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Supervision of Mathematics Instruction and Fostering Discipline and Responsibility Among Students at Pantai Labu Public SMP Negeri 1 Pantai Labu.

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Abstract
This study aims to describe the implementation of mathematics learning supervision and its role in fostering students' discipline and responsibility at SMP Negeri 1 Pantai Labu. This research used a descriptive qualitative approach. Data were collected through observation, semi-structured interviews, and documentation. The informants consisted of the school principal or vice principal for curriculum, mathematics teachers, and students. The data were analyzed using the Miles, Huberman, and Saldaña model, which includes data reduction, data display, and conclusion drawing. The validity of the data was tested through source triangulation and technique triangulation. The results showed that mathematics learning supervision was carried out through pre-observation, classroom observation, and post-observation activities. Supervision provided feedback and guidance for mathematics teachers to improve learning quality. Students' discipline was fostered through habituation, teacher modeling, rule enforcement, monitoring, and timely completion of assignments. Students' responsibility was developed through individual assignments, group roles, independent work, and acceptance of teacher feedback. Supporting factors included school leadership, teacher capability, clear school rules, and cooperation among school members, while limiting factors included students' different characteristics, limited learning time, and unequal student awareness. Therefore, mathematics learning supervision contributes to improving learning quality and strengthening students' discipline and responsibility.
Keywords: mathematics learning supervision; discipline; responsibility; junior high school students; qualitative descriptive study.

1. INTRODUCTION

Education aims not only to develop students' knowledge and cognitive skills but also to foster good character (Anisah, 2023; Karimah et al., 2024; Putra et al., 2024) . At the junior high school (SMP) level, character development is particularly important because students are in a transitional phase from childhood to adolescence, when attitudes, habits, and a sense of responsibility begin to take on a more stable form. Two characters traits that serve as the foundation for students' academic success and social life are discipline and responsibility. Discipline encompasses students' ability to follow school rules, value

time, and complete routine activities on time, while responsibility includes a willingness to participate in activities and take care of school facilities (Rahmawati et al., 2024).

Mathematics education has great potential to foster discipline and responsibility. In mathematics learning, students are required to follow problem-solving steps in a systematic, meticulous, and honest manner, to be diligent, and to take responsibility for their learning process and outcomes (Boote et al, 2026; Costa et al, 2022). Assignments, group work, the enforcement of classroom rules, and periodic assessments can serve as tools for character development. Research shows that incorporating character education focused on discipline and responsibility into mathematics instruction can make students more active, independent, and responsible in completing tasks (Goos, 2023; Wulandari & Prasetyo, 2024). However, the development of these character traits will not be optimal if teachers lack targeted instructional strategies and have not received adequate guidance.

Instructional supervision plays a crucial role. Instructional supervision, or academic supervision, is an effort to provide assistance, guidance, and feedback to teachers to improve the quality of the classroom learning process (Lorensius et l., 2022). Supervision is generally carried out through the stages of planning, observation, and follow-up, including pre-observation, observation, and post-observation activities (Devisa et al., 2026; Ngatini et al., 2025). Properly implemented supervision can enhance teachers' professional competence, improve teaching strategies, and positively impact students' learning outcomes (Suryana et al., 2022). Thus, supervision is not merely an administrative activity to evaluate teacher performance but a coaching process that can encourage teachers to integrate character values into mathematics instruction.

In practice, supervision in many schools still tends to be administratively oriented, so its impact on improving learning and fostering students' character has not been optimal (Rahmawati & Santoso, 2024). In fact, the results of supervision should be acted upon by teachers through improvements in teaching methods, strengthening classroom rules, setting a good example, fostering good habits, and assigning responsibilities to students. Teachers play a crucial role in character development, as they can instill discipline and responsibility through setting a good example, fostering habits, providing supervision, and assigning responsibilities during learning activities (Nugroho et al., 2025).

SMP Negeri 1 Pantai Labu is one of the schools that needs to optimize the role of mathematics instruction supervision in shaping students' character. Mathematics teachers are not only required to master the subject matter and teaching methods but are also expected to instill the values of discipline and responsibility through daily instruction. The principal or supervisor plays a role in guiding teachers in designing lessons, conducting classroom observations, providing feedback, and following up to ensure that mathematics instruction serves as a means of character building (Devisa et al., 2026; Sartika, 2024).

