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Developing Students' Literacy and Numeracy Skills in the School Environment

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Abstract: This study aims to explore deeper understanding of effective ways to develop literacy and numeracy skills in the school environment. The writing of this article uses a literature review research method, which is carried out by collecting various relevant research articles on the topic of developing literacy and numeracy in students in schools. In this study, researchers inventory relevant concepts to understand how numeracy skills can develop in students and the factors that influence them in the school environment. The results of the literature study found that various effective ways to develop literacy and numeracy skills in the school environment, such as project-based approaches and educational games, supportive classroom and school environments, targeted teaching strategies, interactive and participatory learning programs, SSI-based Student Worksheets (LKPD), Mobile Mathematics Pathways, which combine technology with the PBL model, the AKSI application (Indonesian Student Skills Application), storytelling programs, reading, writing and arithmetic lessons, and the use of learning media. However, developing students' literacy and numeracy skills in various educational contexts faces a number of complex challenges, the main constraints of which include resource constraints, differences in levels of student engagement, and the need for adequate policies and training.

Keywords: Developing Abilities, Literacy, Numeracy, School Environment

A. Introduction

Literacy and numeracy skills are two fundamental aspects of education that greatly influence the cognitive and academic development of students (Munn, 1994). Literacy, which includes the ability to read, write, and understand information effectively, and numeracy, which focuses on the ability to calculate, understand numbers, and solve mathematical problems, are the basis for building critical thinking and problem-solving skills. These two skills not only play an important role in academic success, but also in preparing students to face the increasingly complex challenges of life in a world that is digital and full of information (Zainudin & Abdul Fatah, 2022).

Formal education in schools plays a major role in developing literacy and numeracy skills in students. This is becoming increasingly relevant considering the development of the era that encourages students to have skills, such as critical thinking, creativity, and being able to collaborate with others (Pratiwi et al., 2020). Therefore, it is important for schools to instill literacy and numeracy values from an early age, so that students can master the basic skills needed in various fields of science and everyday life.

In Indonesia, literacy and numeracy development have been a major focus in education reform efforts, especially since both are basic skills that are very important for student development. Literacy, which includes the ability to read, write, and understand information, and numeracy, which is related to the ability to calculate and solve mathematical problems, have a key role in preparing students for the challenges of life in the 21st century. However, results from international research and assessments, such as the Programme for International Student Assessment (PISA) which is carried out every three years, show that Indonesia faces major challenges in both areas. In PISA 2022, Indonesia ranked 70th for literacy and 69th for numeracy among 80 participating countries (PISA, 2023). These relatively low rankings indicate that many Indonesian students still have difficulty in mastering basic literacy and numeracy skills, which are key to their academic success and daily life.

These results are a clear indication that the Indonesian education system needs to face a major challenge in ensuring that every student has a sufficient knowledge base in these two areas. Given that literacy and numeracy are basic skills needed to understand lessons in all subjects, difficulties in these areas can hinder overall academic development. In addition, low literacy and numeracy skills also impact community participation in social, economic, and political activities, which require critical thinking skills, the ability to analyze data, and solve problems faced in everyday life.

Various efforts have been made to improve literacy and numeracy skills, both through curriculum improvements, improving teacher competencies, and implementing more effective and innovative learning methods (Colbert, 2011). Among the various approaches available, the development of literacy and numeracy in the school environment must be carried out in a planned, systematic, and sustainable manner. One way that can be taken is through a literacy and numeracy-based approach in every aspect of learning, which links the knowledge taught to the daily lives of students (Salminen et al., 2021).

This study aims to gain a deeper understanding of effective ways to develop literacy and numeracy skills in school environments, as well as to identify challenges in their implementation. Through this literature study, it is hoped that various approaches and strategies can be found that can be applied in schools to improve the quality of

students' literacy and numeracy, as well as provide recommendations for improvements in education policies at the national and local levels.

By considering the important role of literacy and numeracy in shaping the character and basic skills of students, this study seeks to provide broader insights into how the school environment can be an optimal place for the development of these two abilities, which in turn can equip students with relevant skills to face an increasingly challenging future.

B. Methods

This article is written using a literature review research method, which is done by collecting various relevant research articles on the topic of literacy and numeracy development in students at school. In this study, researchers inventory relevant concepts to understand how numeracy skills can develop in students and the factors that influence them in the school environment.

