

Driving Teacher Leadership in Strengthening Literacy and Numeracy: A Case Study in Indonesian Primary Education

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Abstract

This study investigated the role of the *Guru Penggerak* Program in strengthening literacy and numeracy at SDN 30 Mattirowalie, Palopo City, Indonesia. A qualitative case study design was employed to obtain an in-depth understanding of the implementation process within its real educational context. The research participants consisted of one school principal, one *Guru Penggerak* (Driving Teacher), four classroom teachers, and two students who were directly involved in the program. Data were collected through semi-structured interviews, non-participant observations, and document analysis. The data were analyzed using an interactive qualitative analysis model involving data condensation, data display, and conclusion drawing/verification, while triangulation and member checking were applied to ensure trustworthiness. The findings revealed that the *Guru Penggerak* Program contributed positively to the strengthening of literacy and numeracy practices through more student-centered learning, stronger teacher collaboration, and increased student engagement. The program encouraged the integration of literacy and numeracy activities into daily instruction and promoted innovative teaching strategies. However, several challenges were identified, including limited learning resources, differences in students' ability levels, teacher adaptation difficulties, time constraints, and insufficient institutional support. To address these challenges, Driving Teachers implemented adaptive strategies such as instructional innovation, differentiated learning support, collaborative mentoring, resource optimization, and stakeholder involvement. The study offers empirical insight into how the *Guru Penggerak* Program can support foundational literacy and numeracy practices in primary schools, particularly through student-centered learning, collaborative school culture, and teacher leadership, while also emphasizing the need for sustained institutional support.

Keywords: *Guru Penggerak Program, Literacy, Numeracy, Primary Education, Qualitative Case Study, Teacher Leadership*

Introduction

Literacy and numeracy are widely recognized as foundational competencies for students' academic success and lifelong learning (Sari, 2025; Sharma, 2025). Literacy enables learners to access, interpret, evaluate, and communicate information effectively (Hobbs, 2016), while numeracy supports logical reasoning and the application of mathematical concepts in everyday contexts (Pratiwi et al., 2024). In the twenty-first century, both competencies are increasingly important because students are expected to think critically, solve problems, and adapt to rapid social and technological changes (Kennedy & Sundberg, 2025; Rajaram, 2021). Strong mastery of these two domains is therefore essential for building human capital and improving national educational competitiveness.

The *Guru Penggerak* (Driving Teacher) Program is one of the strategic initiatives introduced by the Indonesian Ministry of Education, Culture, Research, and Technology to develop teachers as instructional leaders and educational change agents (Zahir & Supriadi, 2023). A Driving Teacher is defined as a teacher who not only demonstrates pedagogical competence in classroom instruction but also possesses leadership capacity to inspire colleagues, facilitate collaborative learning, and promote student-centered educational transformation within schools (Mulyasa, 2021). The program aims to strengthen teacher professionalism, improve the quality of learning, and support the implementation of the Merdeka Belajar policy through reflective, innovative, and collaborative teaching practices (Kusumah & Alawiyah, 2021).

The objectives of the Driving Teacher Program include improving student learning outcomes, strengthening school learning culture, encouraging instructional innovation, and developing teachers' leadership competencies (Kusumah & Alawiyah, 2021; Mulyasa, 2021). Teachers who participate in the program are expected to become facilitators of educational change by mentoring peers, designing meaningful learning experiences, and integrating literacy and numeracy into classroom practices. The program also emphasizes the development of reflective teaching, differentiated instruction, and collaborative professional learning communities to improve educational quality sustainably (Naailah et al., 2026; Najatamara et al., 2026).

Candidates must pass several stages of selection organized nationally by the Ministry of Education to become a Driving Teacher. The selection process generally includes administrative screening, leadership and pedagogical competency assessments, teaching simulations, interviews, and participation in intensive professional training (Kusumah & Alawiyah, 2021; Mulyasa, 2021). Teachers selected for the program are expected to demonstrate commitment to educational transformation, leadership potential, communication skills, and readiness to implement student-centered learning practices in their schools.

Improving literacy and numeracy has become a major educational priority in many countries, including Indonesia. Through the *Merdeka Belajar* policy, the Indonesian government has emphasized competency-based learning, student-centered instruction, and school transformation (Hartini et al., 2026; Kusumawati & Umam, 2025). One of the strategic programs introduced to support this agenda is the *Guru Penggerak Program* (Driving Teacher Program), designed to develop teachers as instructional leaders, innovators, and change agents within schools (Sigalingging, 2022). These teachers are expected not only to improve classroom practices but also to build collaborative learning cultures and strengthen student learning outcomes.

