Student Literacy Through Library Visits and Gemini AI Programs at SD Negeri Potrobangsan 2

Yarmini*, Didi Supriadi, Sri Purnami

Department of Education Management, Universitas Sarjanawiyata Tamansiswa, Indonesia

*Corresponding author Email: yarminiindrayani@gmail.com

Abstract

People often say that literacy is the foundation for a person's lifelong education. Improving students' literacy skills is one of the main focuses in today's education world. Literacy, which includes reading, writing, and understanding information well, is an essential foundation in the learning process at all levels of education. Good literacy skills help students succeed academically and equip them with the critical and analytical thinking skills needed in everyday life. We need to consider literacy development because it is a fundamental ability that every individual must possess to navigate life in the future. This study aims to develop a strategy to improve the literacy of fifth-grade students at SD Negeri Potrobangsan 2 through a combination of library visits and the Gemini AI program. We expect library visits to cultivate students' interest in reading physical books, while the Gemini AI program serves as an interactive digital literacy medium to enhance students' learning experiences. This research approach uses a qualitative method with observation, in-depth interviews, and focus group discussions (FGD) as the primary instruments for data collection. The study results indicate that integrating traditional literacy learning with digital technology can improve students' literacy skills holistically. Students showed increased reading comprehension, higher involvement in literacy activities, and mastery of digital literacy skills. Implementing this strategy also increased motivation among students to read and utilize the library optimally. Therefore, elementary schools can apply this strategy as an effective literacy learning model.

Keywords: *Library Visits, Gemini AI Program, Digital Literacy, Skills.*

1. Introduction

Literacy serves as the cornerstone of an individual's lifelong education. Improving students' literacy skills has become one of the main focuses in today's education world, considering that literacy includes reading, writing, and understanding information in depth. This ability is an essential foundation in the learning process at all levels of education because strong literacy allows students to follow and master academic material better, ultimately contributing to their academic achievement [1]. Good literacy enhances academic achievement and equips students with critical and analytical thinking skills essential in everyday life. With strong literacy, students understand information and can evaluate, analyze, and make decisions based on the data they find. This ability gives students an advantage in understanding various contexts and situations, both in the school environment and outside the formal education environment. This is important in forming individuals who can think reflectively and analytically and contribute to society productively [2]. The Ministry of Education, Culture, Research, and Technology (Kemendikbud) underscores the significance of early instilling a literacy culture. A strong literacy culture is believed to increase students' overall success rate because, with excellent literacy habits, students are better able to understand information critically and reflectively. Therefore, literacy development is essential in the education system to ensure that each individual has the basic skills needed to face future challenges [3].

The institution oversees the systematic arrangement of library materials, including books and non-books, according to specific rules, enabling its users to utilize them as a source of information. With an orderly arrangement, the library facilitates access to information and

meets users' needs in various fields. Additionally, the library is a crucial component of the educational process, aiding in developing literacy, information, teaching, learning, and culture [4]. In its role as an information center, the library provides access to various resources essential for the learning process and literacy development. The available library materials allow users to explore information from multiple disciplines, which can broaden their horizons, deepen their understanding, and improve their critical thinking skills. Through organized information resources, libraries become a vital component in supporting users' continuous learning and intellectual development.

Furthermore, libraries play a vital role in preserving and disseminating culture. The diverse collection of library materials, including local and international cultural works and literature, helps users understand the rich cultural and historical values. Thus, libraries serve as a place to store books and as an integral learning center for the community in supporting education, literacy, and cultural preservation at every stage of life [5].

Libraries have a strategic role in supporting the learning process and developing students' competencies in various aspects of education. By providing access to multiple sources of information and knowledge, libraries become critical facilities that encourage students to explore multiple fields of science independently [6]. The different library materials allow students to expand their knowledge, hone critical thinking skills, and understand new concepts related to lessons in school. As a space rich in expertise, libraries provide opportunities for students to develop their academic and non-academic potential. Students can explore their interests in various topics and fields of science here, unrestricted by the formal classroom curriculum [7]. The availability of diverse literature enables students to explore science flexibly, tailored to their interests, ultimately assisting them in discovering their interests, enhancing their learning motivation, and achieving better educational outcomes. Beyond just a place to read, libraries function as dynamic learning centers where students can engage in various literacy activities, research, and discussions. With the library as an open learning space, students can practice collaboration, communication, and analytical skills that are vital in the modern world. Therefore, libraries have become an integral part of the educational environment and directly support the development of student competencies in lifelong learning [8].

