods and individualized lesson plans, as seen in the Philippines and Niger, are crucial for addressing the unique challenges of remedial students.
3. Interactive and Engaging Pedagogy: Innovative and hands-on teaching approaches, like those used in the Philippines, have proven effective in enhancing students' motivation and engagement.
4. Teacher Training and Support: The success of programs like the one in Niger underscores the need for professional development opportunities for educators, ensuring they are equipped to meet the diverse needs of their students.
5. Community and Parental Involvement: Engaging parents and communities, as demonstrated in Greece, creates a holistic support system that reinforces learning outside the classroom.

The success of remedial programs worldwide demonstrates their pivotal role in ensuring educational equity and fostering academic success among struggling learners. These programs address the diverse needs of students through a combination of early intervention, personalized strategies, and community engagement.

For Malaysia, these international models offer valuable lessons for enhancing the effectiveness of SRP. By incorporating best practices, such as data-driven assessments, adaptive teaching methods, and comprehensive teacher training, Malaysia can further strengthen its efforts to support remedial students. Ultimately, these programs serve as a testament to the transformative power of education in unlocking the potential of every learner, regardless of their starting point.

Effectiveness of Mathematics Remedial Programs

Numerous studies, both locally and internationally, have demonstrated the positive impact of mathematics remedial programs on students. These programs have been particularly effective in enhancing students' motivation, attitudes, and problem-solving skills, as well as ensuring

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equitable access to foundational mathematical knowledge. One key area of improvement highlighted by research is the increase in students' interest and confidence in mathematics. For instance, a study by Ling and Mahmud (2023) revealed that students who participated in remedial sessions exhibited higher levels of motivation and self-assurance in their ability to tackle mathematical problems. This boost in confidence is essential, as it fosters a positive mindset toward learning and engagement in the subject.

Another significant benefit is the development of structured problem-solving skills, as evidenced by Tasripin and Abu Bakar (2018). Their findings suggest that remedial programs enable students to grasp mathematical concepts more effectively through structured and targeted exercises. By breaking down complex problems into manageable steps, these programs equip students with the tools they need to approach mathematical tasks systematically.

Remedial programs have also been instrumental in preventing students from falling behind in foundational mathematical skills. For example, a study in Greece showed that these interventions led to significant academic improvements, with the majority of participants achieving measurable progress in their performance (Papadogiannis et al., 2023). This success underscores the importance of early and sustained support in bridging learning gaps.

Similarly, in the Philippines, research by Capuyan et al. (2019) highlighted the positive effects of remedial mathematics sessions on students' motivation. By incorporating interactive teaching methods and relatable examples, these sessions not only improved students' mathematical abilities but also rekindled their interest in the subject, creating a more engaging and enjoyable learning experience.

Mathematics holds a central role in everyday life and the development of logical thinking in students. The importance of the Special Remedial Mathematics Program (SRMP) can be observed through several critical aspects:

i. Development of Analytical Thinking
Mathematics fosters logical, creative, and critical thinking skills, which are essential for problem-solving and decision-making. As highlighted by Ali (2014), these skills enable students to analyze situations, identify patterns, and develop structured approaches to complex problems. By strengthening analytical thinking, the SRMP equips students with cognitive tools that are valuable not only in academics but also in real-world scenarios.

ii. Practical Applications in Daily Life
Basic mathematical skills such as addition, subtraction, multiplication, and division are important elements in carrying out daily tasks, including managing finances, measuring quantities, and planning schedules. According to Idris (2013), these basic skills are highly important because they are constantly applied in real-life contexts. The SRMP was developed to ensure that students master these practical skills, thereby enabling them to face daily challenges more effectively.

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iii. Preparation for Future Education
Mastery of mathematics at the primary level provides a strong foundation for advanced learning in secondary and higher education. According to the Revised Primary School Curriculum and Assessment Standard Document (2017), early proficiency in mathematics is critical for students to excel in more complex subjects and academic pursuits. The SRMP aims to bridge gaps in learning, ensuring students are adequately prepared for their educational journey.

Research Problem

Mathematics is a fundamental subject that requires mastery of basic concepts such as addition, subtraction, multiplication, and division, which serve as the foundation for more advanced learning. However, among special remedial students, significant difficulties in acquiring these basic skills are prevalent. These students often struggle to understand and apply mathematical concepts in everyday life (Nesher, 2020). A primary contributing factor to this issue is the reliance on traditional teaching methods that emphasize rote memorization over conceptual understanding. Such approaches hinder the development of critical and creative thinking skills, making it difficult for students to engage meaningfully with the subject (Blancia, 2023).