The research procedure consists of four main interrelated stages, first data collection, researchers at this stage collect research articles that are relevant to the topic being researched. These articles can be the results of previous research, academic journals, books, and other related documents that discuss numeracy skills and their development in students. The goal is to obtain diverse and comprehensive information**.**

After the data or articles are collected, the next step is to present the data in a systematic way. Researchers organize the articles that have been obtained in a form that is easy to understand and in accordance with the focus of the research. This presentation is done by noting important points from each relevant article, as well as highlighting the main findings from previous research. Then the data reduction stage, researchers filter and process the data that has been collected to identify the most relevant and important information. This data reduction aims to filter out irrelevant or less in-depth information, so that the focus of the research is maintained. Researchers then compile relevant data in a more structured and easily analyzed form.

The final step in this research procedure is to analyze the processed data, then draw conclusions based on data verification that has been checked for the feasibility and reliability of the information contained therein. Researchers assess valid and reliable data to conclude key findings that will provide new insights into the development of numeracy skills in students.

C. Results and Discussion

Based on the results of research related to the development of literacy and numeracy of students in the school environment, there have been many discussions related to

the methods used in developing student literacy and numeracy. The results of this study are the results of the development of previous research which provides a comprehensive overview of the results of literature studies on effective ways to develop literacy and numeracy skills in the school environment, as well as identifying the challenges in their implementation.

Table 1. Overview of Relevant Article Studies

No.	Title	Author (Year)	Key Findings	Development Strategy	Challenge
1.	Effective Strategies in Developing Literacy and Numeracy of Grade V Elementary School Students	(Suryadi et al., 2024)	Project-based teaching and thematic learning improve literacy skills. Problem-based learning and educational games improve students' numeracy skills.	Project-based teaching, thematic learning, and educational technology	Challenges may arise from inadequate teacher training and inconsistent policy support.
2.	Supporting Strategies of The Recovery For Students' Literacy And Numeracy In Elementary School Environment	(Zainudin & Abdul Fatah, 2022)	Strategies for literacy and numeracy recovery are identified, and indicators for improving classroom and school environments are outlined.	Organize library books by genre, create literacy corners, and equip classrooms with counting tools.	Inadequate collaboration among teachers and limited resources for different learning environments.
3.	A systematic literature review: how do we support students to become numerate?	(Adelia et al., 2024)	Identified capabilities and recommendations for improving students' numeracy skills, as well as providing opportunities and directions for further research in numeracy education.	Targeted teaching strategies	Challenges include the varying abilities of students and the complexity of integrating numeracy into existing curricula, which require tailored approaches and further research.
4.	Increasing Literacy and Numeracy and Adapting Technology Through the Campus Teaching Program	(Bela et al., 2024)	Literacy scores increased by 85% after the program. Numeracy scores increased by 65% after implementation.	Interactive and participatory approach	Limited resources and varying levels of student engagement, which can impact the implementation and sustainability of such educational programs.
5.	Development of Student Worksheets (LKPD) Based on Socio-Scientific Issue (SSI) on Flat Form Topics to Improve Reading Literacy	(Putriana & Widiarti, 2024)	The high validity and reliability of LKPD were confirmed by expert validators. Significant improvements in literacy and	Socio-Scientific Problems (SSI) in student worksheets	Inadequate teaching materials and difficulties in independent learning

No.	Title	Author (Year)	Key Findings	Development Strategy	Challenge
	and Numeration Skills		numeracy skills were observed in students.		
6.	Learning Numeracy around School Environment Supported by Mobile Math Trails using Problem-Based Learning Model	(Nurin et al., 2024)	Mobile Math Path enhances numeracy learning through PBL model. Active student engagement and collaboration enhance the learning experience.	Mobile Mathematics Path in Problem Based Learning model	Challenges include ensuring active student engagement and collaboration, as well as integrating real-world scenarios that require reasoning and physical engagement.
7.	Optimizing Student Literacy Through "Aksi" Applications	(Wahyuningsih & Arifah, 2024)	The AKSI application significantly improves students' numeracy literacy skills. Increases literacy activities and understanding through reading.	AKSI Application	Limited resources and the need for supportive school policies to sustain these initiatives.
8.	Improving Elementary School Students' Understanding of Literacy and Numeracy Through Digital Applications	(Hikamudin et al., 2023)	Average score of literacy comprehension: 39.32; numeracy: 34.81. 91% of teachers delivered the material in the very good category	Digital media to increase motivation and engagement	Inadequate teacher training, limited resources, and narrow understandings of literacy and numeracy, leading to ineffective learning experiences for students.
9.	Contribution of Campus Mengajar Batch 6 Students in Improving Literacy and Numeracy Skills of Students at SDN 8 Cakranegara	(Suryaningrum et al., 2023)	Improving literacy and numeracy skills of elementary school students. Positive impact on the school environment in Cakranegara.	Storytelling programs, reading, writing and arithmetic lessons, using learning media, and contextual learning	Limited resources, varying levels of student engagement, and the need for consistent coordination with school staff.
10.	Analysis of Teachers' Efforts to Improve Students' Literacy and Numeracy Abilities at Gemah State Elementary School	(Riyani & Purnamasari, 2024)	Teachers use a variety of strategies to improve literacy and numeracy skills.	Reading together, group discussions, and using digital media, in addition to PBL and PJBL	Key challenges include student interests and ability differences.
11.	Implementation of Play Techniques in the Class 6 Teaching Campus Program in Improving the Literacy and Numeracy Abilities of Elementary	(Diner et al., 2024)	Word games are effective in improving literacy and numeracy skills. 60% of students find learning fun through games.	Word games and digital based activities	Challenges include students feeling satisfied with school learning, leading to less reinforcement at home, which can hinder continued skill development.

