

The Importance of Principal's Strategy in Improving Literacy and Numeracy Skills of Students at SMP Negeri 3 Waingapu

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ABSTRACT

Literacy and numeracy skills are important foundations in education that determine the success of students in facing future challenges. Literacy includes the ability to read, write, and understand information, while numeracy involves logical and critical thinking skills in solving mathematical problems. Principals, as educational leaders, play a crucial role in improving these two skills through effective strategies. The results of this study discuss the importance of the role of principals in building a culture of literacy and numeracy, improving teacher competence, using technology, involving parents and the community, and conducting monitoring and evaluation. This study uses qualitative methods to analyze the strategies implemented by principals in improving literacy and numeracy. The place that is the object of the study is SMP Negeri 3 Waingapu, East Nusa Tenggara. With the right strategy, principals can create a learning environment that supports improving student literacy and numeracy. Thus, it can produce graduates who have critical thinking skills and can compete globally.

Keywords : Strategy; Principal; Literacy; Numeracy

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INTRODUCTION

Education is a long-term investment to build a quality and competitive generation. In this context, literacy and numeracy are two basic skills that must be mastered by students. Literacy is not just the ability to read and write, but also includes understanding, analyzing, and applying information. Meanwhile, numeracy involves the ability to think logically and critically in solving mathematical problems and their application in everyday life.

According to Frank Smith (2011) literacy is a process of understanding and communication. According to him, literacy allows individuals to engage with texts, understand different perspectives, and broaden their horizons. Smith also argues that good reading skills help individuals develop imagination, empathy, and analytical thinking skills (Smith, 2011) . Meanwhile, Numeracy Literacy according to Jo Boaler (2016), a professor of mathematics education at Stanford University, is more than just the ability to count. Thinking logically, solving problems, and understanding data in various everyday life situations are all part of numeracy literacy. Boaler emphasizes that these skills are important for building students' confidence in using mathematics, both in education and in real situations (Boaler, 2016) .

Data and facts show that literacy and numeracy skills in Indonesia, especially in the Province of East Nusa Tenggara (NTT), are still at a concerning level. Based on a report from the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek), literacy and numeracy skills in NTT at the high school level are still low. In addition, a study conducted by the Ministry of Education, Culture, Research, and Technology revealed that students in NTT are lagging behind in literacy aspects equivalent to 16 months of learning, and in numeracy aspects are lagging between 33 and 39 months compared to students

outside the province. This is due to limited Indonesian language skills, where in 2021, as many as 1.3 million school-age children in NTT were not yet able to speak Indonesian well.

The Community Literacy Development Index (IPLM) in NTT also showed a significant increase, from 8.95 in 2020 to 67.52 in 2022. However, this figure still shows that efforts to improve literacy need to be continuously improved to achieve national standards. These data emphasize the urgency of research on the strategies implemented by school principals in improving literacy and numeracy in NTT, especially at SMP Negeri 3 Waingapu, to understand and overcome the challenges that exist in efforts to improve the quality of education in the region. This is a major challenge for the world of education, especially for school principals as leaders at the educational unit level. The principal is not only responsible for managing school administration, but must also be able to design and implement effective strategies to improve the quality of learning, especially in literacy and numeracy. This study will discuss the importance of the principal's strategy in improving both of these abilities.

Based on the results of educational surveys, such as *the Programme for International Student Assessment* (PISA) in Indonesia, students' reading and numeracy literacy skills still require serious attention. The results of this survey show that the performance of most students is still below the expected competency standards. As reported by mediaindonesia.com, Indonesia's PISA scores in reading, mathematics, and science will reach an average of 400 in 2022, placing the country in 68th place out of 81 countries. These results show a learning loss of 12-13 points compared to 2018, ranking 74 out of 79 countries. Therefore, improving literacy skills is the main focus in efforts to improve the quality of education in Indonesia.

Theoretically, the low quality of students' numeracy literacy can be explained through various factors rooted in educational theory, psychology, and sociology. In this case, it can be seen from two factors, namely internal and external factors. According to cognitive theory by Piaget (1970), children's cognitive development goes through certain stages. If a child has not reached the concrete operational or formal operational stages, the ability to understand abstract numeracy literacy concepts may be hampered. In other words, the uncertainty of students to receive complex material can lead to low literacy and numeracy skills. Another intrinsic factor, according to the learning motivation theory by Deci & Ryan (1985), is that low intrinsic motivation can affect students' interest in learning. Lack of motivation can be caused by positive reinforcement or the relevance of the material to everyday life.

