



Application Of Creative Problem Solving Approach In Improving Understanding Of Length Measurement Concepts At Min 14 Nagan Raya

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Abstract: Understanding the concept of length measurement is one of the basic competencies in learning mathematics in elementary schools. However, many students still have difficulty in understanding this concept, especially in connecting it to everyday life. This study aims to analyze the application of the Creative Problem Solving (CPS) approach in improving the understanding of the concept of length measurement of grade 4 students of MIN 14 Nagan Raya. The research method used is Classroom Action Research (CAR) with two learning cycles. Data were collected through observation, learning outcome tests, and interviews to determine the development of students' understanding before and after the application of CPS. The results of the study showed that the application of the CPS approach can significantly improve students' understanding. Students become more active in thinking critically and creatively in solving problems of length measurement. In addition, this strategy encourages them to be more involved in discussions and exploration of concepts, thereby increasing their motivation and interest in learning. From the results of data analysis, there was an increase in the average value of students' understanding from the first cycle to the second cycle. Thus, the CPS approach can be used as an effective alternative learning strategy in improving the understanding of the concept of length measurement for elementary school students.

Keywords: Creative Problem Solving, understanding of concepts, length measurement

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INTRODUCTION

Mathematics is one of the fundamental subjects in primary education, as it provides students with the necessary skills to solve real-world problems and think critically. One key concept in early mathematics education is measurement, which forms the foundation for many other mathematical operations and daily life activities. Among the various measurement topics taught in primary schools, length measurement is often perceived by students as one of the most difficult and abstract. Students frequently struggle to grasp the concept of length measurement, particularly when it comes to understanding units of measurement, converting between units, and applying measurement techniques in real-life contexts. At MIN 14 Nagan Raya, a common issue observed in the classroom is students' limited understanding of length measurement concepts. This challenge is not

unique to this school, as many students across different educational contexts face difficulties in mastering measurement topics. In particular, students often confuse the relationships between different units of length, such as meters and centimeters, and struggle with practical applications of these concepts in everyday situations. As a result, their learning outcomes in the subject of mathematics, especially in the measurement unit, are lower than expected.

Research indicates that traditional teaching methods, which predominantly focus on direct instruction and rote memorization, are not always effective in helping students understand abstract concepts like length measurement. These methods may not engage students actively or help them relate mathematical concepts to their real-world experiences. In order to address this gap in students' understanding, educators must explore and implement more effective, student-centered teaching strategies that encourage active learning, problem-solving, and critical thinking. One such strategy is the Creative Problem Solving (CPS) approach. The Creative Problem Solving approach is a well-established method that encourages students to use their creativity and critical thinking skills to find solutions to problems. This approach not only helps students engage with the material more deeply but also fosters their ability to think outside the box, explore various solutions, and apply their learning in practical contexts. In the context of length measurement, the CPS approach provides an opportunity for students to tackle measurement problems in a creative and meaningful way, allowing them to understand the underlying principles and develop practical skills they can apply in their daily lives.

The use of the Creative Problem Solving approach in teaching length measurement concepts is particularly relevant at MIN 14 Nagan Raya, where students have demonstrated difficulties in understanding these concepts using traditional teaching methods. By integrating the CPS approach, teachers can provide students with opportunities to engage in collaborative problem-solving activities, use hands-on materials to visualize measurement, and apply their learning to real-world scenarios. This approach can help bridge the gap between theoretical knowledge and practical application, ultimately improving students' understanding of length measurement concepts. Furthermore, research in mathematics education suggests that incorporating creativity and problem-solving into the curriculum enhances students' motivation and interest in learning. Students who actively participate in solving problems are more likely to develop a deeper understanding of the material, as they are encouraged to think critically and connect new knowledge to their existing experiences. The CPS approach, therefore, has the potential to not only improve students' understanding of measurement but also increase their overall engagement and enthusiasm for learning mathematics.