Furthermore, teaching methods that are not engaging or relevant to contemporary needs exacerbate the problem (Isa & Ma'arof, 2018). Teachers often face challenges such as limited access to innovative teaching aids, insufficient time to design effective activities, and the reliance on outdated instructional strategies that fail to foster active learning (Ramli & Mohd Tajudin, 2021). These limitations reduce the overall impact of teaching on students' ability to grasp fundamental mathematical concepts. Additionally, students often struggle with long mathematical texts, identifying key information, and selecting appropriate problem-solving strategies, further complicating their learning journey (Guidebook for Teaching and Learning of Mathematics in the Special Remedial Program, 2019; Johari, 2019).

Challenges in the 21st-Century Education Context

In the context of 21st-century education, where the emphasis on higher-order thinking skills (HOTs) is a priority, these issues are particularly problematic. Remedial students often lag behind due to difficulties in understanding basic concepts and applying mathematical knowledge to real-life scenarios (Jamaludin & Rosli, 2021). The lack of structured interventions further exacerbates these challenges, highlighting the urgent need for systematic teaching modules that can support both teachers and students (Mohd Yusof et al., 2022).

The Need for Structured Interventions

To address these challenges, the development of a teaching module such as the PSTM is essential. This module can provide clear and practical guidance for teachers while introducing engaging and challenging activities that enable students to deepen their understanding of mathematical concepts (Ramli & Mohd Tajudin, 2021; Shamsudin & Surat, 2023). Structured modules like the PSTM are particularly effective because they focus on building foundational skills through interactive and well-organized activities tailored to the needs of remedial students.

Alignment with National Goals

The development of such modules also aligns with Malaysia's National Key Result Area (NKRA) agenda, which emphasizes the importance of ensuring students master basic

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mathematical skills at an early stage. Addressing these gaps promptly is crucial, as failing to do so risks leaving remedial students behind, preventing them from reintegrating into mainstream education (Portal KPM, 2023).

Research Objectives

The mastery of mathematics, particularly at an early stage, is essential for meaningful learning and long-term academic success. This study aims to assist students in mastering problem-solving skills within the Special Remedial Mathematics Program for Stage 2 students by utilizing the PSTM. The study focuses on the following objectives:

i. To identify the necessity for the development of the PSTM based on the needs of teachers.

In alignment with these objectives, the research seeks to address the following research question:

- Is there a need for the development of the PSTM to address teachers' needs in enhancing problem-solving skills?

Significance of the Study

This study highlights the importance of developing the PSTM to provide teachers with a clear and practical framework for instruction while offering students meaningful opportunities to succeed in mathematics. Through structured guidance, engaging activities, and targeted problem-solving techniques, the module aims to address existing challenges, improve foundational mathematical skills, and prevent students from falling further behind in their educational journey.

By ensuring that remedial students achieve better mathematical proficiency, the PSTM not only enhances the quality of education but also supports the broader national vision of developing human capital capable of contributing to the country's socio-economic progress.

Conceptual Framework

To ensure the success of this study, a conceptual framework was developed. Figure 1 illustrates the framework that will be applied in the research.