No.	Title	Author (Year)	Key Findings	Development Strategy	Challenge
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12.	How Important of Students' Literacy and Numeracy Skills in Facing 21st-Century Challenges: A Systematic Literature Review	(Deda et al., 2023)	The dominant methodology is quantitative; tests and assessments are common instruments. Literacy and numeracy skills need urgent improvement, especially in remote areas.	Using digital competencies, learning videos and games	Differences in student abilities and understanding, especially in remote areas, require tailored educational strategies and resources to address these gaps.

Developing Students' Literacy and Numeracy Skills

The research results collected from various sources show various effective ways to develop literacy and numeracy skills in the school environment. The following is a narrative explanation based on these findings:

Project-Based Teaching, Thematic, and Educational Technology

Research by Suryadi et al. (2024) identified that project-based approaches and thematic learning are very effective in improving literacy skills. Problem-Based Learning and educational games have been shown to improve numeracy skills. This strategy utilizes educational technology to create more engaging and relevant learning experiences.

Project-based and thematic learning approaches encourage students to engage in contextual and meaningful learning processes, where they are given the opportunity to explore a particular topic in depth through real projects (Sumarno et al., 2024). For example, in project-based learning, students can develop reading and writing skills by compiling reports, making presentations, or designing creative products relevant to a particular theme. This approach not only improves literacy skills but also builds a sense of responsibility and critical thinking skills (Nayak et al., 2024).

On the other hand, Problem-Based Learning (PBL) and educational games significantly improve students' numeracy skills. PBL encourages students to solve complex real-world problems, which require mathematical analysis and application of numeracy concepts. This process helps students develop problem-solving skills independently and collaboratively (Gao & Zhang, 2023). Meanwhile, educational games provide a fun and interactive learning environment, where students can practice numeracy skills through interesting challenges and competitions (Suryadi et al., 2024).

Both approaches are enhanced by the use of educational technology, which makes the learning experience more engaging and relevant. By using digital tools such as learning applications, interactive simulations, and e-learning platforms, students can access a variety of rich and interactive learning resources (Suryadi et al., 2024). This technology also enables personalization of learning, where students can learn at their own pace and learning style. For example, through project-based applications, students can collaborate online, while numeracy-based educational games allow them to practice math skills independently or in groups (Taufik et al., 2024).

Classroom Environment that Supports Literacy and Numeracy

Zainudin and Abdul Fatah (2022) emphasize the importance of a supportive classroom and school environment. They recommend arranging library books by genre, literacy corners in the classroom, and numeracy aids to create a conducive learning atmosphere.

A supportive classroom and school environment plays a vital role in enhancing the learning process, particularly in the development of students' literacy and numeracy skills. A well-designed environment can help students feel comfortable, motivated, and interested in learning. This involves not only the physical aspects of the learning space, but also the psychological atmosphere that encourages curiosity and active engagement (Nagizade, 2024).

One recommended strategy is organizing library books by genre. By grouping books according to their genre, such as fiction, non-fiction, biography, or science, students can more easily find reading materials that suit their interests. This approach can increase reading interest because students can explore various genres according to their preferences. In addition, a neat and attractive book display can also increase the appeal of the library as a place to study (Zainudin & Abdul Fatah, 2022).

