

The Principal's Supervisory Role in Enhancing the Effectiveness of Learning Resource Utilization in Schools

 <https://doi.org/10.31004/jele.v10i6.1550>

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ABSTRACT

An important strategy to enhance the quality of education is by optimizing the utilization of learning resources within the educational process. This study aims to analyze the role of the principal as a supervisor in the use of learning resources at SDN Bukit Bamba 1, Pulang Pisau. This qualitative research uses a case study approach with data collection through observation, interviews, and documentation. Research informants included the principal and teachers. Data analysis was conducted using an interactive pattern that included data condensation, data presentation, and drawing conclusions. The results show that the principal has a strategic role as a supervisor in improving the quality of learning by assisting teachers in the use of learning resources. Furthermore, the principal's supervision directly influences teacher behavior, fostering a collaborative culture in managing the learning process at school. The obstacles are limited supporting facilities, limited internet access, and a lack of variety of learning media. This study recommends the need to improve infrastructure, strengthen teacher training, and develop collaborative learning communities to support more varied learning.

Keywords: *Educational Supervision; Elementary School; Learning Resources; Principal; Quality of Learning*

Article History:

Received 03rd October 2025

Accepted 30th October 2025

Published 03rd November 2025



INTRODUCTION

Education is the primary foundation for building a developed and civilized nation, as it produces human resources with quality and competitiveness. Its role is strategic as a driving force for change in various aspects of life, including social, economic, and cultural aspects. Article 3 of Law Number 20 of 2003 affirms the function of national education to develop potential, shape character, and build a dignified national civilization. Indonesia faces diverse challenges in achieving this goal, both in terms of limited material resources and human resources (Teti *et al.*, 2023).

Seventy-nine years since Indonesia's independence have not been enough to guarantee that the world of education is free from various problems. The complexity of the challenges remains evident, ranging from disparities in quality between regions, limited resources, a lack of learning innovation, to the yet-to-be-fully-achieved equality of quality (Suyanto, 2021). This situation is even more pronounced in rural and remote areas, which still lag behind in various aspects of education. Quality is a crucial factor in determining the success of the system, so its continued improvement is a shared priority. This effort encompasses learning outcomes, the learning process, and relevance to local characteristics.

Improvements in the quality of education can be realized through teaching and learning activities that are designed to be more interactive and innovative so that students are actively involved in the process (Mulyasa, 2022). The use of diverse learning resources plays a major role in creating an effective, enjoyable, and meaningful learning atmosphere for students.

Handoko *et al.* (2023) emphasized that learning resources include people, the surrounding environment, print and digital media, and local resources available at the school. Learning resources are not merely tools but are a crucial component that must be systematically designed to strengthen mastery of the material and improve the quality of learning.

Initial findings from observations and interviews indicate that the use of learning resources at the elementary school level remains very limited. Observations at SDN Bukit Bamba in Pulang Pisau Regency revealed the dominance of conventional, teacher-centered methods and textbooks as the primary source. Interviews with local teachers revealed that a variety of learning activities has not been widely developed, resulting in classroom-focused learning activities. Suhirman (2023) emphasized that optimal management of learning resources can provide concrete experiences for students and support improving the quality of learning in elementary schools.

Principals play a strategic role in the education ecosystem because they are not only leaders but also supervisors tasked with improving the quality of learning. Raharjo (2023) emphasized that principals are responsible for guiding teachers to optimize the use of various learning resources. Supervision is carried out through evaluation and coaching aimed at strengthening the teaching and learning process. Hasna (2022) added that the principal's role is closely related to improving teacher competency. Sofya *et al.* (2023) demonstrated that effective mentoring can improve teachers' skills in developing relevant learning materials.

Principals play a crucial role in supervising, evaluating, and mentoring teachers to design innovative learning methods tailored to student needs, leading to a more meaningful and high-quality learning process. This study focuses on analyzing the principal's role as a supervisor in utilizing learning resources at SDN Bukit Bamba, Pulang Pisau Regency. The findings are expected to provide recommendations for strengthening the principal's role in supporting improved learning quality through contextual strategies and optimal utilization of available school resources.