Despite these policy efforts, literacy and numeracy achievement in many Indonesian primary schools remains uneven. National assessments and school quality reports continue to indicate learning gaps across regions and schools, particularly in institutions with limited learning resources, weak instructional innovation, and low academic culture. These conditions suggest that policy reform alone is insufficient without effective implementation at the school level. Teachers play a decisive role in translating educational policy into meaningful classroom practices that directly affect student competencies.

At the local level, similar conditions were identified at SDN 30 Mattirowalie, Palopo City, where literacy and numeracy performance required significant improvement. As one of the schools facing challenges in foundational learning outcomes, the school became a relevant context for examining how the *Guru Penggerak* Program operates in practice. Understanding

implementation in specific school settings is important because educational improvement is often shaped by contextual factors such as leadership support, teacher collaboration, student readiness, and school culture.

Previous studies have reported that teacher leadership programs positively influence instructional quality and school improvement (Bellibaş et al., 2021; Kemethofer et al., 2025). Previous studies on the Guru Penggerak Program found that participating teachers demonstrated stronger pedagogical competence, collaborative practices, and greater readiness to implement the Merdeka Belajar curriculum (Jayadi & Isro'iyah, 2025; Wachidah et al., 2024). Other studies also highlighted that teacher mentoring, reflective practice, and professional learning communities can improve classroom innovation, instructional quality, and student engagement (Alzayed & Alabdulkareem, 2021; Tam, 2025). These findings indicate that leadership-oriented teacher development programs have considerable potential to support school transformation.

In literacy and numeracy contexts, previous research generally shows that teacher quality, instructional support, and contextual learning strategies significantly affect students' foundational skills (Astuti et al., 2025; Shodiq, 2025). Another research found that effective teaching practices such as differentiated instruction, scaffolding, formative assessment, and problem-based learning are associated with better literacy comprehension and numeracy reasoning (Pujastuti et al., 2024; Taufik et al., 2024).

Previous studies on the Guru Penggerak Program have mainly examined its role in strengthening teachers' pedagogical competence, collaborative practices, instructional leadership, and readiness to implement the Merdeka Belajar curriculum. Other studies on literacy and numeracy have generally focused on students' achievement, learning strategies, or classroom-based interventions. However, limited attention has been given to how the Guru Penggerak Program is experienced and enacted at the school level in supporting literacy and numeracy practices, particularly in smaller regional primary school contexts such as Palopo. Therefore, a qualitative case study is needed to explore the experiences of teachers and school stakeholders, the forms of instructional and collaborative practices that emerge, and the contextual factors that support or constrain the program's contribution to foundational learning.

This study offers several novelties compared with previous research. First, most previous studies focused primarily on teacher competence development, educational policy implementation, or general school improvement, whereas this study specifically examines how the Driving Teacher Program contributes to literacy and numeracy strengthening at the primary school level. Second, this study integrates three important dimensions simultaneously: teacher leadership, foundational learning competencies, and contextual implementation challenges within a local Indonesian school setting. Third, unlike previous studies that mainly employed quantitative or policy-oriented approaches, this research provides an in-depth qualitative exploration of how Driving Teachers implement adaptive strategies, collaborative practices, and instructional innovation to improve literacy and numeracy learning outcomes. Therefore, this study contributes contextual and practical evidence regarding the role of teacher leadership in supporting foundational learning improvement in Indonesian primary education.

This study addresses these gaps by examining the role of Guru Penggerak in strengthening literacy and numeracy at SDN 30 Mattirowalie, Palopo City. Specifically, this research investigates: (1) the effectiveness of the program in improving students' literacy and numeracy, (2) challenges faced during implementation, and (3) strategies used by Driving Teachers to overcome those challenges. The study contributes to the growing literature on teacher leadership and school improvement by providing contextual evidence from Indonesian primary

education and offering practical insights for policymakers, school leaders, and teachers seeking effective approaches to strengthen foundational learning competencies through teacher-led reform initiatives.

Method

Research Design

This study employed a qualitative case study design to explore the implementation of the Guru Penggerak Program in strengthening literacy and numeracy at the primary school level (Priya, 2020). A qualitative approach was considered appropriate because the study aimed to obtain an in-depth understanding of participants' experiences, perceptions, and strategies in implementing the program within its real-life educational context. Rather than measuring variables statistically, this approach focused on interpreting social phenomena and understanding how teacher leadership practices influenced learning improvement.

