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Parents' Readiness towards Involvement in Children's Mathematics Learning at Home: A Literature Review

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Abstract

Parental involvement in children's mathematics learning can improve students' understanding of mathematics as well as stimulate students to be more motivated in learning mathematics better. This paper discusses the literature related to parental involvement in children's mathematics learning, namely problems in mathematics learning, parental readiness in mathematics learning as well as the relationship between communication and mathematics achievement. Therefore, a discussion about the involvement of parents in learning mathematics is presented.

Keywords: Parental Involvement, Literature Review, Mathematics

Introduction

It is widely known that mathematics education is an important aspect in line with the country's globalization development. Mathematics education in schools is an important subject that has been taught to children as early as 4 years old. The involvement of various parties to instill a desire to learn in students has been carried out to realize the educational aspirations in Malaysia. Mathematics is a subject that requires logical and critical thinking, which necessitates good interest and encouragement for students to master it in school. This means that by providing broader exposure, the student can enhance their ability to think logically and critically.

Problems in Primary School Students' Mathematics Learning

Previous studies have found that there are various factors that have hindered students from mastering mathematics. Mastery of basic mathematical concepts is one of the causes. In mathematics, knowledge of basic concepts consists of five groups, namely concepts, facts, algorithms, concept relationships, and problem-solving processes. Subahan (1999) states that the main factor determining the level of student mastery in mathematics learning is the weakness in understanding the basic concepts taught in class.

Additionally, the method of learning mathematics that requires problem-solving techniques leads to difficulties in learning mathematics. Routine and non-routine questions are important in this approach to help students understand the concepts well. Non-routine

questions that require students to analyze and solve mathematical problems necessitate intensive teaching support, such as modeling methods and guidance. Non-routine questions inspire students to be creative and require high cognitive skills to solve problems. Therefore, this study is important because it not only examines the specific problems faced by students in mathematics but also helps parents in assisting their children to succeed in mathematics. The results of structured interviews, according to Norshafariza & Muhammad Nubli (2022), show that students' failure to learn basic mathematical concepts, such as memorizing multiplication tables and the processes of addition, multiplication, and division, is the main cause of students' failure in mathematics. They fail to keep up with the lessons because they do not understand the basic concepts. As a result, they have no interest in mathematics.

Parents' Readiness in Teaching Mathematics at Home

The COVID-19 pandemic has struck the world, and the mathematics education system is also involved in this issue. Parents and children greatly influence learning. Shelina Bhamani et al. (2020) conducted a study that found opinions on the ease and difficulty of helping children at home vary depending on the financial situation and employment of the parents.

According to a study conducted by Dong et al. (2020), home teaching and learning not only require parental readiness but also a significant time commitment from parents to spend with their children. This is because home teaching and learning is a difficult task for parents to carry out with their children. At the same time, a study by Hira and Anderson (2021) found that managing their children through home teaching and learning is challenging. However, parents try to overcome these obstacles and challenges by dividing their time and attention for their children's home teaching and learning.

Parents spend a lot of time and energy guiding their children in learning mathematics. They might take time from their daily schedules to sit with the children, help them complete their math homework, and explain difficult concepts. Next, parents might allocate funds to purchase workbooks, math games or enroll their children in additional courses or math tutoring to reinforce their understanding. In the relationship between parents and the school, parents often strive to communicate with their children's teachers and the school to understand the mathematics curriculum being taught and the best ways to provide support at home. This is because parents sometimes need to coordinate time for teaching mathematics with other responsibilities such as work, managing the household, and other family activities.

Parents' Involvement in Teaching Mathematics at Home

It is no stranger to say that children's academic achievements are influenced by parental involvement. This is due to the fact that parents are the first and most important people for their children, and they also have the ability to provide useful knowledge. Previous studies will examine the impact of parental involvement on children's academic performance in mathematics. One way parents can help their children become better at mathematics is by participating in their learning.

Although this improves student achievement, the study by Shelina Bhamani et al. (2020) found that opinions on the ease and difficulty of helping children at home are influenced by

home teaching and learning, which depend on both the financial situation and employment of the parents. However, parents are able to overcome difficulties quickly.

Continuous involvement is important for the academic future of students, according to several studies (Grace & Gerdes 2018). Jensen and Minke (2017) also agree that parental involvement in their children's academic lives positively affects their social and emotional achievements. When parents participate in class activities, students are more motivated to attend. This is because children feel more comfortable when their parents are by their side, which allows them to learn with greater concentration. In addition, parental involvement includes the way parents communicate with their children at home because they have the ability to motivate their children, as well as set a good example while at home, which will also be carried over when they are in class.

It is very important to remember that parents face difficulties in actively participating in teaching and learning at home. This is due to the fact that most Malaysian parents have careers. This results in the actual work demands and the responsibility of parents to supervise and engage in their children's teaching and learning at home being a significant challenge. We have also not yet found an effective way to ensure that children's education is not neglected (Zuriani et al. 2019).

The Relationship between Communication and Mathematical Achievement

One of the important components in teaching children mathematics at home is parental involvement. When parents discuss with their children at home, they often talk about matters such as schooling, parents' expectations and anticipations regarding what their children do in exams, their achievement grades, options for continuing education to higher levels, future careers, and the importance of education for their future.

Parents often communicate with their children to encourage and promote their children's learning of mathematics. Frequent interactions between parents and their children can help increase students' interest in academic mathematics. This has been shown when encouragement and support are linked to students' desire for education (Sheau et al. 2012). He stated that if their parents always talk and connect with them, the child can feel appreciated. The feeling of being appreciated encourages children to do their best in their studies to repay their parents' kindness.

Hill and Tyson (2009) also categorize parental involvement into three categories: involvement at home, involvement at school, and involvement in academics. They found that there is the most significant positive relationship between academic socialization involvement and academic performance. Next, the socioeconomic status of parents affects parental involvement. Parents with higher education and good jobs have strong determination, insistence, and desire. This is because parents with higher education tend to have a deeper understanding of mathematics subjects. They can provide more detailed explanations and may have the ability to teach more complex concepts to their children. Next, with a higher educational background, parents may have a better ability to design and implement more effective mathematics teaching strategies. They can provide a structured learning environment and directed and organized guidance.

Discussion

Parental involvement in teaching and learning mathematics at home is important for children's academic success. By using the Epstein Model as a guide, parents can provide the necessary support to enhance their children's mathematics experience and performance. Parents are able to overcome existing challenges and seize opportunities to create better collaboration between schools and families, thereby enhancing their children's academic success in mathematics.

Among the advantages of parental involvement in children's mathematics learning is the ability to improve their academic performance. There are studies that show parental involvement can improve children's academic performance in mathematics. This is due to a better understanding of the material being studied and additional support at home. Next, the positive attitude conveyed towards the learning of mathematics. When parents are actively involved in their children's mathematics learning, they are more likely to have a positive attitude towards mathematics and education in general. In addition, the communication and cooperation provided by parents to their children can also be fostered by building better connections between home and school to ensure that all parties are on the same page regarding the child's educational goals.

Conclusion

The role of parents who show interest and effort in mathematics can be a good role model for children. They can demonstrate practical ways to apply mathematics in daily life. Parental involvement also includes time and the provision of a conducive learning environment, such as setting aside specific time to complete math assignments and using appropriate learning resources.

Parental involvement in their child's mathematics learning is an important aspect that can have a positive impact on the child's academic development. Parental involvement in their child's mathematics learning is an important factor that can influence the child's academic success and attitude towards the subject. Active and continuous involvement from parents can provide the necessary support to help children reach their full potential in mathematics.

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