Literature review

Transformational Leadership Theory

In today's dynamic modern education, principals play a role as visionary agents of change. According to Leithwood *et al.* (2019), principal leadership has an indirect but significant impact on student achievement by improving the quality of learning. Principals need to understand students' learning needs and motivate teachers to utilize creative, innovative, and relevant learning resources to meet the demands of today's changing times.

Bush & Glover (2021) emphasize that transformational leadership is essential for principals to inspire teachers, foster a culture of innovation, and strengthen collaboration in learning management. This leadership style enables principals to build a shared commitment to improving educational quality. Principals who implement it tend to be more successful in encouraging teacher involvement in designing and developing alternative learning resources tailored to student characteristics and needs.

According to Muflikha & Haryanto (2019), principal leadership encompasses the responsibility to ensure the educational process is effective, efficient, and aligned with national education goals. Principals are required to select and develop educators and staff capable of optimally realizing the school's vision and mission. Suyatno *et al.* (2022) added that principals need to map the potential of the school and surrounding community to create contextual, relevant, and meaningful learning for students.

Senge (2019) explains that today's educational leaders need to build learning organizations that foster a culture of collaborative learning across all elements of the school. Principals must create an environment where teachers, staff, and students support each other in the continuous learning process. This approach aligns with the principles of transformational leadership, which emphasizes a balance between academic achievement and character development in students aligned with local values and global demands.

Principal as supervisor

As supervisors, principals are required to possess strong supervisory skills to support the improvement of teacher professionalism. Supervisory duties include observing classroom learning activities, providing constructive feedback, providing reflective discussions with teachers, and developing follow-up plans to improve the learning process. Sergiovanni (2018) emphasized that the principal's role extends beyond supervision to building collaborative relationships with teachers and creating a conducive learning environment, ensuring sustainable learning quality and a focus on student needs.

Berliani *et al.* (2023) emphasized that the implementation of supervision by the principal plays a significant role in improving teacher professionalism and encouraging optimal utilization of school resources, including learning resources. Systematically designed and continuous supervision can provide a means for teachers to develop learning strategies appropriate to the context and needs of students. The principal's role in this regard not only strengthens the quality of learning but also ensures that the school's full potential is utilized effectively to achieve higher-quality educational goals.

As supervisors, principals have a significant responsibility in fostering a collaborative culture among teachers in managing learning resources. Participatory supervision provides a space for teachers to share experiences, design teaching materials together, and expand access to learning materials through various media (Afendi *et al.*, 2024). Nurdin & Akbar (2021) emphasized that collaboration within learning communities facilitated by principals can enhance teachers' creativity in utilizing learning resources. This finding demonstrates the importance of the principal's role in encouraging learning innovation, particularly in elementary schools located in remote areas.

Azizah (2023) explains that the principal, as a supervisor, plays a strategic role in teacher professional development, performance improvement, and the learning environment. Supervision includes classroom observations, providing constructive feedback, ongoing training, and establishing a collaborative culture within the school. The principal is also tasked with overseeing learning activities, monitoring student discipline, managing performance evaluations, and coordinating lesson plans. Bookhoree Yeemayee (2023) adds that effective supervision directly contributes to improving teaching quality through ongoing support and the development of professional learning communities.

Learning resources

AECT (1994) defines learning resources as anything that students, either individually or in groups, can use to facilitate the learning process, including data, people, and objects. These resources include messages, people, materials, tools, techniques, and settings. Messages consist of ideas, values, teachings, facts, or data conveyed through other components. People act as both presenters and managers of messages. Materials include media or software, while tools are hardware such as projectors. Techniques are understood as systematic procedures, and settings include the physical and non-physical environments in which learning takes place.

Heinich *et al.* (1996) stated that learning resources include printed materials, audiovisual media, the physical environment, and the people involved in the educational process. Within the Independent Curriculum framework, a diversity of learning resources is encouraged to ensure learning is tailored to students' needs and characteristics. Sofya *et al.* (2023) found that mentoring in the use of learning resources can improve teachers' skills in designing relevant and effective materials. This view emphasizes that learning resources are not merely tools but core components that must be well-planned in the learning process.