The case study design was selected because the research concentrated on a bounded system, namely the implementation of the Guru Penggerak Program at SDN 30 Mattirowalie, Palopo City. This design enabled the researcher to investigate the phenomenon comprehensively through multiple sources of evidence, including interviews, observations, and documentation. It also allowed detailed examination of contextual factors such as school culture, instructional practices, leadership support, and challenges encountered during program implementation. The study examined three major aspects: (1) the effectiveness of the Guru Penggerak Program in improving students' literacy and numeracy, (2) challenges faced during implementation, and (3) strategies employed by Driving Teachers to overcome those challenges. Therefore, the qualitative case study provided rich and contextualized findings that may contribute to understanding teacher-led educational reform in Indonesian primary schools.

Research Participants

The research participants in this study were determined as subjects of the study based on their direct involvement, experience, and knowledge regarding the implementation of the Guru Penggerak Program at SDN 30 Mattirowalie, Palopo City. In qualitative case study research, participants are selected because they are able to provide rich and relevant information about the phenomenon being investigated. A total of 8 participants were involved in this study. They consisted of 1 school principal, 1 Driving Teacher (Guru Penggerak), 4 classroom teachers, and 2 students. The school principal was included because of his or her role in policy support, school management, and supervision of program implementation. The Driving Teacher became the main participant because he or she was directly responsible for initiating and leading literacy and numeracy improvement activities.

The four classroom teachers were selected because they actively collaborated with the Driving Teacher in classroom instruction and school literacy-numeracy programs. Their participation was important to understand changes in teaching practices, professional collaboration, and challenges encountered during implementation. Meanwhile, two students were involved because they directly experienced the learning activities designed through the program and could describe their engagement and perceived benefits. The criteria for selecting participants were: (1) having direct involvement in the Guru Penggerak Program, (2) possessing sufficient experience related to literacy and numeracy activities at school, (3) being willing to participate in interviews or observations, and (4) being able to provide clear and relevant

information. By involving participants from different roles, this study obtained multiple perspectives and strengthened the credibility of the findings through triangulation of sources.

Data Collection Techniques and Instrument Development

Data were collected through semi-structured interviews, non-participant observations, and document analysis to obtain comprehensive and triangulated evidence regarding the implementation of the Guru Penggerak Program in strengthening literacy and numeracy. The use of multiple techniques enabled the researcher to capture participants' perspectives, actual practices in the school setting, and supporting institutional records. Semi-structured interviews were conducted with all research participants, including the school principal, Driving Teacher, classroom teachers, and selected students. This technique allowed participants to explain their experiences, perceptions, challenges, and strategies related to the program while still providing flexibility for probing questions. Interview guides were developed based on the research objectives, covering three main areas: program effectiveness, implementation barriers, and improvement strategies.

Non-participant observations were carried out during classroom learning activities and school literacy–numeracy programs. The researcher observed instructional interactions, student engagement, teaching methods, use of learning media, and collaborative practices among teachers. Observation was intended to compare reported experiences from interviews with actual practices in the natural school context. Document analysis was also employed to strengthen the data. The documents examined included lesson plans, literacy and numeracy program schedules, students' learning products, school reports, meeting notes, and other relevant administrative records. These documents provided additional evidence regarding planning processes, implementation consistency, and program outcomes.

The research instruments consisted of an interview protocol, observation checklist, and document review sheet developed from the study objectives and related literature on teacher leadership, literacy, and numeracy improvement. Before data collection, the instruments were reviewed to ensure clarity, relevance, and alignment with the research questions. Revisions were made in wording and structure to improve comprehensibility and effectiveness. The combination of these techniques and instruments helped ensure rich, credible, and contextually grounded findings.

Data Analysis Technique

The data were analyzed using an interactive qualitative analysis model consisting of data condensation, data display, and conclusion drawing/verification. First, data obtained from interviews, observations, and documents were organized, coded, and reduced by selecting information relevant to the research focus, namely program effectiveness, implementation challenges, and improvement strategies. Second, the categorized data were displayed in narrative descriptions and thematic groupings to facilitate comparison across participants and identification of recurring patterns. Finally, conclusions were drawn and continuously verified by rechecking field notes, interview transcripts, and documentary evidence. To ensure the trustworthiness of the findings, source triangulation, technique triangulation, and member checking were also applied throughout the analysis process.

Results

Effectiveness of the Guru Penggerak Program in Improving Literacy and Numeracy

Following the qualitative analysis procedures of data reduction, data display, and conclusion drawing, the findings for the first research question are presented through interview results, observation findings, and documentation evidence. The reduced data were categorized into several subthemes: improvement of literacy learning, strengthening of numeracy learning, student engagement, and teacher professional collaboration.

