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Improving letter recognition skills through multisensory methods in Grade 1 Students at UPTD SD Inprens Sikumana 3, Kupang City

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ABSTRACT

The multisensory method is a learning approach that has been proven effective for helping students with early reading difficulties, especially in the letter recognition stage. This approach integrates various senses simultaneously, so that students not only see and hear letters but also touch and engage in physical activities related to the shape and sound of letters, making the learning process more concrete, interesting, and aligned with students' learning styles. This study aims to improve the early reading skills of first-grade students at UPTD SDI Sikumana 3 in Kupang City by applying the multisensory method through Classroom Action Research (CAR) conducted in two cycles, focusing on the aspects of the learning process and outcomes. The results show a significant increase in students' reading skills, from 15% of students who achieved mastery at the beginning to 90% at the end of cycle II. However, one student still needed additional help, so differentiated learning strategies were applied. Overall, the application of the multisensory method has been proven to improve the effectiveness of early reading instruction, but it still requires continuous evaluation and adjustment for optimal results.

INTRODUCTION

The learning process in the early stages of elementary school is a fundamental foundation in the formation of students' cognitive, affective, and psychomotor capacities (Amin et al., 2023). One crucial element that forms the basis for successful learning at subsequent levels is basic literacy skills, particularly the ability to identify letters. Letter identification serves as the first step in the reading process (Dasan, 2025). Delays or difficulties in reading will have consequences on other learning processes (Lestari & Hadikusuma, 2024). This capacity is not merely an academic competency, but also an integral component of children's language and logical thinking development, which plays an important role in fostering an interest in reading from an early age (Ginting et al., 2025).

At the lower grade levels, students will begin with the initial reading learning stage. This stage is an important foundation for developing more advanced reading skills, such as reading quickly, reading extensively, and reading comprehension. Therefore, teachers have a strong focus on optimizing the development of students' initial reading skills (Chairina, 2020). Reading is taught from the early grades with a clear objective, namely to transform students from a state of not understanding to being able to recognize written language symbols, pronounce them correctly, and understand the messages they contain (Aprilia et al., 2021). According to Piaget (1973), children of elementary school age are in the concrete operational phase, where they learn more effectively through direct experience and activities that involve various senses. Therefore, early reading instruction, including letter identification, should be designed to be concrete and multisensory in order to suit the characteristics of child development.

However, the reality on the ground shows that many elementary school students, especially those in the early grades, still have difficulty identifying letters and associating them with the correct sounds. This phenomenon is even more pronounced in urban areas. Data from the 2018 PISA (Programme for International Student Assessment) shows that Indonesia is still below the OECD average in terms of learning motivation, with only 58% of students feeling motivated to learn

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consistently (Rifaaldi & Hadijah, 2021). Teachers often use lecture methods, memorization methods, and repetition without giving students the opportunity to explore through multisensory experiences that can activate their full sensory potential. To increase motivation, it is important for teachers to create a fun learning environment and use varied learning methods and interesting learning media. Choosing the right learning strategy can make it easier for students to understand lessons effectively (Destian et al., 2022).

In addition to learning factors, the transformation of contemporary lifestyles also influences children's learning patterns. In the context of technological proliferation, particularly the use of electronic devices and smartphones, elementary school students' concentration on learning faces significant challenges (Fauziddin & Adha, 2024). Students often experience a lack of focus on academic material due to the proliferation of recreational applications and social networks that are easily accessible. Furthermore, this interference also triggers irregular sleep patterns (Ramadhani & Agusta, 2025). As a result, learning activities at school often feel boring and lack sensory stimulation. The long-term effects include mental fatigue, difficulty concentrating, and delays in internalizing fundamental literacy concepts such as letter identification.

To address this issue, teachers need to use more innovative learning strategies that are appropriate for children's developmental characteristics. One strategy that is considered effective is the multisensory method. The application of the multisensory method, developed by Grace M. Fernald and Gillingham-Stillman (Teitelbaum, 1997), utilizes four sensory modalities simultaneously (visual, auditory, kinesthetic, and tactile), emphasizing word shape perception, visual word image development, and habit formation through repeated writing until it becomes an automatic movement pattern. The multisensory method is an exercise that uses all of a child's active senses to help them recognize and learn something (Muawwanah & Supena, 2021). The multisensory approach in the learning method is a process that utilizes the functions of each of the human sensory organs (Utomo et al., 2023). This strategy encourages students to learn actively, creatively, and enjoyably because it involves direct experience in recognizing language symbols.