In addition to the internal factors above, there are also external factors that influence the low literacy skills of students in numeracy. First, based on the theory of school effectiveness, according to this study, school effectiveness, teacher quality, curriculum and school management greatly affect student learning outcomes. Low teacher competence in teaching literacy and numeracy, lack of learning resources can hinder the development of this ability. Another theory that supports this is the theory of social interaction by Vygotsky (1978), that literacy and numeracy develop through social interaction between teachers, students and peers. If the classroom environment does not support collaborative learning, students' ability to understand the material can be hampered. Then, inappropriate curriculum factors and teaching methods can also hinder the improvement of students' literacy and numeracy skills. Based on the theory of behavioristic learning, teaching methods that emphasize memorization without understanding concepts can cause students to only be able to work on questions mechanically without understanding their true meaning. In addition, constructivist learning theory also explains that if learning is not designed to involve students in problem-solving activities and practical applications, their literacy and numeracy skills will not develop optimally.

The role of the principal is very important in this context, because the external factor causing low literacy and numeracy skills is the school. Improving the quality of education is determined by an effective principal strategy system. In accordance with the leadership theory by Sergiovanni (1984), effective educational leadership involves the principal's ability

to motivate, direct, and facilitate the development of student and teacher competencies (Sergiovanni, 1984). The principal as an educational leader in the school must be able to design innovative strategies and support the creation of a conducive learning environment to achieve educational goals, including in the development of student literacy. Robbins and Coulter (2010) also emphasize the importance of the principal's role in mobilizing all elements in the school to work together to achieve the school's vision and mission (Robbins & Coulter, 2009). This can be done through various strategies, such as improving the quality of teaching, providing adequate learning facilities, and involving teachers and parents in literacy improvement programs.

There are several theories and approaches in education that support that the principal's strategy can improve students' literacy and numeracy skills. First, the transformational leadership theory by Bass & Avolio (1994) emphasizes the importance of the principal to be able to inspire and motivate teachers and students to achieve educational goals. In terms of literacy and numeracy, a principal who has a strong vision of the importance of this can guide teachers to apply innovative learning methods, provide training or workshops, and create a supportive school culture. Kotter's theory of organizational change also emphasizes steps to create sustainable change in an organization, namely seeing the urgency, the principal needs to emphasize the importance of literacy and numeracy for the future of students, create a strategic vision to improve students' literacy and numeracy skills and in the implementation the principal needs to oversee the implementation of literacy and numeracy programs effectively by supervising and evaluating teaching practices.

The principal's strategy consists of a series of activities to utilize all human and non-human components in the school to achieve efficient goals. The principal's main strategic goal is to create an environment that supports an effective and efficient learning process, as well as achieving the educational goals that have been set (Octaviyani, 2023). By implementing effective strategies, school leaders can help students develop literacy skills that are useful not only in the teaching and learning process at school but also in everyday life. Therefore, research on school principals' strategies for improving students' reading literacy and numeracy is very relevant to carry out, as an effort to support overall improvement in the quality of education.

In fact, it is related to the realization of students' literacy and numeracy skills not only through the application of certain methods. But also, influenced by various aspects ranging from the school environment, school facilities and infrastructure, principal leadership, educators, school culture, curriculum, and learning approaches. The Ministry of Education and Culture of the Republic of Indonesia (2020) mentions the importance of a supportive learning environment such as a school library to realize a culture of literacy. UNESCO (2006) in "Education for All: Literacy for Life" emphasizes the importance of access to resources such as books and the latest technology. Furthermore, the curriculum needs to be integrated with literacy. The Curriculum Development Center (CDC) in the "Framework for Literacy Development" (2012) suggests that the integration of literacy in all subjects will have a greater impact on students' literacy skills. Furthermore, teachers who are competent in teaching literacy. Darling-Hammond, L., et al. (2017), in "Effective Teaching Strategies for Literacy Education," emphasizes the role of teachers who have literacy skills in maximizing students' potential. Hattie, J. (2018) in his book *Visible Learning* states that teacher competence is one of the most significant factors in supporting the development of students' literacy skills. An interactive learning approach also needs to be applied. Vygotsky (1978) in his theory of Social Development Theory states that social interactions, such as group discussions, are very important in the development of students' cognitive and literacy. The National Reading Panel (2000) also emphasized the importance of an interactive and collaborative activity-based learning approach in literacy teaching. Finally, school leadership significantly influences literacy achievement. Principals who prioritize literacy create a supportive environment by facilitating professional development and using assessments to track student progress.