Table 1. Interview Findings of Guru Penggerak Program Effectiveness

Participants	Main Findings
School Principal	The Guru Penggerak Program improved school learning culture, teacher collaboration, and focus on literacy–numeracy achievement.
Driving Teacher	Implemented reading routines, contextual numeracy learning, mentoring for teachers, and reflective teaching practices.
Classroom Teachers	Teaching methods became more innovative, collaborative, and student-centered after program implementation.
Students	Learning activities became more interesting, interactive, and easier to understand.

Based on interview data, participants consistently stated that the Guru Penggerak Program created positive changes in learning implementation. The school principal emphasized stronger institutional commitment toward foundational competencies, while teachers explained that literacy and numeracy became more integrated into daily instruction. Students also reported that classroom learning was more enjoyable and understandable. Classroom observation data were used to examine how these concerns were reflected in instructional practice. The observation findings are presented in Table 2.

Table 2. Observation Findings of Guru Penggerak Program Effectiveness

Observed Aspects	Findings
Literacy Activities	Students participated in reading habits, storytelling, guided reading, and classroom discussions.
Numeracy Activities	Teachers used games, manipulatives, and real-life mathematical problems.
Student Participation	Students were more active in asking questions, answering tasks, and group collaboration.
Teacher Practices	Teachers used varied strategies and showed stronger classroom interaction.

Observation data supported these statements. During literacy sessions, students showed active participation in reading and discussion activities. During numeracy learning, teachers used concrete media and contextual problems that encouraged engagement. Classroom interaction appeared more dynamic, with students showing greater confidence in responding to teacher questions. The results of the document analysis are summarized in Table 3.

Table 3. Documentation Findings of Guru Penggerak Program Effectiveness

Documents Reviewed	Findings
Lesson Plans	Literacy and numeracy indicators were integrated into classroom instruction.
School Program Records	Scheduled reading programs and numeracy enrichment activities were available.
Student Work Samples	Improvement in writing tasks, reading responses, and numeracy exercises.
Meeting Notes	Teacher reflection meetings and collaborative planning were regularly conducted.

Documentation data further strengthened the findings. Lesson plans demonstrated intentional integration of literacy and numeracy objectives, while school records showed regular implementation of enrichment programs. Samples of student assignments also indicated progress in reading comprehension, written responses, and mathematical problem-solving

tasks. To enhance the credibility of the findings, triangulation was conducted by comparing interview, observation, and document data. The results of this triangulation are presented in Table 4.

Table 4. Triangulation of Findings on the Contribution of the Guru Penggerak Program

Subtheme	Interview Findings	Observation Findings	Documentation Findings	Conclusion
Literacy Improvement	Teachers reported better reading interest and comprehension.	Students actively joined reading and discussion sessions.	Reading programs and student written work were documented.	Literacy competence improved gradually.
Numeracy Improvement	Teachers stated students were more confident solving problems.	Students engaged in contextual math activities.	Numeracy exercises and lesson plans were available.	Numeracy understanding improved through active learning.
Student Engagement	Students said learning was more enjoyable.	High participation in class interaction and group work.	Attendance and activity records showed participation.	Learning engagement increased.
Teacher Collaboration	Teachers described stronger mentoring and reflection culture.	Teachers used varied strategies and teamwork.	Meeting notes showed collaborative planning.	Teacher professionalism improved.

Based on data reduction, systematic presentation, and triangulated verification, it can be concluded that the Guru Penggerak Program was effective in improving literacy and numeracy at SDN 30 Mattirowalie. The results showed that students participated actively in classroom discussions and group activities, teachers applied more student-centered learning practices, collaboration among teachers was documented through mentoring and joint planning, and school programs related to literacy and numeracy were implemented in a more structured manner.

Challenges in Implementing the Guru Penggerak Program to Improve Literacy and Numeracy

Based on the data reduction process, the findings related to the second research question were grouped into five subthemes: limited learning resources, differences in students' ability levels, teacher adaptation challenges, time constraints, and institutional support. The most frequently reported challenge was the limited availability of learning resources, particularly leveled reading books, literacy enrichment materials, contextual numeracy worksheets, and concrete teaching aids for mathematics activities. Although basic textbooks were available, teachers reported that the quantity and variety of supporting materials were insufficient to accommodate students' diverse literacy and numeracy needs.