Several previous studies support the effectiveness of multisensory strategies in improving early reading skills. A study by Khaq et al. (2023) at MI Roudlotul Wildan showed that the implementation of multisensory methods can address reading difficulties in lower grade students. Through activities that combine the senses of sight, hearing, and body movement, students find it easier to identify letters and remember their shapes and sounds. Similar findings were also reported by Primasari & Supena (2021), who stated that multisensory methods are effective in improving the reading skills of dyslexic students because they help them to associate letter symbols with sounds more strongly through direct experience.

In addition, research conducted by Yatika et al. (2024) shows that the use of block media is effective in improving letter recognition skills in early childhood at RA Zahara Sukabumi. The results of the study show that after applying block media in two learning cycles, students' abilities improved significantly, with more children reaching the expected development category. Although there were several challenges in its implementation, block media proved to be able to increase children's involvement, focus, and motivation to learn in the process of letter recognition. Similar findings were also obtained by Isroyati et al. (2024), showing that the application of multisensory methods is effective in improving language skills in children with autism. The results of the study showed a significant increase in students' speaking skills, understanding of instructions, and learning motivation after the application of this method.

Although previous studies have shown the effectiveness of multisensory methods in improving early reading skills, most of these studies have focused on students with learning disabilities such as dyslexia or have been conducted in inclusive schools. This study offers something new by applying multisensory methods to first-grade students in elementary schools, particularly UPTD SD Inpres Sikumana 3, who experience early reading difficulties without specific disorders. In addition, this study emphasizes the implementation of multisensory activities that are adapted to the actual conditions in lower grades, so that the results are expected to become a practical learning model that is easy for teachers to apply in the context of regular elementary schools in urban areas.

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Thus, the multisensory method is believed to have a significant positive impact on the development of students' early literacy skills. This strategy not only pays attention to children's cognitive aspects but also their affective and psychomotor aspects, which are very important in early childhood. In addition, the implementation of the multisensory method can help teachers create a more interactive and enjoyable learning atmosphere, thereby increasing students' motivation to learn. This is in line with the principle of student-centered learning, where children are the main subjects in the learning process, not merely recipients of information.

At UPTD SD Inpres Sikumana 3, there are still a number of first-grade students who have difficulty identifying letters, both in terms of shape and sound. Students often confuse similar letters such as "b," "d," or "p," and take a long time to remember certain letters. This indicates the need for innovation in learning strategies that not only focus on repetitive writing and reading exercises, but also provide concrete and engaging learning experiences. Through the implementation of multisensory methods, it is hoped that students will be able to more easily understand and remember letters by engaging all of their senses.

Therefore, this study is important to determine how the implementation of multisensory methods can improve the ability to identify letters in first-grade students at UPTD SD Inpres Sikumana 3 who experience early reading difficulties. The novelty of this study lies in the implementation of multisensory methods in the context of regular elementary schools in urban areas with contemporary social characteristics. The results of this study are expected to not only provide practical solutions for teachers in improving students' early literacy, but also contribute to the development of a more effective, interactive learning model that is in line with the developmental needs of early childhood.

RESEARCH METHODS

This study applies the Classroom Action Research (CAR) approach. Operational research aims to develop concepts and ideas that can be applied in classroom learning practices (Azizah, 2021). According to Wijaya & Syahrum (2013), CAR is a reflective and collaborative method. Classroom Action Research is conducted by teachers through reflection on the learning process in their own classrooms to improve the quality of learning. The location of the research was UPTD SD Inpres Sikumana 3, located in Sikumana Village, Maulafa District, Kupang City, East Nusa Tenggara Province. The population in this study included all first-grade students, totaling 30 students, consisting of 16 boys and 14 girls. From this group, the researcher selected 18 students as samples. The selection was carried out using purposive sampling, which means it was based on certain predetermined criteria. This research was conducted in October 2025. The timing coincided with the odd semester of the 2025/2026 academic year.

The implementation of the activities consists of two cycles. Cycle I focuses on applying multisensory methods through letter recognition activities using letter cards, phonetic songs, and simple body movements. Cycle II emphasizes more complex multisensory activities, such as playing with plasticine to form letters, tracing letters with fingers on colored sand, and pronouncing letter sounds rhythmically. Each cycle consists of four stages, as illustrated in the following figure.