Mathematics instruction supervision should be understood as an ongoing coaching process, not merely a one-time assessment of teacher performance. Through supervision, school principals or supervisors can identify teachers' strengths and weaknesses in designing lessons, managing the classroom, using instructional materials, evaluating student learning outcomes, and fostering interactions with students. The results of supervision are then used as the basis for providing constructive feedback and recommendations for improvement. Thus, effective supervision can encourage mathematics teachers to develop lessons that are more structured, communicative, and oriented toward character building in students (Devisa et al., 2026).

In the context of fostering discipline, math teachers can instill good habits through punctual attendance, having writing

materials ready, maintaining order during lessons, and completing assignments by the deadline. Teachers can also establish clear classroom rules, enforce consequences consistently, and recognize students who demonstrate disciplined behavior. These habits are important because discipline is not formed instantly but rather through the repetition of positive behaviors over a period of time. Research shows that strengthening discipline and responsibility can be achieved through habit formation, modeling positive behavior, and reinforcing rules within the school environment (Mustika et al., 2024; Sugiar et al., 2024).

Meanwhile, a sense of responsibility can be fostered by assigning clear tasks, dividing roles within a group, asking students to complete work independently, and encouraging the habit of acknowledging mistakes and correcting them. In mathematics instruction, a sense of responsibility can emerge when students solve problems honestly, double-check their answers, organize their work, and present their group's findings. Teachers play a role in ensuring that the assigned tasks not only assess cognitive abilities but also provide students with opportunities to learn to take responsibility for their own learning process (Nugroho et al., 2025)..

The traits of discipline and responsibility are also closely interrelated in mathematics learning activities. Disciplined students tend to demonstrate responsibility more easily because they are accustomed to following rules, managing their time, and completing tasks regularly. Conversely, responsible students are more motivated to be disciplined because they realize that academic success is the result of their own effort and commitment. Therefore, well-designed mathematics instruction can serve as an integrative vehicle for developing both of these traits simultaneously (Rahmawati et al., 2024).

Although numerous studies have been conducted on academic supervision and character education, research specifically linking mathematics instruction supervision to the development of students' discipline and responsibility remains limited. Most studies discuss supervision from the perspective of improving teacher performance and the quality of learning, while character studies tend to focus more on the role of teachers, school rules, or habit-forming activities without positioning supervision as a formative variable. This situation indicates a research gap that needs to be addressed (Efendi et al., 2023; Safitri et al., 2022). Therefore, this study is important to examine how mathematics learning supervision at SMP Negeri 1 Pantai Labu contributes to the tangible development of students' discipline and responsibility.

Based on the above description, this study aims to describe the supervision of mathematics learning and its role in fostering discipline and responsibility among students at SMP Negeri 1 Pantai Labu. This study employs a descriptive qualitative approach, as it aims to gain an in-depth understanding of the supervision process, the strategies used by mathematics teachers, and the forms of disciplined behavior and responsibility exhibited by students. The results of this study are expected to contribute to school principals, supervisors, mathematics teachers, and future researchers in developing instructional supervision that is oriented not only toward improving academic quality but also toward strengthening students' character.

2. METHOD

This study employs a qualitative approach with a descriptive research design. The qualitative approach was chosen because this study aims to gain an in-depth understanding of the implementation of mathematics instruction supervision and its role in fostering discipline and responsibility in students. The descriptive design was used to depict the conditions and activities occurring at SMP Negeri 1 Pantai Labu as they are, without intervening in or manipulating the research subjects.

The study was conducted at SMP Negeri 1 Pantai Labu during the even semester of the 2025/2026 academic year. The research informants consisted of the principal or the vice principal in charge of the curriculum, mathematics teachers, and students. Informants were selected using purposive sampling, which involves selecting those directly involved in the supervision of mathematics instruction and the process of fostering students' character.

Data collection methods included observation, interviews, and documentation. Observations were used to examine the implementation of supervision, mathematics learning activities, and students' disciplinary behavior and sense of responsibility in the classroom. Semi-structured interviews were used to gather information from the principal, mathematics teachers, and students. Documentation was used to collect supporting data, such as supervision schedules, supervision instruments, lesson plans, observation notes, and class journals.

The primary instrument in this study was the researcher herself, acting as a human instrument. The researcher was assisted by observation guidelines, interview guidelines, and documentation sheets. The observation guidelines included indicators of supervision implementation as well as indicators of students' discipline and responsibility. The interview guidelines were developed based on the research questions.