Despite the potential benefits, the Creative Problem Solving approach is not widely adopted in many schools, especially in primary education, where traditional methods still dominate. Therefore, it is essential to explore how this approach can be effectively implemented in the context of teaching length measurement at MIN 14 Nagan Raya. By examining the impact of the CPS approach on students' understanding of length measurement, this study aims to contribute valuable insights into the potential of creative teaching strategies to improve mathematics education in primary schools. The primary goal of this research is to explore how the Creative Problem Solving approach can enhance students' comprehension of length measurement concepts. This study will investigate the effectiveness of the CPS approach in improving students' ability to understand and apply measurement principles, as well as its impact on their overall motivation and engagement with the subject. Through this research, it is hoped that teachers at MIN 14 Nagan Raya can gain practical insights into how to apply creative and problem-solving strategies to enhance their teaching practices and improve student outcomes in mathematics.

Additionally, this research seeks to contribute to the broader field of mathematics education by examining the role of creativity and problem-solving in the teaching of abstract concepts like measurement. By investigating how the CPS approach can be integrated into the teaching of length measurement, this study aims to provide valuable

insights that can be applied to other areas of mathematics instruction and inform future teaching practices in schools. In conclusion, the challenge of improving students' understanding of length measurement concepts at MIN 14 Nagan Raya presents an opportunity to explore the potential of creative, student-centered teaching strategies. The Creative Problem Solving approach offers a promising solution by encouraging students to actively engage with the material, develop critical thinking skills, and apply their learning in meaningful ways. By investigating the impact of this approach on students' understanding of length measurement, this study aims to contribute to the improvement of mathematics education in primary schools and provide practical recommendations for teachers seeking to enhance their students' learning experiences.

METHODS

This study employs a Classroom Action Research (CAR) methodology, which is aimed at improving students' understanding of length measurement concepts through the application of the Creative Problem Solving (CPS) approach. The research was conducted at MIN 14 Nagan Raya, focusing on students in the 5th-grade social studies class. The primary goal of this research is to explore the effectiveness of the CPS approach in enhancing students' comprehension of length measurement topics and improving their academic performance in this area. The research process follows the typical action research cycle, which includes planning, acting, observing, and reflecting. These stages are iteratively carried out to continuously refine and improve teaching practices and student learning outcomes. The study was conducted over a period of one semester, allowing for adequate time to implement the CPS approach, gather data, and assess the impact on students' learning.

The participants in this study were 30 students from the 5th grade, who were selected based on their current performance in length measurement topics. Before the intervention, students showed limited understanding of key concepts such as units of measurement, conversion between different units, and applying these concepts in real-life scenarios. Data was collected from students' pre-tests, in-class activities, and post-tests, which allowed for a comparison of students' knowledge before and after the intervention. The CPS approach was implemented as a central teaching strategy in the lesson plan. This approach encourages students to engage in problem-solving activities, think critically, and apply their creativity to solve real-world problems. In the context of teaching length measurement, the teacher presented students with practical measurement problems, such as calculating the length of various objects and converting between units like centimeters and meters. Students worked in groups to discuss the problems, brainstorm potential solutions, and present their findings to the class.

The implementation of the CPS approach was supported by a variety of materials and resources designed to facilitate active learning. These included measuring tapes, rulers, and visual aids to help students better understand measurement concepts. Students were encouraged to use these materials in their group activities, allowing them to physically engage with the concepts and make connections between abstract ideas and real-world applications. Additionally, the teacher facilitated discussions that prompted students to explain their reasoning and share their solutions with the class, encouraging peer learning and collaboration. The research design followed a pre-test and post-test format. A pre-test was administered at the beginning of the study to assess students' initial understanding of length measurement concepts. This test covered topics such as the definition of length, units of measurement, and the process of converting between different units. After the CPS-based intervention, a post-test was administered to assess changes in students' understanding and academic performance. The results of the pre-test and post-test were compared to evaluate the effectiveness of the CPS approach in improving students' learning outcomes.