Table 5. Interview Data Display on Implementation Challenges

Subtheme	Explanation from Participants
Limited Learning Resources	Participants explained that books, literacy materials, and numeracy media were still limited.
Student Ability Differences	Teachers stated that students had varied reading and counting abilities.
Teacher Adaptation Time Constraints	Some teachers still needed time to adjust to innovative teaching methods. Literacy and numeracy activities often required more time than available class hours.
Institutional Support	Participants emphasized the need for stronger support from school leaders and parents.

Based on interview data, the most common challenges were limited facilities and differences in student competence. Teachers explained that some students progressed quickly, while others still required intensive guidance. Participants also highlighted that successful implementation required stronger cooperation among teachers, school leaders, and parents.

Table 6. Observation Data Display on Implementation Challenges

Subtheme	Observation Findings
Limited Learning Resources	Some classrooms had minimal teaching aids and shared learning media.
Student Ability Differences	Differences in task completion speed and learning mastery were visible.
Teacher Adaptation	Some teachers still used lecture-based instruction.
Time Constraints	Several planned activities were unfinished in one lesson session.
Student Support	Some students needed repeated guidance during learning tasks.

Observation findings confirmed that implementation challenges occurred in actual classroom practice. The researcher found visible differences in student participation and achievement. Some students were active and independent, while others needed repeated explanation. Time limitations also caused several activities to be postponed or simplified.

Table 7. Documentation Data Display on Implementation Challenges

Subtheme	Documentation Evidence
Limited Learning Resources	Inventory records showed a limited number of books and learning tools.
Student Ability Differences	Assessment records showed unequal literacy and numeracy achievement.
Teacher Adaptation	Teacher reflection notes mentioned the need for further training.
Time Constraints	Program schedules were dense within limited instructional hours.
Institutional Support	Meeting notes emphasized parent involvement and collaboration.

Documentation data strengthened the interview and observation findings. School records showed that resource availability was still limited, while student assessments indicated learning gaps. Teacher notes also revealed the importance of continuous mentoring and follow-up activities to maintain program quality.

Table 8. Triangulation Table of Implementation Challenges

Subtheme	Interview	Observation	Documentation	Final Interpretation
Limited Learning Resources	Participants reported lack of media and books.	Limited classroom tools were observed.	Inventory data confirmed shortages.	Resource constraints affected implementation quality.
Student Ability Differences	Teachers described varied competence levels.	Learning gaps were visible in class.	Assessment results showed unequal scores.	Differentiated teaching was necessary.
Teacher Adaptation	Teachers needed support to change methods.	Conventional teaching was still found.	Reflection notes requested training.	Continuous mentoring was required.
Time Constraints	Activities exceeded lesson time.	Some tasks were unfinished.	Schedules were dense.	Better scheduling was needed.
Institutional Support	Participants requested stronger cooperation.	Support varied across classes.	Meeting notes stressed collaboration.	Whole-school support was essential.

Based on triangulated findings, the main challenges in implementing the Guru Penggerak Program were limited resources, diverse student competence, teacher readiness, time allocation, and institutional support. These factors influenced the consistency and effectiveness of literacy and numeracy improvement efforts at SDN 30 Mattirowalie.

Strategies Used by Driving Teachers to Overcome Implementation Challenges

Based on the data reduction process, the findings related to the third research question were categorized into five subthemes: instructional innovation, differentiated learning support, teacher collaboration and mentoring, resource optimization, and stakeholder involvement.

Table 9. Interview Data Display on Improvement Strategies

Subtheme	Explanation from Participants
Instructional Innovation	Participants explained that teachers used games, storytelling, contextual tasks, and interactive media to make learning more engaging.
Differentiated Learning Support	Teachers provided additional guidance and adjusted tasks according to students' ability levels.
Teacher Collaboration	The Driving Teacher conducted mentoring, discussion, and reflective meetings with fellow teachers.
Resource Optimization	Teachers created simple learning media from available materials and maximized existing facilities.
Stakeholder Involvement	The school encouraged support from parents and school leaders for program continuity.

Based on interview data, participants stated that the Driving Teacher played an active role in designing practical solutions for daily classroom challenges. Teachers explained that learning became more effective when activities were adapted to student needs and delivered through creative methods. Collaboration among teachers was also considered one of the most important strategies for sustaining improvement.

Table 10. Observation Data Display on Improvement Strategies

Subtheme	Observation Findings
Instructional Innovation	Teachers used reading corners, games, group discussion, and contextual numeracy problems.
Differentiated Learning Support	Teachers gave closer assistance to students who experienced difficulties.
Teacher Collaboration	Teachers shared tasks and discussed learning activities informally.
Resource Optimization	Classrooms used locally made media and reused available teaching tools.
Student Motivation	Teachers gave praise, encouragement, and active feedback during lessons.