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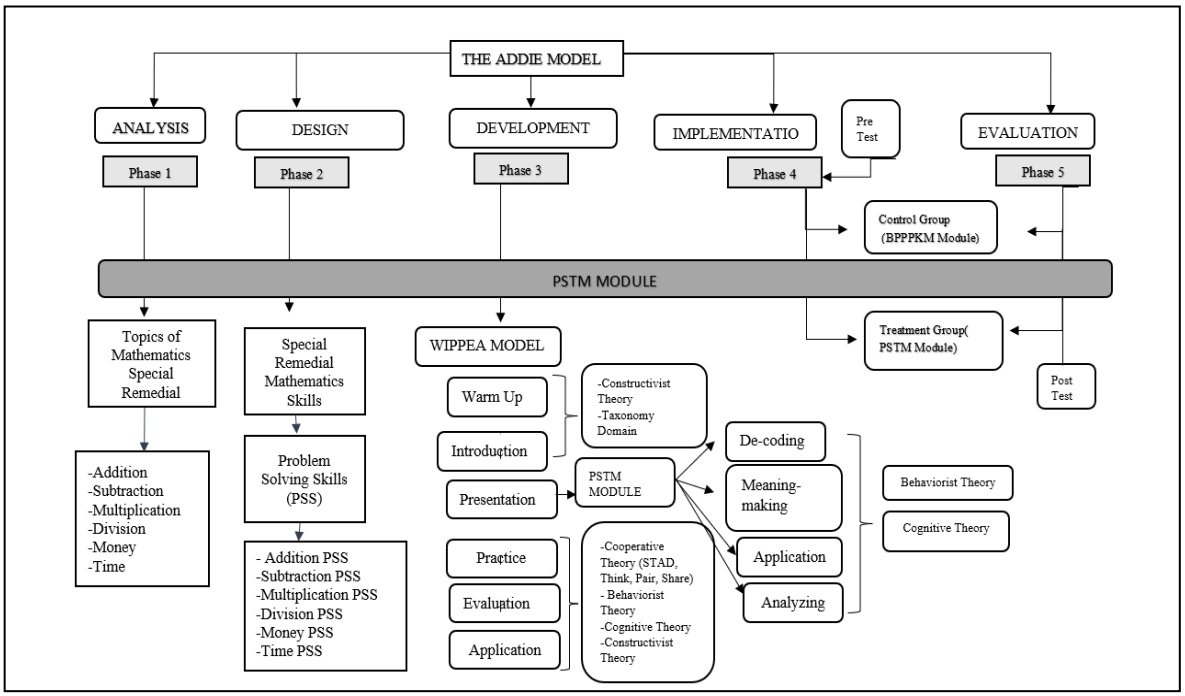

Figure 1: Conceptual Framework of Developing PSTM Module

Figure 1 presents the basic conceptual framework of the research to be conducted. The entire study is designed by the ADDIE Model and is divided into five main phases, namely Analysis, Design, Development, Implementation, and Evaluation.

The first phase is the Analysis phase, which focuses on examining the mathematics topics and skills outlined in the Special Remedial Program. Among the topics and skills analysed are basic addition, basic subtraction, basic multiplication, basic division, money, as well as time. This analysis aims to identify teachers' needs regarding the development of the PSTM module.

The second phase is the Design phase, which involves structuring the PSTM module. At this stage, appropriate content is selected to align with the objectives of the module. The design process outlines the essential special remedial mathematics skills required for the development of the module, with problem-solving identified as one of the core skills to be integrated across all topics, including basic operations, money, and time. This skill also functions as an independent variable, as its selection is determined based on the appropriateness validated by the expert panel. The problem-solving skills embedded in this design phase include solving problems related to addition, subtraction, multiplication, division, money, as well as problems involving time and duration.

The third phase is the Development phase, which describes the writing of the PSTM module consisting of six sets of activities designed based on the WIPPEA Model, namely Warm-up, Introduction, Presentation, Practice, Evaluation, and Application. The preparation of the PSTM module is guided by the 2015 KSSR lesson plan format, as outlined in the Educational Circular No. 3 of 1999: Preparation of Teaching and Learning Records, which includes objectives or learning outcomes, teaching activities, and reflection. However, modifications to the lesson plan format were made in accordance with the Curriculum Development Division (BPK), as

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stated in the presentation on the monitoring of lesson plan preparation during the State Curriculum Meeting No. 2/2015 (MOE, 2023).

The Warm-up and Introduction stages in the WIPPEA Model apply various learning theories such as constructivist learning theory and Bloom's Taxonomy in the planning of initial activities. Bloom's Taxonomy, which encompasses three main domains, namely affective, psychomotor and cognitive, is used as a guide in formulating the teaching and learning objectives or learning outcomes to be achieved. At the Presentation stage, teaching and learning activities are implemented based on the Model of Stages of Numeracy Understanding in Primary Education, which consists of interpretation, knowledge acquisition, application and analysis. The design of activities at this stage is also guided by behaviourist and cognitive learning theories.