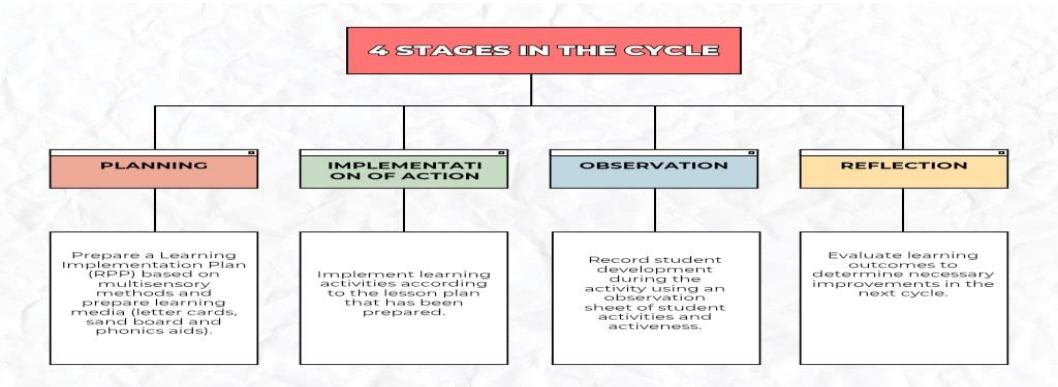

Figure 1. Stages in The Cycle

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The instruments used included student activity observation sheets, used to assess student involvement in each multisensory activity; letter recognition tests, containing tasks to recognize and name letters with the appropriate shapes and sounds, which were given at the pre-action stage, at the end of cycle I, and at the end of cycle II; and field notes, used to document student responses and obstacles encountered during the learning process.

Data was collected through three main techniques, namely direct observation of student activities during the learning process, learning outcome tests to measure improvements in letter recognition skills, and documentation in the form of photos of activities, student work, and teacher reflection notes. The data was analyzed using descriptive qualitative and quantitative approaches. Qualitative analysis was used to examine the results of observations and field notes, while quantitative analysis was used to calculate the improvement in letter recognition skills using the following individual and classical learning completeness formulas.

$$\mathrm{P} = \frac{X}{N} \text{ x } 100\%$$

$\mathrm{P} =$ Percentage of learning completion

$\mathrm{X} =$ Number of students who achieved a score of ≥ 70

$\mathrm{N} =$ Total number of students

Learning is considered successful if ≤ 85% of students achieve individual learning mastery at the end of cycle II.

RESULTS AND DISCUSSION

Initial Description

Based on initial observations of 18 students in grade I at UPTD SD Inpres Sikumana 3, the data shows that the majority of students are not yet proficient in recognizing letters. Only about 15% of them, or 3 students, can accurately name and distinguish letters, while 85% of students, or 15 people, still have difficulty identifying letters both visually and auditorily. The most prominent problem is the difficulty in distinguishing letters with similar shapes, such as “b”, “d’, “p”, and “q”, as well as letters with double consonant sounds, such as ng and ny. This indicates the need for a more effective learning approach to help students overcome these obstacles.

In addition, interviews with classroom teachers revealed that previous teaching methods still relied on traditional methods, such as writing exercises and memorizing letters, without utilizing activities that engaged multiple senses. As a result, students often felt bored and lacked concentration during the learning process. This condition prompted researchers to implement a more engaging multisensory method that engaged all of the children’s senses, making learning more effective and enjoyable.

Implementation of Cycle I

1. Action Planning

During the planning stage, teachers develop lesson plans based on multisensory methods using various media such as picture cards, phonetic songs, and simple body movements for each letter. The main objective of this activity is to introduce the shapes and sounds of letters through the integration of sight, hearing, and motor skills, which is expected to improve students’ holistic understanding.

2. Implementation of Actions

This activity was carried out over four sessions. Each session began with an introduction through an alphabet song to create a positive learning atmosphere, followed by an introduction to letters using picture cards and physical activities corresponding to the sounds of the letters. For example, when introducing the letter A, students are asked to say the sound “a” while opening their arms wide, imitating the mouth movement when pronouncing the letter. This helps students connect the sound with physical movement, making learning more interactive.

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At the end of each session, students are asked to guess letters based on their sounds and copy the letters in the air using their fingers, which is a kinesthetic activity to strengthen motor memory. This approach is designed to make learning more dynamic and encourage active student participation.

3. Results of Cycle I Observations and Tests

The results of the observation show progress in student activity and enthusiasm during the activity. From the activity observation sheet, 70% of students were categorized as active, 20% as fairly active, and 10% as still passive, indicating an overall increase in motivation.