METHOD

This study uses a qualitative approach with the aim of analyzing the strategies implemented by the principal in improving literacy and numeracy at SMP Negeri 3 Waingapu, East Nusa Tenggara. The qualitative approach was chosen because it allows researchers to understand the phenomenon in depth through the perspective of the research subject, as well as providing a comprehensive picture of the strategies implemented in the school context. The type of research used is a case study, which aims to explore in depth how the strategies implemented by the principal contribute to improving literacy and numeracy. Case studies allow researchers to explore policies, programs, and challenges faced in implementing these strategies.

This research was conducted at SMP Negeri 3 Waingapu, East Nusa Tenggara. This school was chosen as the research location because it has characteristics that are relevant to the focus of the research, especially in the implementation of literacy and numeracy improvement strategies at the junior high school level. The subjects in this study include the principal as the holder of strategic policies, teachers as program implementers, and students as beneficiaries of the strategies implemented. Data will be obtained through interviews, observations, and documentation to understand the dynamics of strategy implementation in schools. To obtain accurate and in-depth data, this study uses data collection techniques in the form of interviews with the principal, teachers, and students to understand the strategies implemented and their impact on literacy and numeracy, observations to directly observe the implementation of strategies in the school environment including teaching methods, student involvement, and literacy and numeracy activities, and documentation to collect supporting data such as school policies, academic reports, and programs that have been implemented in an effort to improve literacy and numeracy.

The data obtained were analyzed using qualitative data analysis techniques, which include data reduction, data presentation, and drawing conclusions. Data reduction is done by filtering relevant information, data presentation is done in descriptive form, and conclusions are drawn based on the patterns of findings in the study. By using this qualitative method, the study is expected to provide deeper insight into the principal's strategy in improving literacy and numeracy and its implications for improving the quality of education at SMP Negeri 3 Waingapu.

FINDINGS AND DISCUSSION

The results of the study indicate that the principal plays a key role in improving literacy and numeracy at SMP Negeri 3 Waingapu. Various strategies have been implemented to create a conducive learning environment and encourage the development of students' literacy and numeracy competencies.

Building a Culture of Literacy and Numeracy at SMP Negeri 3 Waingapu

The principal of SMP Negeri 3 Waingapu strives to instill a culture of literacy and numeracy as part of students' daily lives through various programs aimed at improving reading and numerical thinking habits in the school environment. One of the steps taken is to provide a reading corner in each class, equipped with various reading books according to the students' education level, such as story books, encyclopedias, and enrichment books. With this reading corner, it is hoped that students' interest in reading can grow from an early age. In addition, the school also implements a 15-minute reading program before lessons start, where students are required to read independently under teacher supervision. This program has been implemented consistently to train reading skills while improving students' understanding of various reading texts. In addition to building reading habits, teachers at SMP Negeri 3 Waingapu are also directed to integrate literacy and numeracy skills in daily learning. For example, in science subjects, students not only read lesson texts but also

analyze experimental data involving numbers and graphs, so that they are accustomed to connecting literacy concepts with numeracy in their academic lives.

Improving Teacher Competence through Training

One of the principal's main focuses in improving the quality of literacy and numeracy at SMP Negeri 3 Waingapu is to develop teacher competency through various trainings aimed at improving teaching skills. The principal collaborates with the East Sumba Regency Education Office in organizing interactive reading technique workshops, where teachers are given an understanding of how to guide students in reading through discussions, questions and answers, and deeper text analysis. With this method, it is hoped that students will not only read but also be able to understand the contents of the reading critically. In addition, the principal also encourages teachers to take part in fun mathematics learning training to overcome the assumption that mathematics is a difficult subject. In this training, teachers are taught game-based teaching methods that make students more interested and active in learning mathematics.

Utilizing Technology in Learning

SMP Negeri 3 Waingapu has begun to adopt technology in learning to increase students' interest in literacy and numeracy. The principal took the initiative in utilizing technology in various ways, one of which is through the use of educational applications such as Kelas Pintar, Ruang Guru, and Khan Academy. These applications allow students to learn independently with materials presented in an interactive and interesting format. In addition, even though it is located in an area with limited internet access, the school still utilizes online learning platforms such as Google Classroom and WhatsApp to help communication between teachers and students, especially during the COVID-19 pandemic. In this way, the learning process continues even in challenging conditions. Not only that, in numeracy learning, the principal also tries to introduce digital teaching aids, such as interactive calculators and animated math videos, so that students can more easily understand abstract concepts.