Handoko *et al.* (2023) emphasized that learning resources include people, the environment, print media, digital media, and various local potentials around the school, which serve to strengthen mastery of material and create real-world context-based learning. Fransiska (2023) added that creative management of facilities and infrastructure can produce diverse learning resources, enabling students to obtain information from various perspectives. Ningsih *et al.* (2023) highlighted the role of humans, particularly teachers, who, through direct interaction with students, can enrich the learning experience at the elementary level.

Aliah *et al.* (2023) emphasize that teachers play a central role in designing and preparing learning resources, both print and multimedia, to support the improvement of the learning process. Careful planning by teachers helps students acquire material in a more structured and relevant way to their learning needs. Suhirman (2023) adds that effective management of learning resources can provide concrete and hands-on experiences, making it easier for students to connect the material to real-life situations they encounter in their daily lives.

METHOD

This research was conducted using a qualitative approach using a case study design, from June 2025 to August 2025. This research focused on analyzing the principal's role as a supervisor in the utilization of learning resources in elementary schools. This approach was chosen because it can provide a detailed description of the processes occurring in the field, including the strategies, policies, and supervisory practices implemented. The results are expected to provide a concrete picture of how principals direct, guide, and support teachers in managing learning resources so that they are more effectively used to improve the quality of learning according to student needs.

Informants

The research informants consisted of four individuals, including three teachers and the principal. These informants were selected as the primary source of data and information based on the research focus. The research was conducted at SDN Bukit Bamba 1, Pulang Pisau Regency, Central Kalimantan. Key informants were selected using a purposive sampling technique to align with the research objectives. From these key informants, data collection was expanded using a snowball sampling technique, allowing researchers to reach other relevant informants. This strategy was chosen to obtain richer, more diverse data and support in-depth analysis regarding the principal's role as a supervisor in the utilization of learning resources.

Ulfatin (2014) explains that after the first key informant has been interviewed, they are asked to recommend one or more other sources deemed to have relevant information to serve as subsequent informants. A similar process is carried out with the second informant, where they are also asked to nominate other sources who can provide additional data. Through these stages, the number of informants continues to grow, resulting in a more extensive data collection. Bogdan & Biklen (1998) describe this method as snowball sampling, as it involves more and more people as the research process progresses.

Instruments

The research instruments were developed based on the study's primary focus, designed to gather targeted data. The first focus relates to the principal's role as a supervisor, directing and guiding teachers in carrying out their duties. The second focus emphasizes the supervisor's role in supporting the use of various learning resources to meet learning needs. The third focus highlights the obstacles teachers encounter when utilizing learning resources, allowing the data obtained to provide a comprehensive picture of the dynamics of supervision and resource utilization in elementary schools.

The interview guideline was developed based on the primary focus of the research to ensure that the data obtained aligns with the study's needs. The first aspect focused on the principal's role as supervisor in supporting and overseeing the use of learning resources in schools. The second aspect emphasized the challenges teachers experience when using learning resources in teaching and learning activities. The interview guideline was systematically structured to gather in-depth information and provide a comprehensive picture of the dynamics of supervision and the challenges teachers face in optimizing learning resources.

Procedures

Data collection was carried out using three main techniques: observation, interviews, and documentation. All information obtained from these three techniques was then coded for easier analysis based on the research focus. This process was carried out directly through face-

to-face interactions with informants to ensure the accuracy of the data obtained. The interview format used was an in-depth interview. This technique aims to explore in detail the principal's views, experiences, and practices in carrying out their supervisory function regarding the use of learning resources in schools. All activities adhered to strict health protocols as a form of responsibility for the safety of both researchers and informants during the research process in the field.

After collecting all the data through various methods, researchers conducted a coding process to label each interview result, observation, and documentation obtained from informants. Coding serves as the initial step in organizing and grouping the data to create a more structured approach. This process facilitates the researcher's alignment of the analysis with the predetermined research focus. The coding results are then summarized in a table to present the data more clearly and systematically, and to facilitate the smooth flow of subsequent analysis stages (Table 1).

Data analysis

The data analysis in this study used an interactive pattern developed by Miles *et al.* (2014). The analysis stages consisted of three main processes: data condensation, data presentation, and conclusion drawing. Condensation was carried out to select, simplify, and focus the data according to the research needs. Data presentation was done in the form of descriptions and visual displays to be more structured and easier to understand. The final process was drawing conclusions based on the interpretation of the condensed and systematically presented data (Figure 1).