The management of libraries, which is constantly evolving, must leverage information technology to enhance the quality of services and increase the accessibility of information for visitors. Information technology enables libraries to provide more accurate, fast, varied, and easily accessible services so that users can search for and obtain information more efficiently. Visitors using library facilities can benefit from faster and more precise service processes, from borrowing to searching for collections [9]. Along with technological advances, libraries are transforming from conventional models to electronic or digital concepts. This innovation aims to facilitate the management of library materials and expand the reach of services to users. Digital libraries enable users to access collections anytime and anywhere, allowing them to continue learning and searching for information without physically visiting a location [10]. Thus, libraries can answer the needs of the digital generation, who want more flexible and faster access to information. However, the change from conventional to digital concepts requires ethical management to align with the library's primary purpose, namely as a center for literacy and learning. Library management must ensure that these technological innovations increase efficiency and maintain the quality of service and diversity of collections. With proper management, digital libraries can become reliable sources of information and improve literacy and knowledge competitiveness among users [11].

The study results show that the student literacy level in Indonesia is still low, especially at the elementary school level. Based on data from the Program for International Student Assessment (PISA) released by the OECD, Indonesia's ranking in student literacy skills shows less than satisfactory results. These results reflect the significant challenges faced in developing basic literacy in the Indonesian educational environment, primarily related to reading and understanding information essential for students' academic and social success. The low interest in reading among students, which directly affects their habits and abilities to access information, is one of several primary factors contributing to the low literacy skills of students in Indonesia. Various factors, including a weakly formed reading culture in the school or family environment, contribute to many students' lack of regular reading habits. In addition, limited access to quality reading materials is an obstacle that slows down the development of student literacy, especially in areas that still lack adequate educational facilities. In addition to these factors, the low frequency of students using libraries as learning resources also contributes to the low literacy rate [12]. Libraries, which have the potential to boost interest and reading proficiency significantly, often remain underutilized. Students are reluctant to spend time in the library due to the lack of innovative library management and the absence of exciting and educational book collections. To improve student literacy, there needs to be an integrated effort between schools, libraries, and families to create an environment that encourages children to read and learn independently. To overcome the problem of low student literacy, library visits are an effective strategy to increase reading interest. School libraries have a strategic role as a center for learning resources, providing access to various reading materials and literacy media [13]. Students can use the library to explore a variety of reading materials that align with their interests, fostering their interest in reading activities and enhancing their literacy skills. Regular visits to the library provide opportunities for students to experience a richer learning process through various literacy activities. Among these activities are independent reading, which fosters a habit of students absorbing information from texts on their own, and book discussions, which create a platform for students to share their thoughts and comprehend diverse viewpoints. The library's directed literacy program also enables students to engage in structured activities that enhance their literacy skills. Beyond just reading, the library can also be a place where students learn through various learning media supporting literacy development. Library-based literacy activities have the potential to positively impact students, both in terms of improving reading skills and expanding knowledge. Thus, optimizing the role of school libraries is crucial in building a solid literacy culture and encouraging students' long-term academic success [14].

Rapid technological advances now bring new challenges in integrating digital literacy into the learning process, demanding an approach that is more relevant to the needs of today's generation. Digital literacy includes the ability to read and understand information from digital sources. It involves skills to assess the accuracy of information, process data, and understand the ethics of using technology [15]. Digital literacy enables students to stay current with the times and fosters a critical and careful approach to filtering the information they consume. To address this challenge, we need an innovative approach that blends traditional literacy methods with digital technology [16]. For example, libraries can provide access to various e-books, online journals, and learning applications that support students' literacy skills. Programs like targeted digital literacy training and the provision of digital devices in school libraries can also encourage the use of technology in learning [17]. Thus, the library becomes not only a center for physical books but also a center for adaptive and relevant digital literacy. Students can learn to use various digital devices and applications through this technology integration, enhancing their future competitiveness. The use of appropriate technology in literacy, both through educational software and online learning

resources, also allows students to learn more interactively and engagingly. This approach can encourage students to be more active in literacy activities and better prepared to face the challenges of an increasingly digital world [18].