The creation of a literacy corner in the classroom is another important step. This corner is specifically designed to provide a space where students can read, write, and discuss in a relaxed manner. Equipped with a variety of reading materials, student work display boards, and stationery, the literacy corner becomes a center of activity that encourages student involvement in literacy. The presence of this corner helps build a reading culture in schools and significantly improves literacy skills (Zainudin & Abdul Fatah, 2022).

In addition to literacy, numeracy development also requires special attention. Providing numeracy aids in the classroom, such as calculators, number boards, math blocks, or even interactive numeracy games, provides students with the opportunity to practice mathematical concepts in a supportive environment. These tools help students understand numeracy material in a concrete and applicable way, making it easier for them to master numeracy skills (Zainudin & Abdul Fatah, 2022).

Targeted Teaching Strategies

Adelia et al. (2024) research shows that teaching strategies targeted at individual student needs can improve numeracy skills. This approach is centered on the understanding that each student has a different learning pace, learning style, and level of understanding in dealing with mathematical concepts. Thus, personalized and adaptive teaching strategies allow students to learn according to their specific needs, thus optimizing their academic potential.

Sharma (2024) describes targeted teaching strategies in practice, involving an initial assessment to identify each student's weaknesses and strengths in numeracy. Based on the results of the assessment, teachers can develop a customized learning plan, including providing specific exercises, additional materials, or intensive support for students who need extra help. For example, students who have difficulty understanding the concept of fractions can be given visual explanations or games involving manipulatives, while students who are already proficient in basic operations can be challenged with more complex application problems.

In addition, individual mentoring and small study groups are integral to this strategy. By paying close attention to students individually, teachers can provide more specific and direct feedback on their progress. In small study groups, students can share understandings and strategies with each other, creating a collaborative environment that supports learning (Sharma, 2024).

Adelia et al. (2024) research also emphasizes the importance of technology as a tool in targeted teaching strategies. Digital-based learning applications that can be tailored to students' needs allow them to learn at their own pace, track progress, and receive personalized learning.

Interactive and Participatory Approach

Found that interactive and participatory learning programs can improve literacy scores by up to 85% and numeracy by up to 65%. Active student involvement in the learning process is key to the success of this strategy. Interactive learning creates an atmosphere where students are directly involved in learning activities, either through group discussions, simulations, educational games, or technology-based activities such as interactive quizzes or online learning platforms. This approach not only makes learning more interesting, but also helps students understand the material in a more practical and applicable way. For example, students can learn to read through role-playing that requires them to understand a story, or improve numeracy skills through real-life simulations such as calculations in a trading context.

Meanwhile, participatory learning emphasizes the importance of students as active subjects in the learning process. In this model, students are encouraged to contribute

actively, either by asking questions, sharing ideas, or providing feedback to peers. This involvement creates a sense of ownership of the learning process, so that students are more motivated to achieve better results. The teacher acts as a facilitator who guides and provides direction, but still provides space for students to explore and find their own solutions (Bela et al., 2024).

The success of this strategy lies in the active involvement of students. When students feel involved and have a significant role in the learning process, they are more likely to be focused, motivated, and take responsibility for their learning. This also improves their ability to collaborate, think critically, and solve problems, all of which are essential skills for literacy and numeracy.

The positive results of this program are not only seen in the improvement of academic scores, but also in the development of positive attitudes towards learning. Students who engage in interactive and participatory learning tend to have higher self-confidence and are more enthusiastic in facing academic challenges. This shows that learning is not only about academic achievement, but also about building skills and character that support long-term success.

Socio-Scientific Problems (SSI) Worksheet

According to Putriana and Widiarti (2024), the use of SSI-based Student Worksheets (LKPD) has high validity in improving students' literacy and numeracy skills. SSI-based LKPD is designed to integrate real issues relevant to students' daily lives into the learning process, such as climate change, public health, or socio-economic issues. This provides a rich and meaningful context for students to learn academic concepts. The research of Putriana and Widiarti (2024) research shows that SSI-based LKPD has high validity, meaning that this instrument is scientifically considered feasible and effective for use in learning. This validity is obtained through a development process involving education experts, who ensure that LKPD is not only in accordance with the curriculum, but also relevant to student needs and the demands of the times.

The use of SSI-based LKPD encourages students to engage in reading activities and understand complex texts related to the issues. In this process, students not only improve their literacy skills, such as critical reading, writing, and summarizing information, but also develop analytical and reflective thinking skills. In addition, students' numeracy also improves because they have to analyze data, make calculations, or solve mathematical problems related to the issues being discussed. For example, in the topic of climate change, students can be asked to analyze carbon emission graphs or calculate the impact of certain energy uses on the environment.