Based on the letter recognition test, there was an increase in learning completeness from 15% in the pre-cycle to 60% at the end of cycle I. However, there were still 7 students who did not achieve the minimum passing score of 70. The main difficulty that remained was the ability to connect the shape of the letter with its sound, especially for consonants, which required further adjustments in the learning method.

4. Reflection on Cycle I

Through reflection with teachers, it was found that the use of media was not yet sufficiently diverse, and some students needed activities that emphasized tactile experiences. Therefore, for cycle II, more concrete activities were designed to involve the sense of touch through materials such as plasticine, colored sand, and letter tracing games. This aimed to enrich the learning experience and address the identified shortcomings.

Implementation of Cycle II

1. Planning and Implementation

Cycle II was conducted over four meetings with a focus on more interactive and exploratory learning. Teachers encouraged students to:

a. Forming letters using plasticine, which trains creativity and physical touch.
b. Trace letters on colored sand media, which provides a visual and tactile experience.
c. Pronouncing letters rhythmically while clapping your hands, combining hearing with rhythmic movement.

This activity is designed so that students not only recognize letters through sight and hearing, but also feel the shape of letters through touch and fine motor movements, making learning more profound and memorable.

2. Results of Cycle II Observations and Tests

Observations showed a significant increase in student participation. All students appeared enthusiastic, actively asked questions, and were fully engaged in every activity. Based on the observation sheets, 90% of students were categorized as very active, while the remaining 10% were active but still required intensive guidance.

From the final test of cycle II, 90% of students (16 out of 18 students) achieved learning completeness with a minimum score of 70. Only 2 students (10%) were still below the minimum passing grade, mainly due to a lack of focus and difficulty distinguishing letters with similar phonemes. Thus, classical mastery increased from 60% in cycle I to 90% in cycle II, exceeding the research success criteria set at 85%.

3. Reflection on Cycle II

Reflections confirm that multisensory methods are highly effective in improving letter recognition skills. Activities that engage the senses of sight, hearing, movement, and touch help students remember letters longer and understand the relationship between the shape and sound of letters. Teachers report that the learning atmosphere has become more lively and enjoyable, and students show increased confidence when reading, which is a positive indicator of the success of this method.

Analysis of Student Ability Improvement

A comparison of learning outcomes between stages can be seen in the following table.

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Table 1. Student Learning Outcomes at Each Stage

Learning Stage	Number of Students Completing the Program	Percentage of Completion
Pre-Action	3 students	15%
Cycle I	11 students	60%
Cycle II	16 students	90%

This data illustrates a gradual improvement in letter recognition skills after the implementation of the multisensory method. The 75% improvement from the initial condition proves that this strategy has a real and significant impact on student learning outcomes, with positive implications for early childhood education development. In addition, field notes show that most students experienced positive behavioral changes, such as:

a. Students are more focused and motivated in their studies, as reflected in their active participation.
b. They often repeat the sounds of letters enthusiastically, showing increased interest.
c. Students are able to recognize letters in the context of simple words, expanding their understanding.
d. They are beginning to read syllables fluently, which is a step forward toward basic literacy.

Overall, the application of multisensory methods not only improves students' cognitive abilities but also builds a positive emotional foundation for long-term learning.

Discussion

The results of the study indicate that the implementation of the multisensory method can improve the ability to recognize letters in first-grade students at UPTD SD Inpres Sikumana 3. Based on the data from the actions taken, there was an increase in learning completeness from 15% before the action to 90% at the end of cycle II. This increase shows that the participation of various senses in the learning process can strengthen children's understanding of letter concepts and sounds at the elementary school level.

Effectiveness of Multisensory Methods in Letter Recognition

The findings of this study support Piaget (1973) theory of cognitive development, which states that elementary school children are in the concrete operational stage, where they learn most effectively through direct activities that involve multisensory experiences. Using this method, teaching letters not only covers visual and auditory aspects, but also includes kinesthetic and tactile elements, making the learning process more meaningful and memorable.

Activities such as singing phonetic songs, tracing letters with fingers on colored sand, and forming letters from plasticine help students connect the shape of letters with their sounds through direct experience. Similar results were also seen in the study by Khaq et al. (2023) at MI Roudlotul Wildan, which proved that multisensory methods are effective in improving early reading skills in lower grade students. Through the integration of visual, auditory, and kinesthetic aspects, students can remember the shapes and sounds of letters better than with conventional methods. Therefore, the findings in this study reinforce empirical evidence that a multisensory approach can be an effective learning strategy in early elementary school classrooms.