As an interactive digital literacy platform, the Gemini AI program offers enormous potential to support literacy development in the digital era. This platform allows students to interact with various reading materials designed to improve their literacy skills by presenting content such as digital text, educational comics, and interactive stories [19]. This program focuses not only on conventional reading skills but also on understanding and analyzing digital texts, a skill that is increasingly relevant amidst technological developments. Gemini AI invites students to comprehend information in diverse forms and contexts, including captivating visual content, enhancing their reading interest and curiosity [20]. With an interactive format that aligns with the needs of students in the digital era, Gemini AI helps develop more holistic literacy skills. This program trains students to read and understand content and interact actively, summarize information, and hone critical thinking skills essential in everyday life. To improve students' literacy skills at SD Negeri Potrobangsan 2, this study focuses on developing a strategy that combines library visit activities with introducing the Gemini AI program. We anticipate that by implementing this strategy, students will enhance their interest in reading and reading comprehension and cultivate digital literacy skills, which are crucial in today's technological age. By combining library visits, which provide access to printed reading materials, with Gemini AI, an interactive platform, students can engage in a more diverse and engaging literacy experience. We hope this approach will enhance students' basic literacy skills and allow them to explore digital literacy in contexts that improve their daily learning. Overall, this increase in literacy will play an essential role in supporting students' academic achievement because good literacy skills serve as a foundation for the analytical, critical, and creative skills they need to succeed in academics and life outside of school.

2. Research Method

This study uses a qualitative method with a descriptive approach to explore the strategies for improving student literacy through library visits and the introduction of the Gemini AI program. We chose this method to deeply understand the program's experiences, perceptions, and impacts on students while identifying factors influencing literacy improvement. The subjects of this study were 5th-grade students, 5th-grade teachers, and school library staff. The researcher selected these subjects purposefully, focusing on students who were active in library visits during the research period. Additionally, the researcher selected teachers and library staff as critical informants to gain a broader perspective on the role of libraries in supporting student literacy. We conducted this research at SD Negeri Potrobangsan 2. We chose this location because the library serves as a literacy activity hub and facilitates a structured library visit program for 5th-grade students. Data collection techniques in this study include several methods designed to obtain comprehensive and in-depth information. First, the researcher conducted participatory observations of library visit activities carried out by students, including reading activities, discussions, and various other literacy activities in the library. The researcher also recorded the students' interactions with reading materials and librarians during the observation.

Additionally, the researcher conducted in-depth interviews with students, teachers, and librarians. Interviews with students focused on their experiences during library visits, their perceptions of the activity, and its impact on their literacy skills. On the other hand, interviews with teachers and librarians aimed to explore the library's role in supporting the school literacy program. We also conducted focus group discussions (FGD) with students to gather their collective views and responses about library visit activities and the Gemini AI program. This FGD method helped researchers identify patterns of student behavior and attitudes toward literacy more comprehensively.

Fig 1. FGD Activities

We carried out several stages of thematic analysis of the data collected using various data collection techniques in this study. Firstly, we collected and systematically arranged all data from observations, interviews, focus group discussions (FGDs), and documentation. Furthermore, we coded the data to identify emerging themes or categories related to literacy improvement strategies. The coding process identified and grouped the main themes related to the effectiveness of library visits and the Gemini AI program in improving student literacy. We then interpreted the analyzed data to understand the impact of the two programs on students' literacy skills and pinpoint the factors that support and hinder the program's success. To maintain the validity of the data, the researcher applied the triangulation technique by combining data from various sources and comparing the results of interviews with teachers, students, and library staff. In addition, the researcher also used the member check technique to confirm the results of interviews with research subjects, ensuring that the interpretations made were based on their perspectives. To ensure the smoothness of the process and the accuracy of the data, we carried out this research in several structured stages. In the preparation stage, the researcher coordinated with the school to determine the schedule for observation, interviews, and focus group discussions (FGD). During the implementation stage, the researcher collected data through participatory observation during library visits and using the Gemini AI program. Then, interviews and FGDs were conducted to gain a deeper perspective. After collecting the data, the researcher proceeded to the analysis stage, employing thematic analysis techniques to analyze the obtained data systematically. In the reporting stage, the researcher compiled and presented the research results as a report, which included vital findings, data interpretation, and strategic recommendations for enhancing student literacy.

3. Result and Discussions

3.1. Increasing Student Interest and Involvement in Literacy Activities

The study results showed that regular library visits significantly increased students' interest in reading. Before the visit program began, students' interest in reading was relatively low, with many students rarely borrowing books from the library. Often, students engaged in reading activities solely to complete teacher assignments, which prevented them from broadening their understanding of literacy. This led to a lack of proficiency in their literacy skills, which naturally impacted their academic performance. After regular visits to the library, there were positive changes in students' reading behavior. Students began to be more active in searching for and choosing books that suited their interests, an essential first step in building beneficial reading habits. Observation revealed that students read the teacher's prescribed books and demonstrated interest in other books they discovered in the library. This shows that the visit activity increased their access to reading sources and encouraged more significant curiosity and exploration of various topics.