The success of SSI-based LKPD in improving literacy and numeracy skills lies in the relevance of the material to the real world. When students see the direct relevance between learning and their lives, their motivation to learn increases. They are more

interested in exploring information and completing assignments because they feel that the material being studied has a real impact. This approach also helps students develop global insight and a sense of social responsibility.

Significant improvements in literacy and numeracy skills through the use of SSI-based LKPD indicate that context-based learning can be a powerful strategy in education. This LKPD not only facilitates the understanding of academic concepts, but also prepares students to face real-world challenges with more confidence and competence.

Mobile Technology and Problem Based Learning

Nurin et al. (2024) showed that the Mobile Math Pathway, which combines technology with the PBL model, improves numeracy learning and active student engagement through collaboration. The Mobile Math Pathway is a learning innovation that integrates digital technology with the Problem-Based Learning (PBL) model to improve students' numeracy skills. This program utilizes mobile devices such as tablets or smartphones to provide access to a variety of interactive learning resources specifically designed to help students understand mathematical concepts in depth.

Specifically designed to help students understand mathematical concepts in depth. One of the key strengths of the Mobile Math Pathway is its ability to create interactive and dynamic learning experiences. Through the app or learning platform, students are presented with real-world problems that challenge them to analyze data, solve problems, and make decisions based on numbers. For example, students may be asked to design a family budget, calculate discount percentages in a shopping simulation, or analyze statistical patterns in environmental data. All of these activities are designed to enhance their numeracy skills in the context of everyday life.

In addition, the PBL model in Mobile Math Pathway encourages active student engagement through collaboration. Students often work in small groups to discuss and solve problems together, which not only improves their numeracy skills but also develops social skills such as communication, teamwork, and critical thinking skills. This process puts students at the center of learning, where they actively explore, discuss, and build shared understanding, while the teacher acts as a facilitator who guides them.

The technology in the Mobile Math Pathway also enables personalized learning, where students can learn at their own pace and needs. The app can provide immediate feedback and track individual progress, so each student can monitor their own progress and focus on areas that need improvement. The success of the Mobile Math Pathway lies in the combination of the use of modern technology and a collaborative pedagogical approach. The program not only makes numeracy learning more relevant and engaging, but also increases overall student motivation and engagement. With

students actively involved in the learning process, they are better prepared to face mathematical challenges inside and outside the school environment.

Application for Literacy and Numeracy

Research by Wahyuningsih and Arifah (2024), highlights the effectiveness of the AKSI application in improving numeracy literacy. This application facilitates reading activities and numeracy comprehension using an interactive digital platform. The AKSI (Indonesian Student Skills Application) application has shown high effectiveness in improving numeracy literacy among students. This application is designed as an interactive digital platform that combines various learning features to facilitate the development of reading skills and numeracy comprehension in an integrated manner.

In terms of literacy, the AKSI application provides a variety of interactive readings designed to improve critical and analytical reading skills. Students can access informative texts, stories, or articles that are equipped with comprehension questions and reflective activities. These readings not only help students broaden their horizons but also encourage them to analyze information and draw conclusions. Features such as built-in dictionaries and audio readings also facilitate understanding, especially for students with early literacy levels (Wahyuningsih & Arifah, 2024).

On the other hand, this application also excels in supporting numeracy learning. Students are given various exercises and simulations covering mathematical topics ranging from basic operations to data analysis. These activities are designed interactively, such as in the form of number games, quizzes, and simulations that are relevant to everyday situations. For example, students can learn about calculating percentages through shopping simulations or understand the concept of fractions through virtual cooking activities.

The advantage of the AKSI application lies in its ability to provide direct feedback and personalize learning. Each student can learn according to their own rhythm and level of ability, with automatic guidance provided by the system. Real-time feedback allows students to immediately know their mistakes and understand concepts better. In addition, teachers can monitor student progress through an integrated dashboard, so that learning can be tailored to individual needs.

The effectiveness of the AKSI application is also supported by an approach that utilizes game-based learning to increase student motivation. Game elements, such as awards, daily challenges, and leaderboards, encourage students to participate more actively and feel involved in the learning process. In this way, students not only learn, but also enjoy the learning process, which ultimately improves their literacy and numeracy skills significantly.

