

Improve Basic Mathematics Skill of Addition in The Range of 1000 Using HOMIE Technique for Aboriginal Students and Special Education Students

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ABSTRACT

This study was conducted to improve the basic math skills of addition in the range of 1000 faced by the students of Special Integrated Education (PPKI). A total of two Aboriginal students from Jasmine's Class and two students from Lavender's Class were involved in this study. The initial survey was carried out through the results of classroom-based reporting (PBD) and observation and writing in basic mathematics exercises. The results of the survey show that the percentage of assessment reporting did not reach the KPI of 90% of learning objectives as targeted. Action planning is focused on the HOMIE Technique in creating fun for students and further increasing the percentage of mastery of basic math skills for addition operations. Students were exposed to the House of Nomie Technique (HOMIE) to help students master the skill of adding numbers in the range of 1000. The data collected in this study used the method of observation, document analysis and interviews which were analysed descriptively. The findings of the study revealed that the activities that have been planned in this study have helped teachers in improving teaching and learning practices in the classroom which previously often caused difficulties for teachers to effectively convey the content of lessons to students. This study can also help educator to understand the implementation process of action research as a whole and show that students have more fun and understand using by the HOMIE Technique in calculating and solving basic math problems.

Keywords: *HOMIE method, plus concept, Action Research*

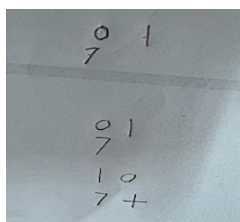
Introduction of Best Practices

Special Education students often face challenges in acquiring and mastering basic mathematics skills. These difficulties can impede their understanding and academic progress and hinder their ability to navigate real-world situations that require mathematical reasoning. To address this issue, it is crucial to implement effective strategies and interventions tailored to the unique needs of special education students. This article explores the importance of HOMIE techniques to improve the basic mathematics skills for aboriginal students and special education students in enhancing their mathematical abilities.

Justification of Best Practices Implementation

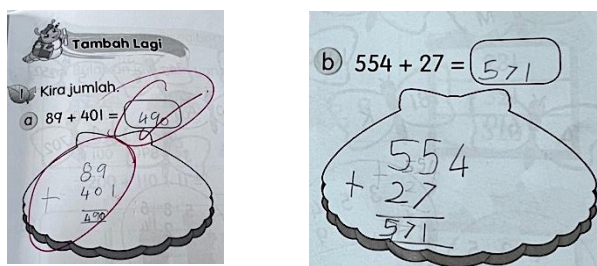
Basic mathematics skill serves as a foundation for various academic disciplines and everyday life. Proficiency in basic mathematics concepts such as counting and place value, enables individuals to solve the problems, make informed decisions, and function independently in society. For aboriginal students and special educations students, developing these skills is particularly vital as it enhances their overall cognitive development and builds their self-confidence within the educational system. Special educations students often encounter unique challenges that can hinder their mathematical development. Throughout the learning session that has taken place in class, there are three aspects of the issue for the aboriginal students and special education students in understanding the concepts of addition. The first problems identified from interviews conducted with the students are as follows: *"I don't like doing mathematic because it's hard"*, *"I'm bored because I don't understand these addition"* and *"it's not fun at all"*. The second problem identified is that the students do not know how to solve mathematical sentences where the students often face the problem in distinguishing hundreds, tens, and ones. As a result, the students keep continuing to rewrite all the digits that are either in the form of a sentences without regrouping the number in common form correctly. Figure 1 shows the mistake often write by the special education students.

Figure 1: Writing mathematic solution


$$\begin{array}{r} 01 \\ 7 \\ 10 \\ 7+ \end{array}$$

The third problem identified is that special educations students often face difficulties in writing the mathematical sentences in common form correctly by putting the numbers in the wrong place and as the result of the calculation are not correct. Figure 2 shows students solving addition operation questions.

Figure 2: Wrong place value.



Tambah Lagi

Kira jumlah.

a) $89 + 401 = 490$

b) $554 + 27 = 571$

Consequently, the issue of not understanding mathematical problems occurs from a lack of authentic learning and the concept of constructivism, which is to build and strengthen understanding and knowledge through games. In additions, these students require special instructional methods and interventions that address their individual needs, learning styles, and cognitive abilities. Employing Multimodal instructional approach such as HOMIE Techniques that combines visual and kinaesthetic elements can enhance learning outcomes for special education students. Presenting information through diverse modalities caters to different learning preferences, ensuring that students can access and process mathematical content more effectively.

Objectives of Implementation

The objectives of the implementation of best practices are:

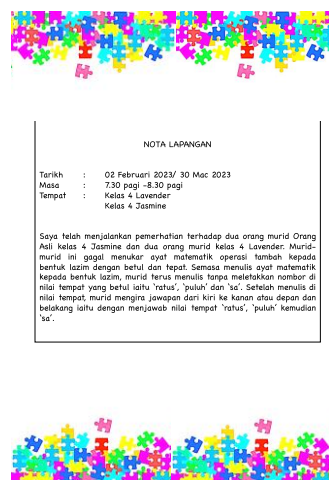
1. Improve addition efficiency by changing mathematical sentences to common form.
2. Improve the understanding of aboriginal students and special education students in basic addition skills.
3. Increase the enjoyment of interest in learning by using the HOMIE technique.