Furthermore, students engaged in more active discussions about the books they read, which accompanied this increase in reading interest. This creates a supportive environment for knowledge sharing and deepens literacy understanding among students. This activity makes students more engaged in the learning process and helps them develop critical and analytical thinking skills. Thus, regular visits to the library have proven to be an effective strategy in increasing students' interest in reading, which contributes positively to developing their overall literacy skills.

The introduction of the Gemini AI program as a digital literacy medium has also succeeded in adding variety to students' learning experiences. This program provides students with access to printed reading and more interactive and engaging digital reading. Gemini AI provides students various attention-grabbing learning materials, including digital texts, educational comics, and interactive stories. This approach allows students to explore information more engagingly while improving their literacy skills in a more relevant context. The results of in-depth interviews with teachers and students showed that using digital technology, such as the Gemini AI program, helped attract the attention of students who were previously less interested in physical books. Many students admitted that they enjoyed reading more through digital platforms because of the more engaging and interactive format. This engages students more in literacy activities, even those who previously showed little interest in traditional books. This engagement increases reading interest and encourages them to be more active in seeking and exploring content that suits their interests.

Furthermore, Gemini AI allows students to learn independently and develop digital literacy skills that are essential in today's information age. Students become more comfortable using technology in learning, a crucial skill for modern success. Thus, introducing the Gemini AI program not only adds variety to the learning experience but also significantly increases student engagement in literacy and provides a stronger foundation for their academic development and digital skills.

3.2. Improved Reading Comprehension and Digital Literacy Skills

Regarding reading comprehension, the results of teacher interviews showed a significant increase in students' ability to digest and understand texts. Students who regularly visit the library and use the Gemini AI program showed a better understanding of the readings they encounter. They were able to read better and showed a better ability to re-explain the contents of the books they read. This indicates that their active involvement with reading materials, both physical and digital books, has improved their ability to understand the information presented. In addition, students involved in this literacy program found it easier to answer questions about the texts they read. They were able to provide more in-depth and detailed answers, indicating that they had truly understood the material. Through discussions facilitated in the library and interactive activities offered by Gemini AI, students became more open to sharing opinions and expressing their understanding of the text. This demonstrates that the approach facilitates reading and enhances their learning experience. Increasing students' ability to relate textual information to their experiences is another sign of program success. Students began to realize the relevance of reading to their daily lives, which made the learning process more meaningful. This capability is critical because it improves literacy skills and builds critical thinking skills that are essential for their academic and personal development. Thus, the combination of library visits and the Gemini AI program has proven effective in improving students' reading comprehension, contributing positively to their overall literacy achievement.

Fig 2. Use of Gemini AI

Additionally, the Gemini AI program enhances students' digital literacy skills. The program creates a dynamic and engaging learning environment for students by providing various digital texts, interactive comics, and quiz features. These digital media train students to read, understand, and utilize information in multiple formats. This is important in today's digital era, where digital literacy skills are becoming increasingly crucial for academic and professional success. Teachers report that students adapt more quickly to digital rather than printed reading. The ease of access and interactivity offered by Gemini AI allows students to be more active in learning. Gemini AI will enable students to interact with the content, test their understanding through quizzes, and receive immediate feedback, strengthening their knowledge of the material they are studying. In addition, this experience also increases students' motivation to continue exploring

the available digital learning resources. Improving skills in using technology devices for learning is one of the significant achievements of this program. Students who previously may have felt awkward or less confident in using technology now show higher confidence. They are not only able to navigate applications well but can also use digital devices for research and independent learning. Thus, the Gemini AI program enriches students' literacy experiences and prepares them to face the challenges of an increasingly digital world.

Fig 3. Gemini AI Usage Assistance

3.3. Challenges and Barriers to Program Implementation

Although the study results showed a significant increase in students' literacy skills, several challenges emerged during the implementation of this program. One of the main challenges is the limited facilities and time available for library visits. School libraries often do not have a diverse collection of books in accordance with students' interests, making it difficult for some students to find reading material that is intriguing and relevant to them. This limitation can hinder the learning process and affect students' reading interests. Additionally, access to technology poses a significant barrier, particularly for students unfamiliar with using digital devices like tablets or computers at home. Some students may feel awkward or have difficulty making the most of the Gemini AI program if they have no previous experience with the technology. This condition creates a gap between students with adequate access to technology and those without, resulting in differences in digital literacy skills among students. Schools, teachers, and parents must collaborate to overcome this challenge by improving access to reading materials and technology. Schools can consider expanding the book collection in the library and holding training or workshops to help students who are less experienced in using technology. We hope this literacy program can become more effective and comprehensive with the proper support, enabling all students to benefit from literacy activities that enhance their abilities.