The collected data were analyzed using the Miles, Huberman, and Saldaña model, which includes data reduction, data presentation, and drawing conclusions (Miles et al., 2014). Data reduction was conducted by selecting and grouping relevant data. Data presentation took the form of narrative descriptions and interview excerpts. Conclusions were drawn based on patterns and themes that emerged from the data. Data validity was tested using source triangulation and methodological triangulation, which involved comparing information from various informants as well as comparing the results of observations, interviews, and documentation.

3. RESULT AND DISCUSSION

Result

1. Implementation of Mathematics Instruction Supervision

The results of the study show that supervision of mathematics instruction at SMP Negeri 1 Pantai Labu is carried out by the principal or the vice principal for curriculum through pre-observation, classroom observation, and post-observation activities. During the pre-observation stage, the supervisor reviews the mathematics teacher's instructional materials, such as lesson plans, instructional media, and teaching materials. During the observation phase, the supervisor observes mathematics instruction in the classroom, including mastery of the subject matter, classroom management, use of teaching methods, teacher-student interactions, and assessment of learning.

After the lesson concludes, the supervisor provides feedback to the mathematics teacher through a post-observation session. This feedback covers the teacher's strengths and weaknesses in managing the lesson, as well as suggestions for improvement for future lessons. The results of the supervision are also documented in a supervision form and followed up through teacher coaching. Thus, mathematics instruction supervision at SMP Negeri 1 Pantai Labu serves not only as an assessment activity but also as a coaching process to improve the quality of instruction.

2. Fostering Discipline in Students

The research findings indicate that students' discipline is fostered through consistent practice, teachers setting a good example, enforcing rules, and supervision during mathematics lessons. Mathematics teachers encourage students to arrive on time, bring their writing materials, participate in class in an orderly manner, and submit assignments by the deadline. Teachers also set a good example by arriving on time, conducting lessons regularly, and consistently enforcing classroom rules.

In addition, teachers issue reminders to students who do not follow the rules and impose educational consequences. Students

who demonstrate discipline for example, by actively participating in class and completing assignments on time are recognized by their teachers. Based on observations and interviews, the majority of students began to exhibit disciplined behavior in the form of compliance with classroom rules, readiness to participate in lessons, and completion of math assignments by the specified deadlines.

3. Fostering a Sense of Responsibility in Students

Students' sense of responsibility is fostered through the assignment of tasks, the allocation of roles within groups, and the practice of completing work independently. In mathematics instruction, teachers assign individual and group tasks that students must complete. During group activities, students are given specific roles, such as group leader, note-taker, presenter, or timekeeper. Assigning these roles helps students learn to fulfill their obligations and take responsibility for the group's work.

Math teachers also encourage students to double-check their answers, present their work, and accept corrections and guidance from the teacher. Students who have not completed their assignments are given the opportunity to correct them, so they learn to take responsibility for their shortcomings in learning. Research findings indicate that some students have been able to complete assignments independently, participate actively in groups, and are willing to accept corrections from the teacher. However, there are still some students who require reminders and more intensive guidance in completing their assignments.

4. Supporting and Hindering Factors

Factors that support the development of discipline and responsibility in students include the principal's role in providing supervision, the mathematics teachers' ability to manage the classroom, the existence of clear school rules, and parental support in guiding students at home. Regular supervision helps teachers improve their teaching strategies and be more consistent in instilling character values.

Factors that hinder this process include differences in students' personalities and backgrounds, limited time allocated for mathematics instruction, and the fact that some students are not yet fully aware of the importance of discipline and responsibility. Additionally, teachers are not always able to provide optimal supervision of all students due to large class sizes. Therefore, cooperation among teachers, homeroom teachers, parents, and school administrators is necessary to ensure that character development is carried out more effectively.

Discussion

The research findings indicate that mathematics teaching supervision plays a crucial role in improving the quality of learning and fostering discipline and responsibility in students. Supervision conducted through pre-observation, observation, and post-observation provides mathematics teachers with the opportunity to improve their lesson planning, teaching methods, and classroom management. This aligns with the view that academic supervision is an effort to provide assistance to teachers in improving and developing the teaching-learning process in the classroom (Ismail et al., 2025). Supervision carried out appropriately can also enhance teachers' professional competence and positively impact the quality of learning (Suryana et al., 2022).

The findings of this study indicate that the development of students' discipline does not occur immediately but rather through a process of repeated habit formation. Mathematics teachers instill discipline through classroom rules, punctuality, the obligation to complete assignments, and consistent monitoring. These findings align with the research by Mustika et al. (2024), which states that strengthening the character traits of discipline and responsibility can be achieved through habit formation, modeling, and reinforcing rules within the school environment. Discipline also needs to be cultivated through repeated positive habits so that students become accustomed to

following rules and fulfilling their obligations on time (Rahmawati et al., 2024).