Best Practices Implemented

Observation

Observations have been made in reading understanding mathematical additions skills where it is a crucial aspect of assessing a special education students mathematical abilities. Observations conducted included two of aboriginal students and two special education students from Program Pendidikan Khas Integrasi (PPKI) SK Seri Melati. The type-of observation conducted was unstructured observation using field notes as an instruments. It helps educators tailor the instruction to meet the specific needs of each students. Through the observation, educators found that, the aboriginal students and special education students failed to convert the additions operations mathematical sentences into common form correctly and accurately. Figures 3 show the field notes.

Figure 3: Field notes



Document Analysis

The educators conducted diagnostic tests through worksheet for the aboriginal students and special education students. Figure 4 shows the diagnostic test.

Figure 4: Diagnostic test.


SEKOLAH KEBANGSAAN SERI MELATI
JALAN KUNCIAN PERUM
2520 KUNCIAN

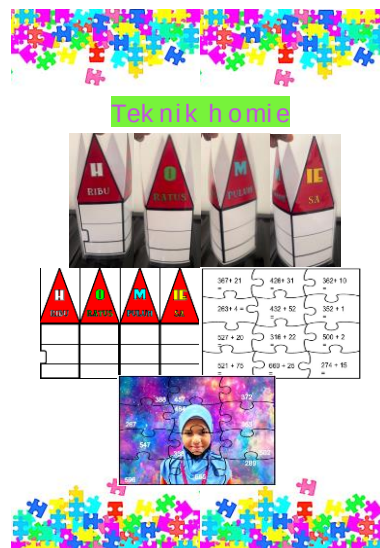
BORANG SENARAI SEMAK

NAMA MURID	KATEGORI	TAHAP PENGETAHUAN SEBELUM INTERVENSI TEKNIK HOMIE DIPERKENALKAN
 DASON ALVIN	ACHD	1. Menguasai asas nombor 3-30 2. Mengenal simbol tambah dan tolak 3. Boleh menulis nombor 4. Mengenal nilai tempat : ratus, puluh, dan
 ROSLI SA AL P ROSLI	SPICOTIC LEARN NG DI SOROKER (3 SLEKSI A)	1. Menguasai asas nombor 3-30 2. Mengenal simbol tambah dan tolak 3. Boleh menulis nombor 4. Mengenal nilai tempat : ratus, puluh, dan
 BITI NURI N HUNAIRA BT MOHD ZAIN	KURANG URAVA INTELEKTUAL	1. Menguasai asas nombor 3-30 2. Mengenal simbol tambah dan tolak 3. Boleh menulis nombor 4. Mengenal nilai tempat : ratus, puluh, dan
 FAIRHAZ HENRY SORANAH BIN SAPIEE	DI SLEKSI A	1. Menguasai asas nombor 3-30 2. Mengenal simbol tambah dan tolak 3. Boleh menulis nombor 4. Mengenal nilai tempat : ratus, puluh, dan

Impact of Best Practices Implemented

The aboriginal students and special education student's worksheet which is in the form of a set of mathematical additions questions in HOMIE technique show that all the students can answer all the additions operations accurately. Figure 5 show the HOMIE Technique used by students.

Figure 5: HOMIE Technique



The educators think that the HOMIE Technique has helped the aboriginal students and special education students in connecting their existing knowledge with the new knowledge. This is because the students have a basic knowledge in counting mathematics. This process involves building upon the existing knowledge of counting and applying it to addition operations. By applying HOMIE techniques the aboriginal and special education students understand how counting can be extended to solve more complex problems and it lays the foundation for further mathematical concepts. Figure 6 shows how the HOMIE Techniques help students solve the mathematical problems such as additions;

Figure 6: Respondent Evidences.