Teachers also reported that not all students have the same motivation to use the Gemini AI program. While some students demonstrate a high level of interest and actively participate in digital literacy activities, others prioritize activities unrelated to literacy. This uneven motivation challenges teachers in ensuring that all students get the most out of the program. This condition indicates the need for a more innovative and intriguing approach to motivate less enthusiastic students. For example, teachers can integrate game elements or challenges into the Gemini AI program so students feel more involved and motivated to learn. In addition, activities that involve group collaboration can create a more enjoyable learning environment and increase students' interest in participating in the program. We hope all students will find value in using this digital literacy program with the right approach. Adjusting teaching strategies that focus on students' interests and needs can increase their participation in literacy activities so that they are not only exposed to relevant information but can also develop the literacy skills needed to succeed in the digital age.

3.4. Implications for Literacy Development in Elementary Schools

Based on this study's results, strategies combining library visits with digital technology, such as the Gemini AI program, have proven effective in improving students' literacy skills. Combining traditional and digital literacy methods gives students a more diverse and intriguing learning experience. Through library visits, students can access various reading materials and interact directly with the literacy environment, while the Gemini AI program provides access to interactive and intriguing digital content. This experience increases students' interest in reading and supports their understanding of various types of texts. Integrating these two approaches exposes students to printed reading and allows them to practice digital literacy skills, which are increasingly crucial in today's information age. Involvement in the Gemini AI program and activities in the library will enable students to develop reading, writing, and understanding skills in different formats. Therefore, the results of this study suggest that schools continue to develop and implement similar strategies. We hope that strengthening collaboration between libraries and digital technology will enable students to enhance their literacy skills further, thereby positively impacting their academic achievement and personal development.

However, to ensure the sustainability of this program, schools need to consider adding book collections in the library that are by students' interests and ability levels. The availability of diverse books will give students more reading choices to find intriguing and relevant materials for their needs. Therefore, we anticipate that the variety of available reading materials will continue to pique students' interest in reading. Furthermore, it is crucial to offer additional training to teachers and students on effectively using digital technology as a literacy learning tool. This training can include practical ways to use the Gemini AI program and an introduction to various other digital learning resources. With increased technology skills, teachers and students can maximize the potential of digital literacy, which will strengthen the learning experience in the classroom. With these steps, schools can not only maintain the success of the programs that have been implemented but also create a dynamic learning environment that is responsive to the needs of students in the digital era. Long-term success in improving students' literacy skills will depend heavily on ongoing support from all parties, including schools, teachers, students, and parents.

3.5. The Role of Libraries in Supporting Student Literacy

Interviews with librarians revealed that libraries are essential in supporting literacy programs. Libraries provide a variety of reading materials appropriate to students' interests and ages and hold engaging literacy activities, such as book discussions, story-retelling competitions, and reading together. This shows that libraries strive to create a fun and interactive learning atmosphere for students. The librarian explained, "We always try to add a variety of book collections so that students don't get bored. We also work with teachers to create activities to increase students' interest in reading." The collaborative approach between librarians and teachers is crucial to guaranteeing the activities' relevance and interest and motivating students to visit the library more frequently. Since the program's implementation, the number of student visits to the library has increased, as evidenced by the documentation of library activities. This reflects that the library has become an essential resource for students in developing their literacy skills. We hope that as more students use the library, their interest in reading and literacy skills will continue to grow, ultimately leading to improved academic achievement. The findings above suggest that library visits positively enhance students' literacy skills. This study supports the theory that accessing various reading materials and opportunities to engage in structured literacy activities can improve students' literacy interests and abilities. By providing a supportive environment, the library functions as a place to borrow books and as a center for literacy activities that can enrich students' learning experiences. Regular visits and participation in literacy programs expose students to various types of reading and encourage them to read actively. Therefore, schools need to continue to develop and promote literacy activities in the library and consider using digital technology as an addition to literacy programs. With the right approach, it is hoped that students' literacy skills will continue to improve, helping them succeed in school and preparing them for the challenges of an increasingly complex world.