Table 1. Informant code

Aspek pengkodean	Kode
Data collection technique:	
1. Observation	OB
2. Interview	In
3. Documentation	DOC
Data source:	
1. Headmaster	Hm_1
2. Teacher 1	Tc_1
3. Teacher 2	Tc_2
Example of coding usage: (Tc_1; DOC_2/07/2025)	
Information: Tc_1 = Teacher 1 DOC = Documentation 2/07/2025 = date of research	

The results of the data analysis serve as the basis for researchers to compile a structured research report. The approach used to ensure the validity of the research data was source triangulation, which involves double-checking the validity of information from informants. The compilation process involves linking field findings with the results of other relevant studies to obtain a more comprehensive picture of the topic being studied. Each piece of data obtained is carefully analyzed and then combined with theory and previous findings to strengthen the research argument. From this series of processes, researchers formulate key findings, which serve as final conclusions, addressing the previously established research focus.

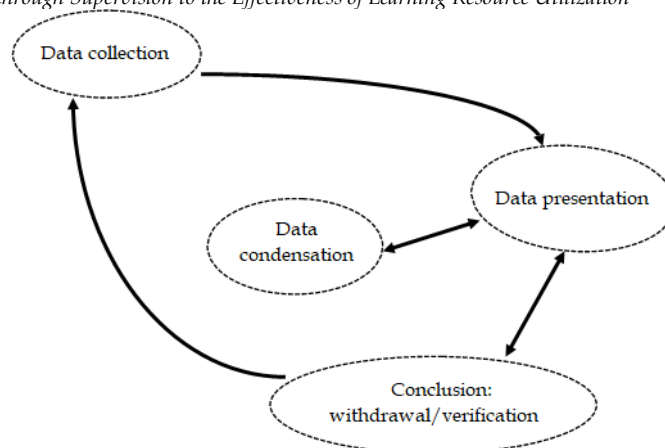


Figure 1. Data analysis – interactive patterns

FINDINGS AND DISCUSSION

Findings

Principal leadership as supervisor

Interviews with the principal revealed that academic supervision at the school is conducted regularly, twice a year. Supervisory activities include observing classroom learning processes, monitoring teachers' use of learning resources, and periodically evaluating the quality of teacher performance.

"Supervision activities are an important part of my work with teachers at school. They are generally conducted twice a year, although they can be conducted more frequently upon specific teacher requests. The supervision schedule is determined in advance, then shared with teachers, and revised as needed. The focus of supervision covers both academic and administrative aspects, as needed". (Hm_1; In_17/07/2025)

Teachers stated that the principal's supervision occurs twice each academic year. This information demonstrates consistency in the implementation of supervision, which aims to monitor the learning process and the use of learning resources in the classroom.

"We greatly benefit from the supervision activities carried out by the principal. There are usually two supervisions per school year, either at the beginning or end of the semester. I find these supervision activities very helpful for teaching in the classroom". (Tc_1; In_24/07/2025)

A teacher explained that supervision at school is typically conducted twice a semester and led directly by the principal. The timing of the supervision is adjusted to the teacher's needs and the results of mutual agreement. In the first stage, the principal provides comprehensive supervision of teaching and learning activities in the classroom. After that, the activity continues with a more focused discussion regarding any issues or obstacles that arise during the learning process. This explanation was reinforced by the teacher's statement, which emphasized that supervision provides a space for sharing experiences and seeking solutions to problems encountered.

"We usually supervise twice, usually conducted by the principal. The implementation can be adjusted to our needs and the agreement with the principal. She usually provides general supervision first, covering teaching and learning activities in the classroom, then the discussion moves on to specific issues that occur in the classroom". (Tc_2; In_24/07/2025)

Utilization of learning resources

The principal's role as supervisor is evident in his commitment to guiding teachers to effectively manage and use a variety of learning media. His guidance extends beyond the use of textbooks as the primary reference, to the use of other media, such as images, videos, and real-life objects around the school. This approach helps teachers deliver more lively and contextual learning, optimally meeting students' needs. Teachers are encouraged to be creative in selecting learning resources, as the principal emphasized in his statement about the importance of variety in the teaching process.