Observation findings showed that many strategies were implemented directly in classroom practice. Teachers appeared flexible in adjusting instruction according to classroom conditions. Students who struggled received more guidance, while active students were encouraged to support peers through collaborative learning.

Table 11. Documentation Data Display on Improvement Strategies

Subtheme	Documentation Evidence
Instructional Innovation	Lesson plans included interactive literacy and numeracy activities.
Differentiated Learning Support	Remedial schedules and additional learning notes were documented.
Teacher Collaboration	Meeting notes showed mentoring sessions and joint planning.
Resource Optimization	School reports recorded the use of low-cost learning materials.
Stakeholder Involvement	Parent meeting notes discussed support for student learning programs.

Documentation data strengthened previous findings by showing that the strategies were not incidental but planned systematically. School records indicated regular teacher meetings, remedial support, and coordinated efforts involving parents and school management.

Table 12. Triangulation Table of Improvement Strategies

Subtheme	Interview	Observation	Documentation	Final Interpretation
Instructional Innovation	Participants reported creative learning methods.	Interactive activities were observed in class.	Lesson plans contained innovative tasks.	Creative pedagogy supported literacy and numeracy improvement.
Differentiated Learning Support	Teachers adjusted instruction to student needs.	Extra assistance was given to struggling students.	Remedial records were available.	Differentiation helped reduce learning gaps.
Teacher Collaboration	Participants described mentoring and discussion.	Teachers worked cooperatively.	Meeting notes confirmed collaboration.	Professional teamwork strengthened implementation.
Resource Optimization	Teachers maximized available materials.	Simple media were actively used.	Reports documented low-cost resources.	Resource limitations were managed adaptively.
Stakeholder Involvement	Participants mentioned parent and leadership support.	Support was visible in school activities.	Parent meeting notes confirmed involvement.	External support improved sustainability.

Based on triangulated findings, the Driving Teacher used several effective strategies to overcome implementation challenges, namely applying innovative instruction, providing differentiated support, strengthening teacher collaboration, optimizing available resources, and involving stakeholders. These strategies helped maintain the continuity of the Guru Penggerak Program and increased the effectiveness of literacy and numeracy improvement efforts at SDN 30 Mattirowalie.

Discussion

Effectiveness of the Guru Penggerak Program in Improving Literacy and Numeracy

The findings of this study indicate that the Guru Penggerak Program was effective in improving literacy and numeracy at SDN 30 Mattirowalie. This effectiveness was reflected in the positive changes in classroom learning practices, stronger student engagement, improved teacher collaboration, and the integration of literacy and numeracy into daily instructional activities. These findings suggest that educational improvement is more likely to occur when teacher leadership is combined with student-centered pedagogy and collaborative school culture.

From the perspective of instructional leadership theory, the Driving Teacher functioned not only as a classroom teacher but also as a change agent who influenced teaching quality and school learning culture (DeWitt, 2020). This supports the view that teacher leadership can strengthen school improvement by encouraging innovation, mentoring peers, and promoting reflective practice. The presence of a teacher leader in the school context helped translate policy objectives into practical classroom actions, especially in strengthening foundational competencies such as reading, writing, and numeracy reasoning.

The improvement in literacy learning found in this study aligns with theories emphasizing that literacy development is strongly influenced by meaningful reading environments, regular practice, and active student participation (Gee, 2017). Reading routines, storytelling, guided reading, and discussion activities created opportunities for students to build comprehension, vocabulary, and confidence in expressing ideas. These findings confirm that literacy competence

develops more effectively when students engage in authentic and interactive learning experiences rather than passive memorization.

Similarly, the findings on numeracy improvement support the concept that numeracy is not limited to arithmetic ability but includes reasoning, problem solving, and the application of mathematical ideas in real-life contexts (Geiger et al., 2015; Hoogland, 2023). The use of games, manipulatives, and contextual tasks helped students understand abstract concepts more concretely. This indicates that students learn mathematics more effectively when teaching connects numerical concepts with everyday experiences and encourages active exploration.

Another important finding was the improvement of teacher professionalism through collaboration and mentoring. Teachers became more willing to use varied strategies, evaluate their own teaching, and work together in solving instructional problems. This supports professional learning community theory, which emphasizes that sustainable school improvement often depends on collegial learning and continuous reflection among teachers (Akmal et al., 2025; Iswara et al., 2022). Therefore, the success of the *Guru Penggerak* Program was not only related to student outcomes, but also to strengthened teacher capacity.