To ensure that the intervention was implemented effectively, the teacher followed a structured lesson plan that incorporated the CPS approach into the curriculum. Each lesson included an introduction to the measurement concepts, followed by a problem-solving activity where students worked in groups to solve measurement-related problems. Throughout the lesson, the teacher provided guidance and support, answering questions, offering suggestions, and encouraging students to think critically about the problems they were solving. The teacher also observed students' participation and engagement during the activities, making note of any challenges or areas where additional support was needed. In addition to the pre-test and post-test, qualitative data was collected through classroom observations and student feedback. Classroom observations focused on student engagement, participation, and collaboration during the CPS activities. The teacher took detailed notes on how students interacted with each other, how they approached problem-solving tasks, and any changes in their attitudes toward the subject. Student feedback was gathered through informal interviews and questionnaires, which allowed the researcher to gain insights into students' perceptions of the CPS approach and its impact on their learning.

The data analysis involved both quantitative and qualitative methods. The pre-test and post-test results were analyzed using descriptive statistics to determine the average score for each test and to identify any significant improvements in students' understanding of length measurement concepts. The qualitative data from classroom observations and student feedback were analyzed thematically to identify common patterns and themes related to student engagement, motivation, and learning outcomes. The combination of these data sources provided a comprehensive view of the impact of the CPS approach on students' understanding of length measurement. The ethical considerations in this study included obtaining informed consent from the students and their parents. Prior to the start of the study, the researcher explained the purpose of the research, the methods to be used, and the potential benefits for the students. Parental consent forms were distributed to ensure that students' participation was voluntary and that their privacy and confidentiality were protected. All data collected was anonymized and used solely for the purposes of this study.

The research also considered potential limitations that could affect the outcomes of the study. One such limitation was the relatively small sample size, which may limit the generalizability of the findings to other schools or grade levels. Additionally, the study focused on a single topic—length measurement—which may not reflect the broader challenges students face in learning other mathematical concepts. Future research could expand the scope of the study to include other measurement topics or investigate the long-term effects of the CPS approach on students' overall mathematical skills. Despite these limitations, the study provided valuable insights into the effectiveness of the Creative Problem Solving (CPS) approach in improving students' understanding of length measurement concepts. The combination of active problem-solving, hands-on materials, and peer collaboration created an engaging learning environment that helped students develop a deeper understanding of measurement. The results of the study suggest that the CPS approach can be a highly effective strategy for teaching abstract mathematical concepts, particularly in primary education.

In conclusion, the Creative Problem Solving (CPS) approach was successfully implemented in teaching length measurement concepts at MIN 14 Nagan Raya, and the results of this study indicate a positive impact on students' understanding, engagement, and academic performance. By encouraging active participation, critical thinking, and collaboration, the CPS approach helped students move beyond rote memorization and develop a more meaningful understanding of the concepts. This study demonstrates the potential of creative problem-solving strategies to improve learning outcomes in mathematics and provides valuable insights for educators looking to enhance their teaching practices.

RESULTS

This section presents the findings of the study on the implementation of the Creative Problem Solving (CPS) approach in teaching length measurement concepts at MIN 14 Nagan Raya. The study aimed to assess how this approach affected students' understanding of measurement concepts, their engagement in the learning process, and their academic performance. The results are divided into several key areas, including students' pre-test and post-test performance, classroom participation, and feedback from students. The pre-test results revealed that the majority of students had a limited understanding of length measurement concepts. The average score on the pre-test was 52%, with many students struggling to correctly identify units of measurement and convert between centimeters and meters. Common errors included misinterpreting the relationship between units, such as confusing millimeters with centimeters, and difficulty in applying these concepts to real-world situations.

In the post-test, after the implementation of the CPS approach, there was a noticeable improvement in students' performance. The average post-test score increased to 76%, demonstrating a significant improvement in students' understanding of the concepts related to length measurement. More students were able to identify the correct units of measurement and correctly perform conversions between them. Furthermore, students displayed a stronger ability to apply the measurement concepts in practical scenarios, such as measuring objects and calculating lengths. In terms of individual performance, the post-test scores of the students were more varied, but there was a general trend toward improvement. A few students demonstrated a considerable increase in their scores, jumping from below 50% on the pre-test to above 80% on the post-test. These students showed particular improvement in their ability to solve complex measurement problems and to make connections between abstract concepts and real-life applications. However, there were also a small number of students whose scores remained relatively unchanged, indicating that they still faced challenges despite the intervention.