"Yes, I have provided supervision regarding the use of learning media to make learning activities more engaging. For example, by providing examples of the use of images, videos, or objects around me, I give teachers the freedom to choose learning media that suits their needs and is accessible to both teachers and students. For example, I once directed teachers during supervision activities to utilize plants around the school when students were learning science, and then the students were instructed to bring some from home". (Hm_1; In_17/07/2025)

The teacher explained that the principal, as supervisor, provides flexibility in selecting learning resources according to class needs. A variety of media can be used, from images and videos to other easily accessible resources. This freedom allows teachers to be more creative in designing lessons. The principal conducts supervision through direct classroom observation, observing how teachers utilize these media. This practice demonstrates concrete support for improving the quality of teaching, as the teacher emphasized through her statement regarding the importance of the principal's role in directing the teaching and learning process.

"In utilizing learning resources, we are given the freedom to simply adapt them to our teaching needs. These can be images, videos, and so on. The principal has conducted several direct observations by observing the media I use". (Tc_1; In_24/07/2025)

Another teacher emphasized that the selection of learning resources was entirely driven by student needs without any pressure from the principal. The principal provided only general direction, while decisions about media use remained the teacher's responsibility. Support was also evident in the encouragement of collaboration between teachers, for example, by sharing or borrowing pictures, posters, and books. This practice helped ensure that the necessary learning resources were optimally met. This explanation was reinforced by a teacher who noted that the principal's policies provided flexibility in managing learning.

"I select learning resources based on students' needs, taking into account the availability of readily accessible media. The principal never forces specific use, but instead provides general guidance. Teachers are given space to adapt and are encouraged to share information, borrow pictures, posters, or books to support student learning". (Tc_2; In_24/07/2025)

Constraints in the use of learning resources

Efforts to utilize learning resources with the support of the principal continue to face several obstacles in the field. The principal stated that the main obstacle is not solely related to teacher creativity, but also to the limited infrastructure available. Supporting media-based learning facilities are still far from adequate, so the use of images, videos, and internet-based resources is not always optimal. This situation has resulted in limited media variety available to teachers in the teaching and learning process. This statement was confirmed directly by the principal in his explanation of the actual situation at the school.

"The main obstacle to utilizing learning resources in our school stems from limited facilities, particularly difficult internet access. Teachers struggle to prepare visual or video materials directly, so materials that cannot be directly observed are only shown during outings or training sessions. Local resources are utilized whenever possible, while learning is often confined to the classroom". (Hm_1; In_17/07/2025)

Teachers reported that limited facilities also impacted the use of learning resources at school. Frequently encountered obstacles were inadequate internet access and a lack of supporting facilities for learning activities outside the classroom. This situation limited the variety of strategies available to provide more contextual learning experiences for students. Teachers emphasized that this situation often resulted in the learning process not running optimally as expected. This statement echoed the principal's explanation of similar challenges faced in the school environment.

"Obstacles to utilizing learning resources at our school relate to facilities and resource availability. Internet-based media use is very limited due to the often-unavailable signal in this area. Learning activities outside the classroom, such as market visits, are rarely conducted due to the distance and the limited number of teachers who must divide their attention between classes". (Tc_1; In_24/07/2025)

Next, one of the teachers said:

"The learning resources I use are tailored to the availability and ease of access for students. Some materials, such as regional songs, use the available audio, while those that are not available must be sung by me. The principal's suggestion to involve other teachers is difficult to implement due to scheduling conflicts, so some materials are only presented theoretically. This situation indicates limited facilities that limit the optimal use of learning resources in the classroom, so that students' learning experiences cannot fully be implemented according to the planned and intended media". (Tc_2; In_24/07/2025)

Limited facilities are a major obstacle teachers face in utilizing learning resources. Inadequate internet access limits the use of digital media to support learning. Geographical constraints and a limited number of teaching staff also hinder the implementation of out-of-school learning activities, such as market visits, which serve as contextual learning resources. Teachers also face limited support facilities, such as musical instruments or audio equipment for arts and culture subjects. These obstacles prevent efforts to utilize learning resources in schools from fully meeting students' educational needs.