In fostering a sense of responsibility, assigning tasks and dividing group roles are effective strategies. When students are given specific responsibilities, they learn to fulfill their obligations, value the roles of group members, and accept the consequences of unfinished work. These findings support the results of a study by Nugroho et al. (2025), which confirms that teachers play a role in shaping students' sense of responsibility and discipline through modeling, habit formation, supervision, and the assignment of responsibilities. Assigning clear tasks and fostering the habit of completing work independently can help students understand that responsibility is an integral part of the learning process (Wulandari & Prasetyo, 2024).

Furthermore, the research findings indicate that the traits of discipline and responsibility are interrelated. Disciplined students tend to demonstrate responsibility more readily because they are accustomed to following rules and completing tasks regularly. Conversely, responsible students will be more motivated to be disciplined because they realize that academic success requires effort and commitment. Therefore, mathematics instruction can serve as a vehicle for character integration if teachers consciously design activities that demand discipline and responsibility from students (Rahmawati et al., 2024).

Although mathematics teaching supervision has played a role in teacher professional development and student character building, its implementation still faces several obstacles. Time constraints, differences in student abilities, and the need for more intensive guidance pose challenges to the implementation of supervision. Therefore, supervision must be conducted on an ongoing basis and not be solely administratively oriented. Supervision focused on teacher professional development is expected to encourage mathematics teachers to more consistently integrate character values into their instruction (Masitoh et al., 2025; Sartika, 2024). Thus, mathematics instruction supervision should be positioned as a continuous professional development process that not only improves the quality of instruction but also supports students' character development (Devisa et al., 2026).

4. CONCLUSION

Based on the research findings and discussion, it can be concluded that the supervision of mathematics instruction at SMP Negeri 1 Pantai Labu is carried out through the stages of pre-observation, classroom observation, and post-observation. During the pre-observation stage, the supervisor reviews the readiness of the mathematics teacher's instructional materials. During the observation stage, the supervisor observes the implementation of mathematics instruction in the classroom, including mastery of the material, classroom management, the use of teaching methods, teacher-student interaction, and learning assessment. Afterward, the supervisor provides feedback and suggestions for improvement to the teacher through post-observation activities. Thus, mathematics instruction supervision serves not only as an assessment activity but also as a coaching process to improve the quality of learning.

Mathematics teaching supervision contributes to fostering students' discipline. Discipline is cultivated through the habit of arriving on time, being prepared for lessons, adhering to classroom rules, completing assignments by the deadline, as well as the teacher's supervision and setting a good example. Mathematics teachers also provide educational reminders and consequences to students who have not yet demonstrated discipline. The research results show that the majority of students have begun to follow classroom rules, participate in lessons in an orderly manner, and complete math assignments by the specified deadlines.

In addition, supervision of mathematics learning contributes to the development of students' sense of responsibility. This sense of responsibility is fostered through individual assignments, the assignment of roles in group activities,

the practice of completing work independently, and a willingness to accept corrections from the teacher. Through group assignments and roles, students learn to fulfill their obligations, value the roles of group members, and take responsibility for the results of their work. Nevertheless, there are still some students who require more intensive reminders, guidance, and support from teachers in completing their assignments.

Factors that support the development of students' discipline and sense of responsibility include the principal's role in implementing supervision, the mathematics teacher's ability to manage instruction, the existence of clear school rules, and cooperation among teachers, homeroom teachers, and parents. Meanwhile, inhibiting factors include differences in student personalities, limited class time, uneven student awareness of the importance of character, and teachers' limitations in providing maximum supervision to all students. Therefore, character development must be carried out continuously through the cooperation of all parties at school and within the family environment.

Based on the research findings, it is recommended that school principals and supervisors conduct regular supervision of mathematics instruction by providing concrete, constructive feedback aimed at improving learning. Mathematics teachers are advised to be more consistent in applying habit formation, modeling good behavior, enforcing rules, assigning tasks, and assigning group roles in every lesson so that students' discipline and sense of responsibility continue to develop. For students, it is recommended that they increase their awareness of the importance of discipline and responsibility in learning activities, particularly in following classroom rules and completing math assignments. For future researchers, it is recommended to conduct research in a wider range of schools and with a larger sample of informants or to use a mixed-methods approach to obtain a more comprehensive picture of the influence of mathematics instruction supervision on the development of students' character.

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