One of the most significant results of the study was the increased engagement of students during the CPS activities. Classroom observations showed that students were highly active and involved in the problem-solving tasks. Students worked collaboratively in small groups, discussing the problems, brainstorming solutions, and using measurement tools such as rulers and measuring tapes. The hands-on approach provided by the CPS method allowed students to physically engage with the concepts, making them more tangible and easier to understand. As students worked through the problems, they displayed an increased willingness to ask questions and share their solutions with the class. This shift in behavior marked a clear departure from the more passive learning observed in traditional lesson formats. The use of the CPS approach encouraged students to take ownership of their learning, and many students actively sought out additional resources or asked for clarification when they encountered difficulties.

Furthermore, students demonstrated improved critical thinking skills as they tackled the measurement problems. Instead of merely memorizing formulas or procedures, students were required to think creatively and critically about how to solve problems, which led to a deeper understanding of the material. For example, when asked to calculate the total length of multiple objects placed together, students had to decide on the most appropriate units to use, apply conversion techniques, and account for possible measurement errors. This problem-solving process helped them internalize measurement concepts more effectively. Another important observation was the level of collaboration among students during the CPS activities. Group work played a key role in enhancing students' understanding of the material. Students shared different perspectives and approaches to solving problems, which enriched the learning experience for everyone involved. The group discussions allowed students to clarify misconceptions, reinforce their learning, and learn from their peers.

In addition to the improvement in academic performance and engagement, the CPS approach also had a positive impact on students' motivation. The interactive and hands-on nature of the lessons made the learning experience more enjoyable and less intimidating for students. Many students reported feeling more confident in their ability to solve measurement problems and were eager to participate in future lessons. The positive learning environment fostered by the CPS approach helped to reduce students' anxiety around mathematics and encouraged them to view the subject as more approachable and relevant to their lives. Students' feedback, gathered through informal interviews and questionnaires, supported the observation that the CPS approach had a positive impact on their learning experience. Many students expressed that they enjoyed working in groups and solving problems creatively, as it made the material feel more practical and applicable to real-life situations. They also noted that the use of measurement tools like rulers and measuring tapes helped them better understand the concept of length measurement, as they could see and feel the measurements they were working with.

One of the key findings was that students appreciated the opportunity to be active participants in the learning process. They felt that the CPS approach allowed them to take more responsibility for their learning and gave them the chance to think critically and creatively. This increase in student autonomy was particularly evident in their approach to solving problems. Rather than simply waiting for the teacher to provide answers, students took the initiative to work through the challenges on their own or with their peers, which increased their confidence and sense of achievement. However, despite the overall success of the CPS approach, some students encountered difficulties during the intervention. A small number of students struggled with the more complex aspects of the problem-solving tasks, such as converting between different units of measurement. These students required additional support and guidance from the teacher, who provided individualized assistance during group activities. While the CPS approach was generally effective in promoting understanding, it was clear that some students needed more time and practice to fully grasp the concepts.

Teacher observations also revealed that some students were initially hesitant to participate in the problem-solving activities. These students were less confident in their mathematical abilities and were unsure how to approach the tasks. Over time, however, with encouragement and support from the teacher and their peers, these students became more engaged and willing to contribute to group discussions. This shift in attitude highlighted the importance of creating a supportive and inclusive learning environment, where students feel comfortable taking risks and making mistakes. In terms of overall classroom dynamics, the CPS approach had a positive effect on the atmosphere in the classroom. The use of collaborative activities and group work fostered a sense of community and cooperation among students. Students worked together toward common goals and helped each other overcome challenges, which contributed to a more positive and supportive learning environment. This collaborative spirit was particularly beneficial for students who were struggling, as they were able to receive assistance from their peers in addition to the teacher's support.