Discussion

The role of the principal as a supervisor in improving the quality of learning

Principals play a strategic role in improving the quality of learning in schools. Minister of Education, Culture, Research, and Technology Regulation No. 40 of 2021 affirms the principal's position as a learning leader, responsible not only for management but also for academic aspects and the development of school culture. Supervision is a crucial part of this leadership, where the principal provides professional guidance to teachers. Berliani & Wahyuni (2017) define supervision as a form of service and mentoring for teachers to improve the quality of education. Supervision encompasses both academic and managerial aspects, serving as a means of developing teacher competency and the quality of classroom learning.

The teacher supervision program is a crucial component of educational management, as stated by Maryati (2022). The primary function of supervision is to improve learning situations to make them more effective. The implementation of supervision at SDN Bukit Bamba 1 demonstrates the principal's performance of academic functions in accordance with his duties as an educational supervisor. Muslim (2013) emphasized the need for an annual supervision program broken down by quarter, semester, month, or week. The principal at SDN Bukit Bamba 1 conducts supervision at least twice a school year, demonstrating consistency in supporting improvements in educational quality. Academic supervision is a crucial instrument in teacher capacity development and learning management.

Ideal supervision activities bridge teachers' needs with the school's strategic vision to improve the quality of learning. The implementation of scheduled supervision twice a year at SDN Bukit Bamba 1 reflects a regular and collaborative approach. Flexible scheduling involves teachers in determining the time, allowing supervision activities to run more optimally. Participatory supervision provides a space for teachers to exchange ideas, design contextual teaching media, and collectively evaluate the effectiveness of learning. This allows the guidance process not only to improve individual performance but also to strengthen the school's professional culture and collaboration in improving the overall quality of education.

Principal supervision in the use of learning resources

Supervision activities at SDN Bukit Bamba 1 emphasize the principal's role in supporting teachers in optimizing diverse learning resources, not limited to managerial or administrative aspects alone. The principal encourages collaboration between teachers in utilizing learning resources, whether based on digital media, books, the surrounding environment, or local cultural potential. Supervision is directed at ensuring teachers can integrate various learning resources creatively and contextually, resulting in more meaningful learning. This effort aligns with the principles of supervision that emphasize teacher professional development, mastery of teaching materials, and optimal utilization of school resources, strengthening the quality of the teaching and learning process.

Learning resources used in supervision include people, the environment, print and digital media, and local resources around the school, as explained by Handoko *et al.* (2023). These resources support mastery of the material and the creation of effective contextual learning. Research by Berliani (2023) confirms that principals play a crucial role in improving teacher professionalism through supervision, including optimal utilization of learning resources. Structured supervision helps teachers develop creative learning strategies, enrich teaching materials, and encourage collaboration within the teaching team, thereby improving the quality of education in schools and making students' learning experiences more meaningful.

According to Azizah (2023), the principal's role as supervisor has three main focuses: teacher professional development, improving teacher performance, and improving the learning environment. Effective supervision involves classroom observation, providing feedback, ongoing training, and creating a collaborative culture. The principal also oversees the learning process, monitors student discipline, manages teacher performance evaluations, coordinates learning plans, and builds collaboration with staff and the educational community. This approach ensures teacher development and the quality of learning align with the school's vision, while creating a supportive and productive learning environment for all students.

Participatory supervision by the principal supports the development of a collaborative culture among teachers in managing learning resources. The principal guides teachers to share good practices, collectively develop teaching materials, and utilize technology to expand access to learning materials. Nurdin & Akbar (2021) found that principal-facilitated teacher collaboration increased innovation in the use of learning resources, particularly in elementary schools in remote areas. This approach encourages teachers to learn from each other, enrich teaching strategies, and optimize the use of existing resources. This collaborative culture strengthens teacher professionalism and improves the quality of students' learning experiences.

Creative use of school facilities and infrastructure can create rich and diverse learning resources (Fransiska, 2023). This provides students with opportunities to access information from various perspectives. Ningsih *et al.* (2023) added that humans as learning resources are crucial, as direct interaction between teachers and students enriches the learning experience. Principals provide examples and motivation in the use of learning resources, encourage teachers to explore creative methods, and integrate local potential into learning. This strategy increases student engagement, strengthens the quality of learning, and fosters teachers' ability to manage learning resources adaptively and innovatively.