Storytelling and Reading, Writing and Arithmetic Tutoring Program

Suryaningrum et al. (2023) reported significant improvements in literacy and numeracy skills through storytelling programs, reading, writing and arithmetic lessons, and the use of learning media. This approach is implemented holistically by combining creative and educational activities, which not only improve academic skills but also create a more enjoyable and conducive learning atmosphere.

Storytelling is used as a means to develop students' literacy skills. Through interesting stories, students are encouraged to enrich their vocabulary, understand the storyline, and hone their reading and listening skills. Storytelling activities also help students develop their imagination and critical thinking skills, because they are encouraged to reflect on the values contained in the story and relate them to everyday life. In addition, the pleasant atmosphere during storytelling sessions increases students' interest in reading, encouraging them to explore storybooks more often outside of formal learning time (Suryaningrum et al., 2023).

On the other hand, reading, writing and arithmetic lessons provide a solid foundation in literacy and numeracy. These classes are designed to help students, especially those at the early stages of education, master the basic skills of reading, writing and arithmetic. With intensive guidance and repeated practice, students gradually improve their reading speed and accuracy, as well as their ability to solve simple math problems. The personalized approach in these lessons allows teachers to focus on the individual needs of students, accelerating their development in areas that were previously considered difficult. (Putro & Sa'diyah, 2022).

The use of modern learning media, such as teaching aids, educational videos, and interactive applications, further strengthens the effectiveness of this program. Learning media helps students understand abstract concepts through visualization and hands-on experience. For example, educational board games or animated videos can make complex mathematical concepts easier to understand and more enjoyable to learn. This not only improves conceptual understanding but also extends students' retention of information.

The impact of this program is not only felt by students, but also by the school environment in Cakranegara. The implementation of this approach creates a more inclusive and dynamic learning culture. Teachers are more motivated to use creative teaching methods, while parents are more involved in supporting their children's learning process. The school environment becomes livelier with an atmosphere that encourages collaboration and positive interactions between students. As a result, schools in Cakranegara have not only succeeded in improving academic achievement but also strengthening community relationships that support continuous learning (Suryaningrum et al., 2023).

Developing students' literacy and numeracy skills in various educational contexts faces a number of complex challenges. Based on research findings, key constraints include limited resources, differences in student engagement levels, and the need for adequate policies and training.

Research by Bela et al. (2024) and Suryaningrum et al. (2023) highlighted those limited resources, such as access to books, learning media, and technology, are significant barriers to implementing educational programs. In addition, varying levels of student engagement, from highly engaged to less motivated, also affect the success of the program. These disparities create challenges in creating consistent and equitable learning experiences across classes.

In the context of teaching materials, Putriana dan Widiarti (2024) noted that inadequate materials often make it difficult for students to learn independently. This is compounded by the lack of guidance that allows them to develop literacy and numeracy skills outside the classroom environment. Nurin et al. (2024) added that challenges also arise in integrating real-world scenarios into learning, where students are asked to apply critical reasoning in relevant contexts.

Wahyuningsih & Arifah (2024) and Hikamudin et al. (2023) highlight the importance of supportive school policies and adequate teacher training. Without policies that support the sustainability of educational initiatives, existing programs are difficult to sustain. Minimal teacher training leads to a narrow understanding of literacy and numeracy approaches, leading to less effective learning experiences.

Student interests and differences in ability are also major challenges, as noted by Riyani and Purnamasari (2024). Some students show low interest in learning, while others require a more individualized approach to meet their needs. Diner et al. (2024) added that student satisfaction with learning at school often reduces efforts to reinforce skills at home, which hinders continued skill development.

In remote areas, according to Deda et al. (2023), he challenges faced are increasingly complex because differences in student abilities and understanding are more prominent. This requires tailored educational strategies and resources to address these gaps. Lack of infrastructure and access to technology also exacerbates the situation, leaving students in these areas lagging behind their peers in more developed areas.

D. Conclusion

The results of the literature study found that various effective ways to develop literacy and numeracy skills in the school environment, such as project-based approaches and

educational games, supportive classroom and school environments, targeted teaching strategies, interactive and participatory learning programs, SSI-based Student Worksheets (LKPD), Mobile Mathematics Pathways, which combine technology with the PBL model, the AKSI (Indonesian Student Skills Application) application, storytelling programs, reading, writing and arithmetic lessons, and the use of learning media. However, developing students' literacy and numeracy skills in various educational contexts faces a number of complex challenges, the main obstacles include limited resources, differences in student engagement levels, and the need for adequate policies and training.

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