These findings are also consistent with previous studies reporting that teacher leadership programs positively affect pedagogical competence, collaborative culture, and classroom innovation (Hu & Duyar, 2024; Ma & Marion, 2024). However, this study extends earlier research by showing how the *Guru Penggerak* Program contributes specifically to literacy and numeracy development at the elementary school level in a local Indonesian context. While many previous studies focused on teacher competence or policy implementation generally, this study demonstrates direct links between teacher leadership practices and foundational learning outcomes.

The effectiveness of the *Guru Penggerak* Program can be understood as the result of three interconnected factors: instructional innovation, collaborative professionalism, and a strong focus on foundational learning competencies. This implies that policies aimed at improving literacy and numeracy should not rely solely on curriculum reform, but also on empowering teachers as leaders who can initiate sustainable change within schools.

Challenges in Implementing the Guru Penggerak Program to Improve Literacy and Numeracy

The findings of this study revealed that the implementation of the *Guru Penggerak* Program faced several challenges, including limited learning resources, differences in students' literacy and numeracy abilities, teacher adaptation difficulties, time constraints, and the need for stronger institutional support. These challenges indicate that educational reform at the school level is influenced not only by program design, but also by contextual conditions that affect the consistency and effectiveness of implementation.

One of the major challenges identified in this study was the limited availability of supporting facilities such as reading materials, instructional media, and numeracy learning tools. This finding supports educational resource theory, which emphasizes that adequate learning facilities are essential for creating effective and engaging instruction (Gottlieb et al., 2022). Schools with limited resources often experience difficulties in implementing innovative learning approaches because teachers must rely on minimal materials and shared facilities. As a result, literacy and numeracy activities may not be conducted optimally across all classrooms.

Another challenge concerned differences in students' ability levels. Teachers explained that some students still struggled with basic reading comprehension and mathematical understanding, while others progressed more quickly. This finding aligns with differentiated learning theory, which states that students have diverse readiness levels, learning speeds, and educational needs (Thapliyal et al., 2022; Wibowo et al., 2025). In such situations, teachers are required to adjust instructional strategies to ensure that all learners receive appropriate support. However, implementing differentiated instruction becomes difficult when classrooms contain students with highly varied competencies and limited instructional support.

The study also found that some teachers experienced difficulties adapting to innovative and student-centered teaching practices. Although the Guru Penggerak Program encouraged reflective and collaborative learning, not all teachers immediately shifted from traditional lecture-based instruction. This finding supports theories of educational change which argue that transformation in teaching practice requires time, continuous mentoring, and professional support (Fullan, 2015). Changes in pedagogical mindset cannot occur instantly because teachers often need opportunities to build confidence, experiment with new approaches, and reflect on their instructional experiences.

Time management was another important challenge identified in this study. Literacy and numeracy enrichment activities frequently required more instructional time than was available in regular classroom schedules (Kundu et al., 2021). Teachers often needed additional sessions to provide guidance for students experiencing learning difficulties. This finding indicates that strengthening foundational competencies is a gradual process requiring sustained practice and reinforcement rather than short-term intervention alone.

The findings showed that successful implementation depended heavily on institutional and stakeholder support. The role of school leaders, teacher collaboration, and parental involvement was considered essential for maintaining program continuity. This supports ecological perspectives in education, which emphasize that student learning outcomes are shaped by interactions among multiple educational environments, including schools, families, and communities (Daly et al., 2022; Nation et al., 2020). Without strong collective support, school reform programs may face sustainability problems despite positive initial outcomes.

The findings of this study are consistent with previous research reporting that literacy and numeracy improvement programs often encounter obstacles related to infrastructure limitations, teacher readiness, and unequal student achievement (Sikki et al., 2026; Sukanto et al., 2025). However, this study provides more contextual evidence regarding how these challenges appear within the implementation of the Guru Penggerak Program at the elementary school level. The study highlights that teacher leadership alone is insufficient without adequate systemic support and continuous institutional commitment.

The challenges identified in this study demonstrate that improving literacy and numeracy requires comprehensive educational support involving instructional resources, professional development, effective time management, and collaborative school culture. Therefore, strengthening foundational competencies should be viewed as a long-term collective effort rather than solely the responsibility of individual teachers.

Strategies Used by Driving Teachers to Overcome Implementation Challenges

The findings of this study showed that the Driving Teacher applied several strategies to overcome challenges in implementing the Guru Penggerak Program, including instructional innovation, differentiated learning support, teacher collaboration and mentoring, resource

optimization, and stakeholder involvement. These strategies demonstrate that effective educational improvement requires adaptive leadership and collaborative problem solving within the school environment.