The Practice stage requires pupils to be actively engaged in hands-on exercises, gradually progressing from collaborative group work to individual tasks. The Reflection or Evaluation stage involves assessing pupils' understanding through formative assessment, quizzes, or other methods to measure comprehension of the lesson content delivered. Finally, the Application stage requires pupils to apply the concepts learned to real-world contexts, such as completing tasks in the form of mini projects. The last three stages of the WIPPEA Model (Practice, Reflection/Evaluation, and Application) are structured based on cooperative learning theory, in addition to behaviourist, cognitive, and constructivist approaches.

The fourth phase of this study is the Implementation phase. This stage involves the application of the developed PSTM module to test its effectiveness and usability. The module will be provided to the treatment group in order to examine changes in pupils' mastery of the targeted skills. All participants will sit for a pre-test, and their mastery will be compared with that of the control group, which will use the *Teaching and Learning Guidebook for Mathematics in the Special Remedial Program* (2019 edition). This guidebook, produced by the Ministry of Education Malaysia, contains information on the essential skills to be taught, along with suggested activities and exercises (BPPPM PPK, 2019, in MOE, 2023).

The final phase is the Evaluation phase, which takes place after the teaching and learning sessions have been conducted with both the treatment and control groups. Pupils' achievement will be assessed through a post-test administered after completing the remedial sessions with the special remedial teachers. The post-test results will then be analysed using descriptive statistical methods.

Each phase in the development of the RPA PMPKM module emphasizes the application of relevant learning theories tailored to the teaching and learning of special remedial pupils. These theoretical underpinnings are expected to assist the treatment group in achieving improved outcomes in the post-test.

Research Methodology

Research Design

This study adopts a quantitative research approach using a survey design to gather data on the needs of mathematics teachers and special remedial mathematics teachers for the development

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of PSTM The research uses descriptive analysis, focusing on calculating mean values to evaluate and interpret the perceived necessity for the module.

Data Collection Instrument

A structured questionnaire was used as the primary instrument for data collection administered online to ensure convenience and broad accessibility for respondents. The questionnaire was designed to capture teachers' perceptions and requirements related to the PSTM aligning with the study's objectives.

Interpretation of Mean Values

The responses collected through the survey were analysed using the mean score as a key metric. Table 1 outlines the general interpretation of mean values to categorize the level of necessity for the development of the module.

Table 1: Interpretation of Mean Value Analysis for Perceptions and Needs in Developing the PSTM

Mean Value	Indicator
High	3.80 – 5.00
Moderate	2.50 – 3.79
Low	1.0 – 2.49

Needs Analysis for Developing the PSTM

To design and develop the PSTM, a needs analysis is essential to identify the specific requirements for its development. This study's needs analysis involved mathematics teachers and special remedial mathematics teachers from primary schools in the Petaling Perdana district, Selangor.

The needs analysis questionnaire for the PSTM was adapted appropriately from Mohd Rusdin's (2021) study titled Development of an Active Learning Pedagogy Module Based on 4K Skills for Whole Numbers and Basic Mathematical Operations (2021).

The needs analysis questionnaire for the development of the PSTM consisted of two sections where section one focused on collecting respondents' demographic information and section two comprised questions on a 5-point Likert scale related to the necessity of developing the PSTM. Included questions addressing the need for the module and the integration of the Understanding Numeracy Level Model for Primary School (UNLMPS) into the PSTM.

The validity of this questionnaire instrument was established by four experts, comprising three special remedial mathematics teachers and one experienced Malay language teacher. A pilot study involving 30 teachers, consisting of special remedial mathematics teachers and other mathematics teachers, was conducted to test the reliability of the questionnaire using Cronbach's Alpha. According to Mohd Majid Konting (1997), a Cronbach's Alpha value of 0.70 and above indicates that the internal consistency of an instrument is acceptable. Therefore, the Cronbach's Alpha value of 0.96, as shown in Table 2 for the questionnaire items used in the teachers' needs analysis, demonstrates a high level of reliability.

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Table 2: Reliability Analysis of the Questionnaire (Cronbach's Alpha Values)

Items	*Cronbach's Alpha*
4	0.96

The questionnaire was randomly distributed to mathematics teachers and special remedial mathematics teachers in the Petaling Perdana district. Responses were collected and compiled for analysis. All items in the Phase 1 questionnaire are summarized in Table 3.