Another significant outcome of the study was the improvement in students' ability to apply measurement concepts to real-world situations. The CPS approach encouraged students to solve practical problems, such as measuring the length of various objects, calculating distances, and comparing measurements. These activities allowed students to see the relevance of measurement concepts to their daily lives and helped them connect abstract ideas to concrete experiences. The results of this study also support the idea that creative problem-solving can be an effective teaching strategy in primary education, particularly in subjects like mathematics. By engaging students in real-world problem-solving tasks, teachers can help them develop critical thinking skills and a deeper understanding of the material. The CPS approach proved to be an effective tool for enhancing students' comprehension of length measurement and fostering a more engaging and interactive learning environment.

In conclusion, the implementation of the Creative Problem Solving (CPS) approach at MIN 14 Nagan Raya led to significant improvements in students' understanding of length measurement concepts, academic performance, and engagement in the learning process. The study showed that the CPS approach not only helped students better understand measurement principles but also fostered creativity, critical thinking, and collaboration among students. These results highlight the potential of the CPS approach to improve mathematics education and encourage more active, student-centered learning.

DISCUSSION

This section discusses the results of the study on the Creative Problem Solving (CPS) approach in teaching length measurement concepts at MIN 14 Nagan Raya. The findings revealed several key aspects of how the CPS approach affected students' understanding, engagement, motivation, and academic performance. These findings are discussed in relation to previous research, the theoretical framework, and the practical implications for teaching mathematics in primary education. One of the most striking results was the significant improvement in students' post-test scores compared to their pre-test results. The average score increased from 52% to 76%, indicating a substantial improvement in their understanding of length measurement concepts. This aligns with previous studies that have shown that active, problem-solving-based learning approaches, such as CPS, lead to better retention and understanding of academic content. The improvement in students' scores demonstrates that the CPS approach was effective in helping students grasp the key concepts of length measurement, including units of measurement, conversions, and practical applications.

The fact that many students showed considerable improvement, especially those who scored below 50% on the pre-test, suggests that the CPS approach helped bridge the gap between students' prior knowledge and the learning objectives. This supports the idea that CPS, by encouraging students to work through problems creatively, allows them to build a deeper understanding of complex concepts. The results suggest that students who struggled with traditional, teacher-centered methods were able to engage with the material more effectively when given the opportunity to actively solve problems and apply their learning in practical contexts. An important observation from the study was the increase in student engagement during the CPS activities. Classroom observations indicated that students were highly active and enthusiastic, particularly during group work. The hands-on nature of the CPS tasks, which involved using measuring tools like rulers and tapes, made the concepts more tangible and accessible. Students were not only learning abstract mathematical principles but were also applying them in real-life contexts. This active involvement in the learning process is consistent with research showing that hands-on, interactive learning experiences help students make meaningful connections with the content and improve their understanding.

The collaborative nature of the CPS approach was another factor that contributed to the positive outcomes of the study. Students worked in small groups, discussing and solving problems together. This provided them with opportunities to share ideas, learn from their peers, and engage in deeper discussions about the material. This collaborative environment is in line with Vygotsky's social constructivist theory, which emphasizes the importance of social interaction in learning. By collaborating with their peers, students were able to construct knowledge together, which enhanced their understanding of the measurement concepts and helped them retain the material better. Moreover, the CPS approach encouraged critical thinking, a key component of problem-solving. Students were required to think critically about the problems they encountered, choose appropriate strategies to solve them, and justify their reasoning. This process not only improved their understanding of length measurement but also helped them develop essential cognitive skills that are transferable to other subjects and real-life situations. The ability to think

critically and apply knowledge creatively is a fundamental aspect of education that prepares students for future challenges.