The principal's role as supervisor extends beyond administrative oversight. According to Mulyasa (2022), this also encompasses guidance, direction, and the provision of alternative solutions. Teachers are given freedom to choose learning resources, while remaining under the principal's guidance, thus upholding the principle of teacher independence. Principals encourage the use of local resources as an adaptive strategy to address limited facilities. This approach enhances teacher creativity, maximizes available learning resources, and enriches students' learning experiences. Effective supervision fosters a responsive, collaborative, and

innovative school culture, supporting the improvement of teacher professionalism and the quality of sustainable and contextual learning for all students.

Obstacles in utilizing learning resources

This study found that the main obstacle at SDN Bukit Bamba was limited facilities and internet access. Difficulty connecting to the network limited teachers' ability to provide image-, video-, and audio-based learning resources. Teachers had to rely on local resources to explain material that could not be found locally. This limited teachers' ability to provide students with concrete illustrations of the concepts being taught. The use of digital media can help clarify material, enrich the learning experience, and provide a more realistic context. Limited learning resources impacted the quality of learning and students' ability to master the material comprehensively.

Haryadi & Kansaa (2021) emphasize that learning media has important functions, such as attracting students' attention, clarifying material, avoiding misunderstandings, and adapting to various learning styles. Media can also overcome limitations of space, time, and cost, so that learning objectives can be achieved effectively. Teachers at SDN Bukit Bamba often use simple media and local resources due to technological limitations. The limited number of teachers also hinders the implementation of environment-based learning, such as market visits for social topics, which are rarely possible. Practical learning activities often have to be adapted to the real-world conditions of the school.

The limited learning resources are influenced by several factors, including limited school budgets, uneven distribution of books, lack of attention to alternative literature, and minimal use of technology in providing digital resources. This condition impacts the quality of learning decline, information inequality among students, and low learning motivation due to limited references. Hadad *et al.* (2025) stated that limited access to learning resources results in a less than optimal learning experience and affects students' overall mastery of the material. Creative and collaborative management of learning resources is crucial.

Principals play a crucial role in addressing the limitations of teacher resources and facilities. Teachers are encouraged to utilize simple media, collaborate with each other, and adapt learning to local conditions. Hadad *et al.* (2025) stated that collaboration between teachers and the school development team is crucial for designing, compiling, and revising teaching materials to ensure they are relevant to student needs. This collaborative strategy supports teacher creativity in delivering materials, improves the quality of learning, and ensures that every student has access to adequate learning resources despite limited school facilities.

Strategies to address the limited availability of teaching materials also require an active government role through policies and resource support. The government needs to strengthen regulations and budget allocations to ensure equitable distribution of teaching materials across all educational institutions, including those in remote areas. Developing a free digital teaching material platform is a strategic step to expand access to learning resources. Sanjaya (2006) emphasized that providing easily accessible digital media supports educational equity, encourages teacher innovation, and increases students' opportunities for diverse and contextual learning experiences, even in environments with limited facilities.

CONCLUSIONS

This study examines the principal's role as a supervisor in the utilization of learning resources at SDN Bukit Bamba. The results revealed that the principal conducts supervision at least twice a year, including classroom observations, discussions, and teacher performance evaluations. Supervision is designed in a participatory manner based on teacher needs. Furthermore, the principal encourages teachers to utilize a variety of learning resources, including books, digital media, the environment, and local resources. Teachers are encouraged to collaborate in sharing learning resources. Furthermore, this study underscores the importance of principal supervision not only as an administrative function but as a key

mechanism for pedagogical improvement and resource optimization. On the other hand, the main obstacles in the utilization of learning resources include limited facilities, internet access, and digital media. The limited number of teachers and geographical conditions make it difficult to carry out activities outside the classroom, so teachers optimize local resources and collaborate. Based on these findings, the intensity of supervision needs to be increased through a participatory approach and providing constructive feedback to teachers. Teachers are encouraged to develop creativity in utilizing local and simple learning resources. In addition, support for learning facilities is sought through coordination with the local government and collaboration with external parties to support the learning process. This can create optimal learning quality, where teachers can implement teaching strategies creatively and effectively.

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