3.6. Regular Visits to the Library Increase Reading Interest

The study results showed that regular library visits succeeded in increasing students' reading interest. This finding aligns with previous research, which states that school libraries are essential in fostering students' reading interest (Peter Hannon, 2020). With various reading choices available, students feel more motivated to read, making the library a relaxing place to study. Regular visits to the library allow students to explore a diverse collection of books, ranging from fiction to non-fiction, to find readings that suit their interests. In addition, the library's conducive atmosphere and the librarians' support in suggesting interesting readings contribute to an increased interest in reading. Thus, the library does not only function as a place to store books but also as a center for literacy activities that inspire students to read more. This shows the importance of strengthening library access and use to improve the reading culture among students, which will support the development of their overall literacy skills.

3.7. Improving Literacy Skills Through Exposure to Diverse Reading Materials

Improving students' literacy skills, especially regarding text comprehension and story analysis, shows that exposure to diverse reading materials in the library contributes significantly to developing students' reading skills. This study validates Vygotsky's perspective that the social environment and interactions with resources, like the library, shape literacy learning. When students have access to various reading materials, they learn to read and how to interpret, and analyze information from different texts. Interacting with books that vary, both in theme and writing style, helps students develop critical skills in understanding the context and meaning contained in the story. For instance, exposing students to diverse genres like fiction, biographies, and science books enhances their ability to analyze characters, plots, and moral messages, enhancing their critical thinking skills.

Additionally, the library's social environment, which includes group discussions and shared reading activities, provides a platform for students to express their thoughts and interpretations of the texts they have read. These interactions enrich their literacy experiences, creating a space for students to ask questions, discuss, and gain new perspectives from their peers. Thus, the library functions as a learning community supporting literacy development through collaboration and active student participation. Furthermore, exposure to diverse reading materials also helps students develop confidence in their reading skills. When students feel comfortable and skilled in analyzing texts, they tend to be more motivated to read more and explore new themes. This shows the importance of the library's role as a place that not only provides access to reading materials but also creates an environment that holistically supports the growth of literacy skills. By integrating activities that encourage understanding and analysis of texts, libraries can contribute significantly to quality literacy learning for students.

3.8. Increasing Student Interest and Engagement

The results of the study showed that regular library visits had a significant positive impact on students' reading interests. This finding aligns with the theory of reading motivation, which states that regular access to and exposure to various reading materials can increase students' reading interests and habits. Library visits allow students to explore multiple types of books and find materials that match their interests, increasing their motivation to read more. By enabling students to explore a diverse collection of books, the library becomes an environment that supports the development of broader reading interests. Teachers' recommendations are not the only books available to students; they can also discover literary works, knowledge books, and other genres that pique their interest. This exploration process allows students to understand that reading is a school assignment and a fun and helpful activity. When they find books that match their interests and preferences, they tend to feel more connected to the reading material, contributing to increased motivation and reading habits.

Additionally, library visits foster social interaction among students. They can share book recommendations, discuss reading content, or even borrow books from each other. This kind of interaction creates a collaborative learning environment and supports literacy development. Involvement in this community of readers helps students feel that they are part of a group with similar interests, further strengthening their motivation to read. Through this approach, the library is essential in building a positive reading culture among students. Using the Gemini program as a digital literacy tool strengthens these results by adding an interactive dimension to the learning process. The Gemini program, which offers digital texts, comics, and interactive features, bridges traditional and digital literacy. By integrating digital elements, the program not only makes learning more engaging but also provides students with the opportunity to interact with reading materials in a more meaningful way. In a world where technology permeates every aspect of life, students must possess digital literacy skills to remain competitive and adaptable in a constantly evolving world. The Gemini program helps students understand how to access, analyze, and evaluate information from various digital sources to become more critical and intelligent readers. Furthermore, the Gemini program's interactive experience motivates students to engage in learning actively. With features such as quizzes and text-based discussions, students not only receive information but also actively participate in understanding and analyzing the

content they read. This encourages the development of critical and creative thinking skills, essential in facing the challenges of the 21st century. Thus, integrating digital literacy through the Gemini program increases students' reading interest and comprehension and equips them with the skills needed for future success.