Table 3: Sections of The Teacher Needs Analysis Questionnaire

Section	Item	Number of Items
1	Respondent Demographic Information	5
2	Needs for the Development of RPA PMPKM	4

Findings

Respondent Demographics

A total of 100 respondents, comprising special remedial teachers and primary school mathematics teachers from the Petaling Perdana district, participated in the survey. The demographic analysis of the respondents is categorized into three main aspects:

1. Gender
2. Teaching Experience
3. Academic Qualifications

Table 4 presents a detailed breakdown of the respondents' demographic profiles.

Table 4: The Demographic Distribution Of Respondents By Gender

Gender	Frequency (n)	Percentage (%)
Male	25	25
Female	75	75
Total	100	100

Based on Table 4, a total of 100 special remedial teachers and primary school mathematics teachers from the Petaling Perdana district participated in this study. Of these respondents:

- 25 teachers (25%) were male.
- 75 teachers (75%) were female.

This gender distribution highlights a significant predominance of female teachers among the participants.

Table 5: Teaching Experience Of Respondents

Teaching Experience	Frequency (n)	Percentage (%)
Above 10 years	88	88
Below 10 years	12	12
Total	100	100

Table 5 indicates that the majority of respondents (88%) have more than 10 years of teaching experience, reflecting a seasoned group of educators who are likely well-versed in remedial mathematics education. The remaining 12% have less than 10 years of experience, representing

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a smaller segment of relatively newer teachers. This distribution highlights the significance of experienced teachers' input in shaping the PSTM, as they are likely to provide insights based on extensive practical knowledge and familiarity with students' challenges in learning mathematics.

Table 6: Academic Qualifications Of Respondents

Academic Qualification	Frequency (n)	Percentage (%)
Diploma in Education	2	2
Bachelor's Degree	85	85
Maters's Degree	11	11
Doctorate	2	2
Total	100	100

Table 6 shows that the majority of respondents (85%) hold a Bachelor's Degree, indicating a strong foundational qualification in education. Additionally, 11% of respondents have a Master's Degree, while 2% each possess a Diploma in Education and a Doctorate**.** The presence of postgraduate-qualified respondents (13%) suggests that the input for module development comes from educators with advanced knowledge and specialized training, which is advantageous for designing a robust and effective teaching module.

Table 7: Agreement On The Need For Module Development

Agreement	Frequency (n)	Percentage (%)
I agree	99	99
I disagree	1	1
Total	100	100

Table 7 demonstrates overwhelming support for the development of the PSTM, with 99% of respondents expressing agreement. Only 1% of respondents disagreed. This near-unanimous agreement underscores the urgent need for a specialized teaching module to address challenges in remedial mathematics education. It reflects educators' shared recognition of the potential benefits such a module could offer in enhancing student outcomes and teaching effectiveness.

The findings reveal a well-qualified and experienced group of teachers who overwhelmingly support the development of the PSTM. This alignment between professional expertise and identified needs provides a strong foundation for the module's design and implementation, ensuring it addresses real-world challenges faced by both teachers and students in remedial mathematics education.

Discussion

In this section, the sub-question examines the necessity of developing the PSTM based on the UNLMPS Respondents' feedback was analyzed using a 5-point Likert scale, and the results are presented in Table 8**.**

Table 8: Interpretation Of Mean Values Regarding The Need For PSTM Development

Item	Survey Statement	Mean (M)	Standard Deviation (SD)	Interpretation
1	The integration of MPKNSR is necessary for the PSTM to help Stage	4.47	0.64	Agree

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	2 remedial mathematics students solve problems.			
2	UNLMPS mastery is necessary in mathematics teaching and learning.	4.48	0.72	Agree
3	The development of PSTM activity sets is necessary.	4.56	0.63	Strongly Agree
4	The development of PSTM activity sets for the Special Remedial Mathematics Program can improve the effectiveness of daily problem-solving application.	4.48	0.61	Agree
	Average	4.49	Agree	