Involve Parents and the Community

The success of literacy and numeracy does not only depend on schools, but also involves the active role of parents and the community. The principal of SMP Negeri 3 Waingapu realizes the importance of this collaboration and has implemented various strategies to increase their involvement in the education process. One of the efforts made is to hold workshops for parents regularly. This workshop aims to provide parents with an understanding of how they can help children improve reading and numeracy skills at home. In addition, the school also partners with literacy communities in East Sumba, such as Rumah Baca Waingapu, to organize joint reading activities. In this activity, students, teachers, and community members are involved in book discussions and storytelling sessions that aim to foster reading interest among students.

Conduct Continuous Monitoring and Evaluation

In order for the implemented strategy to run well and achieve the expected results, the principal of SMP Negeri 3 Waingapu conducts regular monitoring and evaluation. One of the steps taken is collecting student development data through a periodic assessment system. The results of this assessment are used as a basis for developing more effective learning strategies that are in accordance with student needs. If obstacles are found in implementing the strategy, the principal and teachers analyze student development data and develop corrective steps so that the implemented strategy can be more optimal. In addition, the school also implements diagnostic tests to identify student weaknesses in literacy and

numeracy. With the results of this test, the school can provide special interventions for students who have difficulty understanding the material.

Be a Role Model for All School Residents

The principal of SMP Negeri 3 Waingapu understands that good leadership must start from the example given to teachers, students, and the entire school community. Therefore, the principal shows a high commitment to improving literacy and numeracy in various ways. One of them is by actively engaging in reading activities with students. By participating in this activity, the principal wants to instill that literacy culture must be part of everyday life at school. In addition, the principal does not only act as an education manager, but occasionally teaches directly in class to provide examples to teachers on how literacy and numeracy learning strategies can be applied effectively. This is done to ensure that each strategy implemented is not only theoretical, but can also be implemented well in the learning process. In addition, the principal also builds good communication with all parties, including teachers, students, and parents, so that they can jointly contribute to improving the quality of education at school.

The research findings above indicate that the principal of SMP Negeri 3 Waingapu has a very important role in improving students' literacy and numeracy. By implementing various strategies such as building a culture of literacy, improving teacher competence, utilizing technology, involving parents and the community, and conducting continuous monitoring and evaluation, the principal has succeeded in creating a more conducive learning environment. The success of this strategy is highly dependent on the commitment of the principal and the support of all stakeholders. With collaboration between schools, parents, and the community, it is hoped that the improvement of literacy and numeracy at SMP Negeri 3 Waingapu can continue and have a positive impact on students.

Based on the findings that have been described, the strategies implemented by the principal in improving literacy and numeracy have a strong basis in the concept of educational leadership and management. The principal acts as a visionary leader who takes strategic steps to improve the quality of education at SMP Negeri 3 Waingapu. These steps are not only administrative in nature, but also reflect transformation-based leadership, where the principal drives change systematically to create a more advanced academic culture.

In the context of school leadership, Wahjosumidjo explained that the principal has three main roles as a leader, namely encouraging the motivation and enthusiasm of teachers, staff, and students in achieving school goals, providing guidance and direction to the school community, and being an inspiring figure in building a conducive academic culture. These three roles are seen in various strategies that have been implemented by the principal of SMP Negeri 3 Waingapu, such as developing a reading corner in each class, a 15-minute reading program before lessons start, and training for teachers to improve their competence in teaching literacy and numeracy.

In addition, the principal is also responsible for creating a productive climate in the school. This climate is formed through policies that support the development of student and teacher competencies, the use of technology in learning, and the involvement of parents and communities in supporting children's education. According to Sunardi et al. (2019), the success of an educational strategy is highly dependent on the effectiveness of the principal in carrying out various roles, including as an educator, manager, supervisor, administrator, leader, innovator, and motivator.

As an educator, the principal plays a role in ensuring that the learning process takes place optimally. This is reflected in policies that support improving the quality of teaching, such as the implementation of interactive reading technique workshops and fun mathematics learning training. With this training, it is hoped that teachers can apply more effective strategies in teaching literacy and numeracy.

As a *manager*, the principal is responsible for managing school resources so that they can be used optimally to achieve educational goals. Providing reading corners in each class,

utilizing technology in learning, and organizing workshops for parents are concrete examples of how the principal manages available resources to improve students' literacy and numeracy skills.

As a *supervisor*, the principal conducts regular monitoring and evaluation of the effectiveness of the strategies implemented. This process includes collecting student development data, analyzing assessment results, and developing improvement strategies based on evaluation results. In this context, the principal also conducts diagnostic tests to identify student weaknesses in literacy and numeracy, so that appropriate interventions can be provided.

As an *administrator*, the principal is responsible for formulating and implementing policies that support improving the quality of education. The principal's involvement in planning literacy and numeracy programs, setting the schedule for implementing reading activities, and coordinating with the East Sumba Regency Education Office are part of the administrative role carried out.