Improvement in Student Activity and Motivation to Learn

In addition to improving academic abilities, the multisensory method also has a positive impact on student activity and motivation to learn. Based on observation results, student activity increased from 75% in cycle I to 90% in cycle II. Students appeared more enthusiastic, actively participated, and showed a high level of interest in learning activities involving songs, colors, and body movements.

This confirms that early childhood literacy needs to be developed through authentic and meaningful learning experiences. When children are emotionally and physically involved in learning activities, their intrinsic motivation increases. The multisensory process provides such experiences because activities such as singing or tracing letters directly create a sense of joy and a deep understanding of the material being learned.

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Behavioral Changes and Early Literacy Skills

Field notes show positive behavioral changes after implementing the multisensory method. Students who were previously passive became more confident and able to work together in small groups. They began to be able to pronounce letters correctly, correct their own mistakes, and demonstrate the ability to read simple syllables. These changes indicate that the multisensory method has an impact not only on the cognitive domain, but also on the affective and psychomotor aspects. Children gain a complete and meaningful learning experience through a combination of listening, seeing, touching, and moving activities.

This study also supports the findings of Primasari & Supena (2021), who found that multisensory methods are effective in improving reading skills in children with learning disabilities such as dyslexia. In the context of this study, although the subjects were not children with specific disorders, the same approach still yielded positive results because each child had the opportunity to learn according to their learning style.

Challenges and Reflections on Implementation

Although showing satisfactory results, the implementation of the multisensory method also faces several obstacles. Two students have not yet achieved learning mastery because they lack focus and need more time to recognize letter sounds. This shows that each child has a different learning speed and sensory preferences, as stated by Kolb (1984) in his experiential learning theory that the learning process is individual and highly dependent on the experiences of each student.

In addition, multisensory activities require teachers to be prepared in managing the classroom and preparing various learning media. Teachers need to make careful plans so that activities remain focused and learning time can be used optimally. However, these challenges can be overcome through collaboration between teachers, the use of local learning resources, and the development of simple media based on the surrounding environment.

From the overall discussion, it can be concluded that the implementation of the multisensory method in first grade students at UPTD SD Inpres Sikumana 3 was able to increase their ability to recognize letters from 15% to 90% classical mastery, increase student motivation, activity, and self-confidence, develop cognitive, affective, and psychomotor skills in an integrated manner, and make learning more enjoyable and meaningful. as well as requiring adaptive and sustainable learning management. Thus, the multisensory method has been proven to be effective, innovative, and relevant for application in early reading learning in elementary schools.

The results of this study provide practical contributions to the development of literacy learning in elementary schools. First, the multisensory method has been proven effective in improving letter recognition skills because it is tailored to the developmental characteristics of early childhood. Second, this approach can be an alternative learning strategy that is enjoyable and participatory. Third, its application helps teachers understand the importance of differentiated learning to accommodate the diversity of student learning styles.

Theoretically, the results of this study reinforce Piaget (1973) concrete operational theory and Kolb (1984) experiential learning principle, both of which emphasize the importance of real experiences in the formation of learning concepts. In the context of early reading, the multisensory method becomes a concrete tool that allows children to experience, manipulate, and understand letters through direct interaction.

Empirically, the results of this study are in line with the findings of Khaq et al. (2023) and Primasari & Supena (2021), which show that multisensory-based learning can accelerate the process of recognizing letters and sounds and improve student memory retention. The novelty of this study lies in its application in regular elementary schools, rather than in inclusive schools, so that the results provide a new contribution to the development of learning practices in public schools.

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CONCLUSION

Based on the findings of research conducted at UPTD SD Inpres Sikumana 3, Kupang City, it can be concluded that the use of multisensory methods has successfully improved early reading skills, especially in terms of letter recognition, in first grade students. The students' pass rate showed significant progress from 15% at the beginning of the study to 90% at the end of cycle II, indicating that the participation of various senses (such as sight, hearing, touch, and movement) in the learning process can deepen children's understanding of letter concepts and sounds at the elementary school level. This approach not only affects cognitive aspects but also enhances internal motivation, active participation, self-confidence, and the overall affective and psychomotor skills of students.

Based on the results of this study, it is recommended that further research explore the use of multisensory methods in a broader context, such as in different grade levels or other literacy materials, to see the consistency of its effectiveness. Further research could also add other variables, such as the role of the learning environment, parental involvement, or the use of multisensory digital media, to identify factors that further strengthen the improvement of early reading skills. In addition, comparative studies with alternative learning methods could provide a more comprehensive picture of the advantages and limitations of multisensory methods in basic literacy learning.

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