Referring to Table 8, items 1 to 4 in the questionnaire relate to the necessity of developing the PSTM for Stage 2 remedial mathematics students. Overall, the average mean score recorded is M=4.49, indicating that teachers agree with the need for the development of the module. For item 1, the Integration of UNLMPS into PSTM (Item 1) indicate that teachers strongly agree that the integration of the UNLMPS into the PSTM is essential for helping remedial mathematics students solve problem-solving questions (M=4.47, SP=0.64). This demonstrates a consensus on the importance of embedding structured numeracy models into teaching strategies to enhance students' comprehension and application of mathematical concepts. For item 2, the mastery of UNLMPS in teaching and learning (Item 2) shows that the respondents also agreed that the mastery of UNLMPS is vital in the teaching and learning of mathematics (M=4.48, SP=0.63). This finding emphasizes the necessity of equipping teachers with knowledge and strategies aligned with UNLMPS to improve their instructional approaches and the learning outcomes of remedial students. While item number 4, the development of PSTM activity sets (Item 3) indicate the need for the development of activity sets within the PSTM received the highest agreement (M=4.56, SP=0.61). This highlights the perception among teachers that well-structured activity sets are critical for engaging remedial students and addressing their unique learning needs. Last item shows the survey about the effectiveness of PSTM in daily problem-solving (Item 4). The results show, teachers agreed that the development of activity sets in the PSTM could enhance the effectiveness of teaching daily problem-solving applications (M=4.48, SP=0.61). This reflects the belief that practical and relatable activities can significantly improve students' ability to connect mathematical concepts to real-life scenarios.

The high average mean score (M=4.49) across all items suggests that teachers strongly support the development of the PSTM for remedial mathematics students. Teachers recognize the importance of incorporating UNLMPS into the module to improve students' problem-solving abilities and ensure a structured approach to teaching mathematics. This consensus underscores the necessity for a specialized teaching module tailored to the needs of remedial students, with a focus on structured numeracy understanding, effective activity design, and practical problem-solving applications.

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Implications

In the era of 21st-century learning, pedagogical practices among teachers must evolve and align with contemporary educational demands to ensure the holistic development of students' human capital. The Ministry of Education Malaysia (MOE) emphasizes the importance of integrating problem-solving questions into the learning process as a key indicator of students' ability to address both academic and real-life challenges effectively.

Based on the findings of this study, the development of the PSTM is crucial as it addresses the need for transformation in classroom pedagogical practices. Teachers must embed problem-solving skills into their teaching and learning processes to ensure mastery among special remedial mathematics students. This transformation is essential not only to enhance student learning outcomes but also to equip them with the necessary skills to navigate the complexities of today's world.

Furthermore, the development of this module is anticipated to bring renewed hope to mathematics and remedial teachers by providing a structured and practical tool for implementing daily problem-solving activities. By doing so, the module offers a solution to the challenges faced by teachers in designing engaging and effective instructional strategies for remedial mathematics students.

Broader Implications

- For Teachers: The module empowers teachers with innovative methods and resources to facilitate active learning, enhance problem-solving competencies, and improve student engagement.
- For Students: It fosters critical thinking, creativity, and confidence in tackling mathematical challenges, bridging the gap between classroom learning and real-world applications.
- For Education Policy: Aligns with the MOE's 21st-century learning goals, reinforcing the national agenda to develop skilled and adaptable future leaders.

In conclusion, the PSTM is expected to serve as a transformative tool in enhancing the teaching and learning experience for both teachers and students, contributing to a more inclusive and effective education system.

Conclusion

Based on the findings from the needs analysis phase, it can be concluded that the development of the PSTM for Stage 2 remedial mathematics students is a critical requirement for mathematics and special remedial teachers in the Petaling Perdana district, Selangor. The PSTM is anticipated to provide valuable support to teachers in conducting problem-solving teaching and learning (T&L) sessions in remedial mathematics classrooms. Additionally, it is hoped that the module will benefit remedial mathematics students by enhancing their problem-solving skills.

The findings also highlight that the module aligns closely with teachers' needs, as they expressed significant interest in its development. Furthermore, the study reveals a clear necessity for the mastery of the UNLMPS to assist remedial students in tackling problem-solving tasks. By integrating UNLMPS into the PSTM, the teaching and learning process in

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Stage 2 remedial mathematics programs is expected to become more effective, enabling students to solve everyday mathematical problems with greater success.

Moreover, the mastery of basic mathematics skills and conceptual understanding are essential competencies that all students should acquire, as these form the foundation for their academic and life success. These skills are particularly vital, as students are regarded as the primary assets for the nation's future development (Rafiee & Hafsah, 2020).

In conclusion, the development of the PSTM is not only a necessary step in improving remedial mathematics education but also a significant contribution toward fostering problem-solving skills among students, ensuring their preparedness for future challenges and their ability to contribute meaningfully to the nation's progress.

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