As a *leader*, the principal plays a role in providing direction to all school residents to have the same vision in improving the quality of education. Strong leadership is seen from the principal's efforts in building a conducive academic culture, both through involvement in reading activities with students and in building good communication with all related parties.

As an *innovator*, the principal must be able to present innovation in the education system implemented in the school. The use of educational applications such as Kelas Pintar, Ruang Guru, and Khan Academy, as well as the use of digital teaching aids in numeracy learning, shows how the principal innovates in increasing students' interest and understanding of literacy and numeracy.

As a *motivator*, the principal tries to create an environment that supports the academic growth of students and teachers. Motivation is provided not only through direction and guidance, but also by providing real examples in building a culture of literacy and numeracy in schools.

According to Afif (1984), educational strategies must be designed as a series of structured activities to achieve certain goals within a certain period of time. This concept is in line with the principal's approach in this study, where various strategies implemented have clear stages, starting from planning, organizing, directing, to controlling. The principal not only designs programs aimed at improving literacy and numeracy, but also ensures that the program can run sustainably through a systematic evaluation process.

In addition, the success of the strategies implemented by the principal also depends on the involvement of various stakeholders, such as teachers, students, parents, and the surrounding community. In this study, the principal of SMP Negeri 3 Waingapu showed how parental involvement can have a positive impact on the development of student literacy and numeracy. Workshops for parents are one of the strategies used to provide an understanding of how they can support children in reading and arithmetic at home. Partnerships with literacy communities such as Rumah Baca Waingapu are also innovative steps in increasing students' interest in reading.

Overall, this study confirms that effective principal leadership, appropriate strategies, and involvement of various stakeholders are key factors in improving literacy and numeracy in schools. Principals who have a clear vision and are able to implement systematic strategies will be more effective in creating a conducive learning environment. With an approach based on continuous planning and evaluation, it is hoped that student literacy and numeracy at SMP Negeri 3 Waingapu can continue to improve.

In addition, this study also shows that the use of technology in education has great potential in improving students' literacy and numeracy skills. Although internet access in the area is still limited, the principal still tries to utilize existing technology, such as the use of Google Classroom and WhatsApp in online learning. This shows that with creativity and innovation, infrastructure constraints can be overcome to support the learning process.

However, this study also revealed several challenges in implementing literacy and numeracy improvement strategies at SMP Negeri 3 Waingapu. One of the main challenges is limited resources, both in terms of school facilities and teacher competence in utilizing technology. Although various trainings have been carried out, there are still obstacles in implementing more innovative learning methods. Therefore, further support is needed from the local government and various related parties to improve teacher capacity and provide more adequate learning facilities.

Another challenge is the level of parental involvement which still varies. Although workshops have been conducted for parents, not all parents can actively participate in supporting their children's education at home. Some parents face obstacles such as limited time and lack of understanding of the importance of literacy and numeracy. Therefore, additional strategies are needed to increase parental awareness, for example through a more flexible and accessible community-based approach.

In theory, the findings of this study support the concept of transformational leadership in education, where the principal acts as an agent of change who not only acts as an administrator, but also as a leader who inspires and motivates all members of the school. This transformational leadership is characterized by a clear vision, innovative strategies, and ongoing efforts to create a better learning environment.

Thus, this study provides an important contribution in understanding how principal leadership can play a role in improving the quality of education, especially in the aspects of literacy and numeracy. The results of this study can be a reference for other schools that want to adopt similar strategies, as well as for the government in designing more effective education policies.

CONCLUSIONS

Based on the findings and discussions in this study, the strategy employed by the principal of SMP Negeri 3 Waingapu in enhancing literacy and numeracy has proven effective, driven by visionary leadership, systematic planning, and the active involvement of teachers, students, parents, and the community. Key strategies include strengthening teacher competence through training such as interactive reading technique workshops and fun math learning sessions; utilizing educational technology despite limited internet access, which has increased student engagement and understanding; involving parents and the community through workshops and collaborations with literacy communities; implementing sustainable monitoring and evaluation through periodic assessments and data analysis to tailor learning strategies; and fostering transformational leadership where the principal serves as a role model, engages in classroom activities, and maintains strong communication within the school. These approaches have led to innovative teaching methods, engaging learning experiences, and adaptable policies that collectively demonstrate that improving literacy and numeracy goes beyond curriculum changes—it requires proactive leadership, educational innovation, and collaborative support. This successful model offers valuable insights for other schools, which can adapt these strategies according to their unique contexts and needs.

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