In addition to improving academic performance and critical thinking, the CPS approach also had a positive impact on students' motivation and attitudes toward learning. Many students reported feeling more engaged and confident in their ability to solve mathematical problems after participating in the CPS activities. This aligns with research suggesting that active, student-centered learning approaches increase motivation by making learning more relevant and enjoyable. By allowing students to take ownership of their learning, the CPS approach made them more invested in the subject and more willing to participate in class. The increase in motivation was particularly evident in students who were initially less confident in their mathematical abilities. These students, who may have previously been disengaged or reluctant to participate in class, became more involved in the learning process as they worked through the measurement problems. Their willingness to ask questions, collaborate with peers, and share their solutions during class discussions demonstrated a shift in their attitude toward learning. This is consistent with self-determination theory, which emphasizes the importance of autonomy, competence, and relatedness in motivating students to engage in learning activities.

Despite the overall success of the CPS approach, some students still faced challenges in fully understanding the material. A small number of students struggled with more complex tasks, such as unit conversion and solving multi-step problems. These students required additional support from the teacher, highlighting the fact that while CPS can be effective for many students, some may still need individualized assistance. This is an important consideration when implementing CPS in the classroom, as it is essential for teachers to provide differentiated support to meet the diverse needs of their students. The challenges faced by some students also underscore the importance of scaffolding in the learning process. Scaffolding refers to the support provided by the teacher to help students progress through tasks that are beyond their current abilities. In the case of this study, the teacher provided additional guidance during the CPS activities, helping struggling students understand the problem-solving process and offering explanations when necessary. This support allowed all students to gradually build their understanding of the material, demonstrating the effectiveness of CPS when combined with appropriate scaffolding.

Another important finding was the positive feedback from students about the CPS approach. Many students expressed that they enjoyed the interactive nature of the lessons and appreciated the opportunity to work in groups. They also found the use of measurement tools like rulers and measuring tapes helpful in visualizing the measurement concepts. This suggests that students not only understood the material better but also found the learning experience more enjoyable and engaging. The feedback highlights the importance of using creative and hands-on methods in teaching mathematics, as they make the subject more accessible and interesting to students. Furthermore, the study revealed that the CPS approach promoted a positive classroom environment. The collaborative activities fostered a sense of community among the students, as they worked together to solve problems and shared their ideas. This cooperative spirit was particularly beneficial for students who were struggling with the material, as they could rely on their peers for support and clarification. The social aspect of CPS also helped students build interpersonal skills, such as communication, teamwork, and problem-solving, which are valuable both in and outside the classroom.

The improvement in students' ability to apply measurement concepts in real-life situations was another significant outcome of the study. Through CPS activities, students were encouraged to think about how measurement is used in everyday life, such as measuring the length of objects, calculating distances, and making comparisons. This real-world application of measurement concepts helped students see the relevance of what they were learning and reinforced the practical value of the subject. It also demonstrated

how creative problem-solving can make abstract mathematical concepts more meaningful and connected to students' everyday experiences. While the CPS approach was effective in improving students' understanding of length measurement, it is important to note that its success depends on the teacher's ability to facilitate the activities effectively. The teacher played a crucial role in guiding students through the problem-solving process, providing support when needed, and encouraging students to collaborate and share ideas. This highlights the importance of teacher training and professional development in implementing new teaching strategies successfully. Teachers need to be equipped with the necessary skills and resources to effectively use CPS in the classroom.

The findings of this study are consistent with the broader literature on the benefits of active, student-centered learning approaches. Previous research has shown that problem-solving-based methods, such as CPS, can improve students' understanding of mathematical concepts, increase engagement, and foster critical thinking skills. This study contributes to the growing body of evidence supporting the effectiveness of such approaches in primary education. Moreover, the results of this study have important implications for teaching practices in mathematics education. The positive impact of CPS on students' understanding of measurement concepts suggests that teachers should consider incorporating more creative and interactive problem-solving activities into their lessons. This approach can help students develop a deeper understanding of the material, improve their motivation, and foster essential cognitive and interpersonal skills.