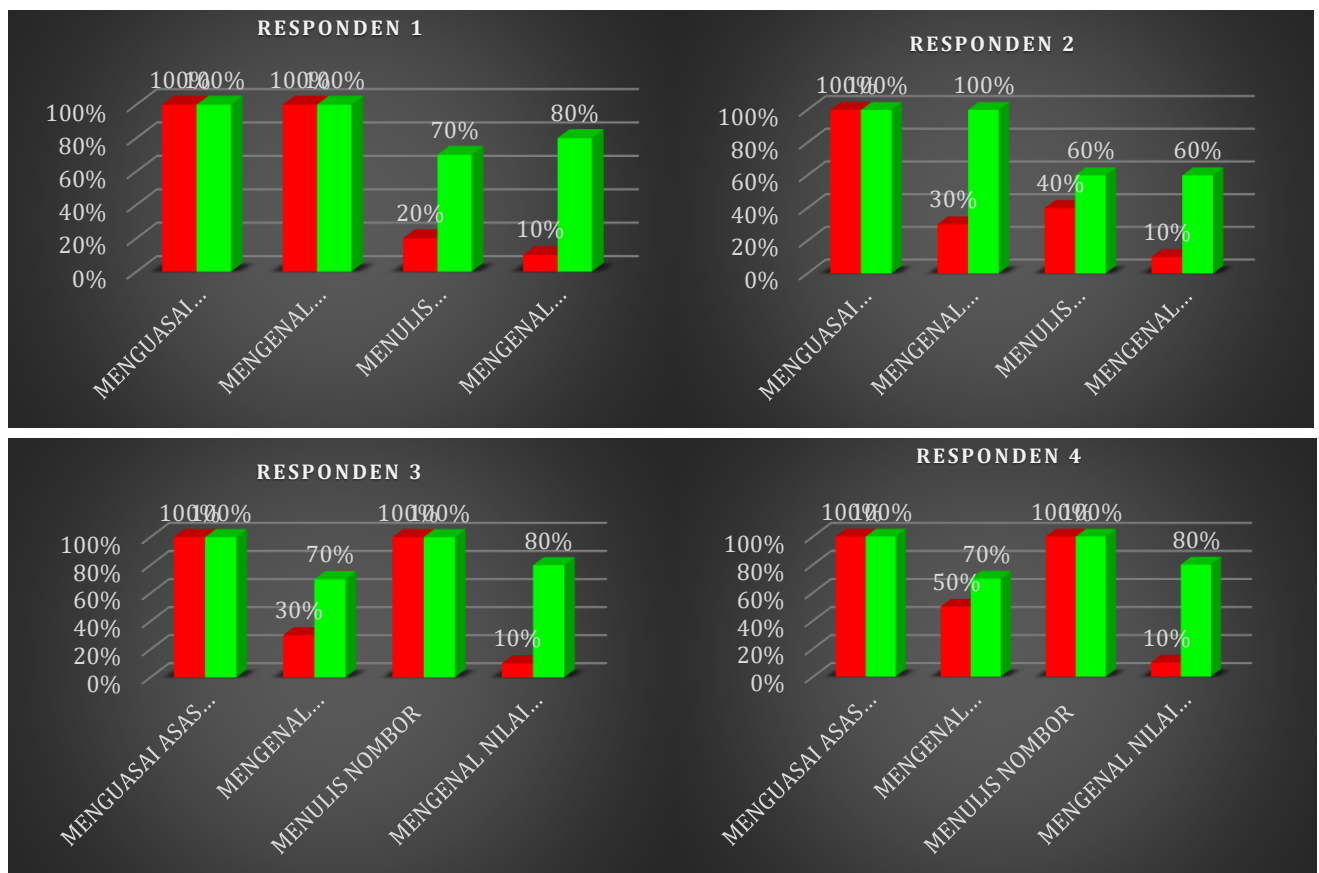
The table 1 below shows the comparison before and after using the HOMIE Technique.

Table 1: Before and after analysis if using HOMIE Technique

BIL	NAME	BEFORE HOMIE	AFTER HOMIE	INCREMENT
1	ABORIGINAL STUDENT (R1)	10%	80%	70%
2	ABORIGINAL STUDENT 2 (R2)	10%	60%	50%
3	SPECIAL EDUCATION STUDENT 3 (R3)	10%	80%	70%
4	SPECIAL EDUCATION STUDENT 4 (R4)	10%	80%	70%

The figure 7 below shows the comparison before and after using the HOMIE Technique from document analysis.

Figure 7: Graph Analysis before and after using HOMIE technique.



Summary and recommendations

In mathematics, there are various techniques that can be used to help solve problems and understand complex concepts. Applying HOMIE Technique to aboriginal students and special education students shows success because of the achievement in objectives. The HOMIE Technique is diversified teaching and learning methods and improve teaching practices in addition skills. The HOMIE Techniques achieves three themes have been identified which is computational efficiency, having a clear set of behavioural definitions, and creating stable interest and emotions. Patry (2010) stated that activities involving materials have given positive results to learning through minds-on and hands-on activities where HOMIE Technique emphasizes the concepts of minds-on and hands-on, where the aboriginal students and special education students have to write in HOMIE Technique and find the puzzles in the answer sheet that have been prepared. Overall, HOMIE Technique has achieved the general and specific objectives, which is to improve the percentage of understanding of mathematical addition operational skill among aboriginal students and special education students. in addition, this technique can also improve the understanding of students' mastery of skills and can attract students' interest when doing mathematical tasks. In conclusion, thorough HOMIE Technique implementation can improve self-practice of the educator who in planning and implementing teaching skills and activities, several aspects can be taken into accounts, such as increase motivation, build creative activities or teaching aids and the effectiveness to deliver the concepts of addition to the students.

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