3.9. Challenges and Barriers

Although there are many advantages, several challenges emerged during the program's implementation. One of the main challenges is the limited collection of books in the library and access to technology, which are significant barriers to the success of the literacy program. Students may feel less stimulated to explore new reading materials without a sufficiently diverse and relevant collection. Therefore, schools must address the need to update and expand library collections so that students have more choices that suit their interests and needs. We also need improved technology access to support sustainable literacy programs. In this digital era, students must have adequate devices and stable internet access to make the most of digital literacy programs such as Gemini. Schools should consider investing in technology infrastructure, such as providing tablets, laptops, or better internet facilities, so that all students can be actively involved in technology-based learning. This will ensure that all students, regardless of background, have an equal opportunity to develop digital literacy skills. We also need to address the challenge of student motivation when using the Gemini program. Providing additional training to students can boost their confidence and enhance their ability to use the program effectively. In addition, introducing more exciting and interactive learning methods, such as gamification, competitions, or group projects, can make students more enthusiastic about using the Gemini program. Thus, the program will benefit students and motivate them to participate actively in the digital literacy learning process.

3.10. Implications for Literacy Development

The findings of this study suggest that the combination of library visits and the use of digital technology is an effective strategy to improve student literacy. By integrating traditional reading activities in the library with digital tools such as the Gemini program, students gain access to various reading materials and experience a more interactive and engaging learning experience. This combination allows students to explore and understand information in a way that suits their learning preferences, as well as helping them develop literacy skills that are relevant in today's digital age. Implementing this kind of program can be a valuable model for other elementary schools, especially in 21st-century education that requires the integration of traditional and digital literacies. Schools can learn from this experience to design similar programs that prioritize library visits and the use of technology in the learning process. By providing access to a varied reading collection and utilizing digital tools, schools can create a more inclusive learning environment and support the development of essential literacy skills for students.

Furthermore, this study underscores the significance of collaboration among teachers, librarians, and students in developing effective literacy programs. Schools can effectively address the needs and interests of students by involving various parties in the program's planning and implementation. This will increase students' reading interest and comprehension and equip them with the skills needed to face challenges in an increasingly digitally connected world. The study's findings provide important implications for how schools can maximize the role of libraries as effective literacy learning centers. Schools can design more structured and comprehensive library visit programs by recognizing that libraries are not just places to store books but also as spaces to explore and develop literacy skills. The design of library visit programs should involve a variety of intriguing and interactive literacy activities, such as book discussions, reading skills training, and story-telling competitions. These activities will attract students' interest and encourage them to be actively involved in the learning process. Through diverse activities, students can improve their reading comprehension, critical thinking, and communication skills, which are crucial in their academic development.

Additionally, library visit programs should take into account the integration of digital technology, including the use of literacy applications and online platforms that enhance learning. Schools can provide students with comprehensive and relevant learning experiences by combining physical and digital library resources. This will help them develop both traditional and digital literacy skills needed to face the challenges of an increasingly technology-based world. With this approach, schools will be better prepared to provide a more optimal positive impact on students' literacy skills.

4. Conclusion

This study identifies and analyzes effective strategies to improve the literacy of 5th-grade students at SD Negeri Potrobangsan 2 through a combination of library visits and the use of the Gemini program. The results showed that regular library visits increased students' interest in reading by providing better access to various books and reading materials. As an interactive digital literacy platform, the Gemini program adds a new dimension to learning, making literacy activities more engaging and relevant, especially for students who are more familiar with technology. Research demonstrates that integrating these two approaches significantly boosts student engagement in literacy activities. Additionally, this strategy enhances students' reading comprehension skills, enabling them to more effectively comprehend and articulate the content of physical books and digital materials. The Gemini program supports the development of students' digital literacy skills, helping them adapt to digital texts and improving their ability to use technology in learning. However, this study also identified several challenges in implementing this strategy, including limited book collections in libraries, uneven access to technology, and variations in student motivation. These barriers indicate the need for improved library facilities, more equitable access to technology, and additional strategies to motivate all students to use the Gemini program optimally. These findings provide important insights for developing literacy strategies in elementary schools. Combining library visits with digital technology, such as the Gemini program, can serve as a model for improving students' overall literacy. To meet 21st-century literacy needs, schools should continue to develop and adapt literacy learning methods that combine traditional and digital resources. This study suggests that strategies integrating library activities with digital technology can effectively improve students' literacy and equip them with the skills needed to succeed in an increasingly digital learning environment.

References

[1]   Rahmayani, A. A. (2020). Literature Review of Disability-Friendly Library Design. *Jurnal Ilmu Perpustakaan Dan Informasi, 15*(1), 76–77.

[2]   Capper, K. (2022). Culturally Relevant Pedagogy in the English Curriculum. *Journal of Education*, *202*(4), 397-405. https://doi.org/10.1177/0022057421991856

[3]   Asari, A., Rachmaningsih, D. M., Saryono, Rahmah, E., & Widiyawati, A. T. (2022). *Library management*. (Get Pres, Ed.).