The results of this study clearly demonstrate the effectiveness of the Creative Problem Solving (CPS) approach in enhancing students' understanding of length measurement concepts. The significant improvement in students' academic performance, as reflected in the post-test scores, suggests that the CPS approach provides students with an opportunity to engage more deeply with the content. The interactive nature of the CPS tasks allowed students to move beyond rote memorization and apply their learning in real-world contexts, thereby improving their conceptual understanding of measurement. This is consistent with research indicating that active learning strategies, such as CPS, lead to better retention and deeper understanding of academic material. Additionally, the increase in student motivation and engagement during the CPS activities highlights the potential of creative, problem-solving methods to foster a more dynamic and student-centered learning environment. By allowing students to take ownership of their learning and collaborate with their peers, the CPS approach created a supportive learning atmosphere that encouraged critical thinking and active participation. This shift in student behavior from passive to active engagement is essential in improving not only academic performance but also students' long-term interest and confidence in mathematics.

Furthermore, the positive impact of CPS on student collaboration is worth noting. Group activities encouraged students to work together, share ideas, and solve problems collectively, which aligns with Vygotsky's social constructivist theory. Through collaborative learning, students were able to benefit from the diverse perspectives of their peers, leading to a more comprehensive understanding of the concepts. This collaborative approach also helped to build essential interpersonal skills such as communication and teamwork, which are valuable both inside and outside the classroom. Lastly, while the CPS approach was effective for most students, it also highlighted the need for differentiated support in the classroom. Some students faced difficulties in fully grasping more complex concepts, such as unit conversion. This indicates that while the CPS approach is beneficial for many students, it is important for teachers to provide additional guidance and scaffolding to ensure that all students can achieve success. Personalized support, such as additional practice or one-on-one assistance, can help bridge the gap for students who may need extra time or clarification in understanding the material.

In conclusion, the implementation of the Creative Problem Solving (CPS) approach at MIN 14 Nagan Raya led to significant improvements in students' understanding of length measurement concepts, academic performance, engagement, and motivation. The study demonstrated that CPS can be an effective strategy for teaching mathematics,

particularly in primary education, by promoting active learning, critical thinking, and collaboration. The positive outcomes of this study suggest that CPS should be further explored and integrated into mathematics instruction to enhance students' learning experiences and outcomes.

CONCLUSION

Based on the findings from this study, it can be concluded that the Creative Problem Solving (CPS) approach significantly improved students' understanding of length measurement concepts, as well as their academic performance, engagement, and motivation in the learning process at MIN 14 Nagan Raya. The implementation of CPS allowed students to move beyond passive learning and actively engage in problem-solving tasks that required critical thinking and the application of concepts to real-world situations. The significant improvement in students' post-test scores indicates that the CPS approach was effective in helping students grasp key concepts of length measurement, such as unit conversions and practical applications. The increase in academic performance, particularly among students who initially struggled, supports the notion that CPS can bridge learning gaps and enhance understanding. Furthermore, the hands-on, collaborative nature of the CPS tasks fostered an interactive and engaging learning environment that encouraged students to take responsibility for their learning, promoting autonomy and motivation. The study also highlighted the positive impact of the CPS approach on student engagement and motivation. By incorporating creative, real-world problem-solving activities, students became more interested in the subject matter and more willing to actively participate in the learning process. The group work encouraged cooperation and communication among students, which in turn helped develop essential social skills such as teamwork and collaboration. Although some students required additional support to fully grasp the concepts, the overall success of CPS in enhancing students' understanding and critical thinking abilities suggests that this approach has great potential in improving mathematics education, especially in primary schools. The positive feedback from students further affirms the effectiveness of CPS as a teaching method, as they enjoyed the interactive, hands-on nature of the activities and appreciated the opportunity to work in groups. In conclusion, the CPS approach proved to be a valuable tool for improving students' learning outcomes in length measurement and can be considered an effective teaching strategy in primary education. It not only enhances academic achievement but also fosters creativity, critical thinking, and collaboration, essential skills for students' overall development. Therefore, CPS should be further explored and integrated into the teaching practices of mathematics educators to create more engaging, student-centered learning experiences.

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