One important strategy identified in this study was the use of innovative and interactive instructional methods. Teachers integrated storytelling, games, contextual learning tasks, group discussions, and concrete learning media into literacy and numeracy instruction. This finding supports constructivist learning theory, which emphasizes that students learn more effectively when actively involved in meaningful learning experiences (Waite-Stupiansky, 2022). Interactive approaches encourage students to participate, communicate ideas, and connect learning materials with real-life situations, thereby strengthening literacy comprehension and numeracy reasoning.

The study also found that differentiated learning support became an important strategy for addressing varied student ability levels. Teachers provided additional guidance, simplified instructions, and remedial activities for students experiencing difficulties. This finding aligns with differentiated instruction theory, which argues that effective learning occurs when teaching is adapted to students' readiness, interests, and learning needs (Tomlinson, 2017). By adjusting learning activities and providing individualized support, teachers were able to reduce learning gaps and encourage greater student participation.

Another significant strategy was teacher collaboration and mentoring. The Driving Teacher regularly facilitated reflective discussions, collaborative planning, and peer mentoring among classroom teachers. These activities strengthened professional relationships and encouraged teachers to share teaching experiences and solutions to instructional problems. This finding supports the concept of professional learning communities, which emphasizes that continuous teacher collaboration contributes to sustainable school improvement and instructional quality enhancement (Admiraal et al., 2021; Liu et al., 2024).

Resource optimization also emerged as an effective strategy in dealing with limited school facilities. Teachers created simple instructional media from locally available materials and maximized existing classroom resources. This finding indicates that educational innovation does not always depend on sophisticated technology or expensive equipment. Instead, teacher creativity and adaptability play essential roles in maintaining effective learning environments despite resource limitations.

In addition, stakeholder involvement was found to support program sustainability. School leaders provided policy support and encouragement for literacy and numeracy activities, while parents contributed by supporting students' learning habits at home. This finding reflects ecological approaches to education, which emphasize that educational success is influenced by collaboration among schools, families, and communities (Childs & Scanlon, 2024; Skinner et al., 2022). Strong partnerships among stakeholders help strengthen the continuity and effectiveness of educational reform initiatives.

The findings of this study are consistent with previous research showing that innovative pedagogy, collaborative professionalism, and adaptive leadership are important factors in improving student learning outcomes (Riddel & Zulfikar, 2024; Royo et al., 2025). However, this study extends previous literature by demonstrating how these strategies were practically implemented by Driving Teachers in addressing literacy and numeracy challenges within a local Indonesian primary school context.

The strategies applied by the Driving Teacher illustrate that successful literacy and numeracy improvement requires not only instructional competence, but also leadership capacity, collaboration, creativity, and institutional support. These findings indicate that teacher leadership programs such as Guru Penggerak are perceived to contribute to the strengthening of foundational learning practices, particularly when supported by adaptive and context-sensitive implementation strategies.

Conclusion

This study concludes that the Guru Penggerak (Driving Teacher) Program contributed to strengthening literacy and numeracy practices at SDN 30 Mattirowalie, Palopo City, although it did not quantitatively measure students' achievement. The program positively influenced classroom learning by promoting student-centered instruction, increasing student engagement, strengthening teacher collaboration, and integrating literacy and numeracy into daily teaching activities. Through the leadership of the Driving Teacher, learning became more interactive and focused on developing students' foundational competencies. The implementation of the program faced several challenges, including limited learning resources, variations in students' ability levels, teacher adaptation difficulties, time constraints, and insufficient institutional support. These factors affected the consistency and effectiveness of program implementation, indicating that sustainable educational reform requires not only teacher leadership but also strong systemic and environmental support. To address these challenges, the Driving Teacher implemented adaptive strategies such as instructional innovation, differentiated learning, teacher mentoring and collaboration, optimization of available resources, and stakeholder involvement. These efforts helped sustain the program and enhanced the effectiveness of literacy and numeracy learning.

Based on evidence from one primary school, one Driving Teacher, and eight participants, the findings suggest that the Guru Penggerak Program supported foundational learning through collaborative and context-sensitive practices. The study also highlights the importance of empowering teachers as instructional leaders capable of driving sustainable educational improvement. However, the study has several limitations. It was conducted in only one school with a small number of participants and employed a qualitative case study design, limiting the generalizability of the findings and excluding quantitative measurement of student achievement. Future research should involve larger samples, multiple schools, and mixed-method approaches to provide more comprehensive evidence. Strengthening teacher leadership, continuous professional development, and adequate learning resources remains essential for maximizing literacy and numeracy development in Indonesian primary schools.

Aknowledgment

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