[4]   Baihaqi, Moh. H., Miftahuddin, Rivan, M., & Naqie, S. R. (2023). Library Management in Improving Student Literacy. *Jurnal Inovatif Manajemen Pendidikan Islam, 3*(1), 11–25. https://doi.org/10.38073/jimpi.v3i1.1325

[5]   Deci, E. L., & Ryan, R. M. (1985). Intrinsic Motivation and Self-Determination in Human Behavior.

[6]   Fachri, M., Rozi, F., & Putri, F. N. (2023). Improving Students' Literacy Skills Through Learning Management. *Edukatif: Jurnal Ilmu Pendidikan, 5*(2), 1055–1068. https://doi.org/10.31004/edukatif.v5i2.4822

[7]   Guthrie, J. T., & Wigfield, A. (2000). Engagement and Motivation in Reading. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), Handbook of Reading Research, 3.

[8]   Drost, B. R., & Levine, A. C. (2024). The Alternative Narrative: When Digital Learning Worked During the Pandemic. *Journal of Education*, *0*(0). https://doi.org/10.1177/00220574241249454

[9]   Nuzli, M., Darni, D., Rohmatin, R., Susanti, M., & Husna, M. (2023). Library Management of State Senior High School 19 Merangin. *Jurnal Pendidikan Indonesia: Teori, Penelitian, Dan Inovasi, 3*(2), 30–37. https://doi.org/10.59818/jpi.v3i2.445

[10]   Opraini, S., Hendri, N., Syafril, S., & Amilia, W. (2023). The Effectiveness of Using Digital Libraries as Learning Resources on Learning Outcomes at SMAN 1 Lubuk Basung. *Jurnal Family Education, 3*(1). https://doi.org/10.24036/jfe.v3i1.84

[11]   Rifauddin, M., Ariyanti, N. N., & Pratama, B. A. (2020). Literacy Development in Islamic Boarding Schools as Provision for Students to Live in Society. *Jurnal Perpusakaan Dan Ilmu Informasi, 1*(2), 99–112.

[12]   Broza, O., Lifshitz, A., & Atzmon, S. (2022). Exploring a Model to Develop Critical Reflective Thought Among Elementary School Math Preservice Teachers. *Journal of Education*, *202*(4), 406-415. https://doi.org/10.1177/0022057421998336

[13]   Yamin, M., & Syahrir, S. (2020). Development of Independent Learning Education (Review of Learning Methods). *Jurnal Ilmiah Mandala Education, 6*(1), 126–136. https://doi.org/10.36312/Jime.V6i1.1121

[14]   Köse, Ö., & Kahveci, G. (2022). An Analysis of Relationship Between Schools' DNA Profiles and Organizational Happiness According to the Perception of Teachers. *Journal of Education*, *202*(4), 365-374. https://doi.org/10.1177/0022057421996256

[15]   Feliciano, C. J. O., & Dy, M. F. R. (2022). Comparative Analysis of the Knowledge, Attitude, and Practice of First to Third Grade Teachers of Private and Public Schools Toward Free Play. Journal of Education, 202(4), 375-384. https://doi.org/10.1177/0022057421996241

[16]   Schunk, D. H. (2022). Learning Theories: An Educational Perspective (6th ed.). Pearson.

[17]   Andriani, W. (2022). The Importance of Curriculum Reform and Its Problems. *ULM Journal*, 5(1), 1-12. https://doi.org/10.35542/Osf.lo/Rkjsg

[18]   Askhadullina, N. N., Vishnyakova, I. V., Aminova, G. A.-B., Safargaliev, E. R., & Hamatgaleeva, G. A. (2022). Formation of a Programmatic Management Mechanism for Risk Reduction in Educational Activity. *Journal of Education*, *202*(4), 436-445. https://doi.org/10.1177/0022057421998334

[19]   Suryani, R., & Hazizah, N. (2023). Parenting Patterns in Developing Children's Digital Literacy Skills in the Technology Era in Nagari Aia Manggih. *Jurnal Pendidikan Tambusai, 7*(1), 4790–4797. https://doi.org/10.31004/jptam.v7i1.5995

[20]   Widodo, T., Mulyanto, & Mulyono, R. (2023). Library Management Innovation in Supporting School Literacy Culture. *Didaktik: Jurnal Ilmiah PGSD STKIP Subang, 9*(1), 160–178. https://doi.org/10.36989/didaktik.v9i1.691