



## Optimizing the Use of Digital Libraries in Basic Education

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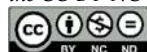
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**Abstract:** The development of the times is getting faster with technology. Digital madrasahs also need other supporters for better educational sustainability. In the era of digitalization, the Madrasah as an educational institution also has a role in keeping up with the times. This study aims to describe efforts to optimize digital libraries and analyze the strategy for developing digital collections in madrasah libraries. This study uses a descriptive qualitative method, with data collection techniques including observation of the condition and state of the digital library in the Madrasah, interviews with resource persons as digital library managers, and documentation of activities in the digital library. The study results show that digital libraries in madrasahs are optimized for digital use, especially in education. In addition, the optimization strategy carried out is that the digital library has collections that are digitally recorded where the development of digital collections in the Madrasah includes analyzing user needs, mapping digital collection sources, and evaluating the use and IDs distributed to each library member including all students, teachers and education staff in the Madrasah. As well as optimizing the digital library in collaboration with the central library in Lamongan. The optimization of digital libraries can increase the popularity of digital libraries in madrasahs and can expand library digital services.

**Abstrak:** Perkembangan zaman semakin pesat dengan adanya teknologi. Madrasah digital juga memerlukan pendukung lainnya untuk keberlangsungan pendidikan yang semakin baik. Di era digitalisasi, Madrasah sebagai lembaga pendidikan juga memiliki peran untuk mengikuti perkembangan zaman. Penelitian ini bertujuan untuk mendeskripsikan upaya optimalisasi perpustakaan digital dan menganalisis strategi pengembangan koleksi digital di perpustakaan madrasah. Penelitian ini menggunakan metode kualitatif deskriptif, dengan teknik pengumpulan data meliputi observasi kondisi dan keadaan perpustakaan digital di madrasah, wawancara kepada narasumber sebagai pengelola perpustakaan digital, dan dokumentasi kegiatan yang berlangsung di perpustakaan digital. Hasil penelitian menunjukkan bahwa perpustakaan digital di madrasah dilakukan pengoptimalan penggunaan digital, terutama dalam bidang pendidikan. Selain itu, Strategi pengoptimalan yang dilakukan adalah perpustakaan digital memiliki koleksi-koleksi yang terdata secara digital dimana pengembangan koleksi digital di madrasah meliputi analisis kebutuhan pengguna, pemetaan sumber koleksi digital, dan evaluasi penggunaan dan ID yang dibagikan pada setiap anggota perpustakaan meliputi semua siswa, para guru dan tenaga kependidikan yang ada di dalam madrasah. Serta pengoptimalan perpustakaan digital juga bekerja sama dengan perpustakaan pusat yang ada di Lamongan. Adanya optimalisasi perpustakaan digital dapat meningkatkan popularitas perpustakaan digital yang ada di madrasah dan dapat memperluas layanan digital perpustakaan.

## A. Introduction

Madrasah libraries play an important role in supporting students' education and learning. The library is not only a repository of knowledge but also a place for students to explore themselves according to their interests and develop critical thinking through literacy (Nayak & Bankapur, 2016; Saiful-Haq et al., 2006). A library guarantees access to various sources of information such as books, magazines, newspapers, and digital materials for students (Soulen & Tedrow, 2022). Through support from the head of the Madrasah and collaboration with teachers, the Madrasah library can provide resources relevant to the curriculum and support the learning process in the classroom. Madrasah Library is an organization that needs to be developed in line with the times (Mansyur, 2021).

(Naku & Kurniawati, 2023) stated that digital libraries have changed the way of accessing knowledge in education by utilizing computer technology and the internet. With ease of access, full-time availability of information, and search efficiency, digital libraries eliminate traditional libraries' physical and cost limitations. Other research conducted (Marsini, 2023) explained that digital libraries are a learning resource to improve the literacy skills of elementary school students, especially in social science education. The existence of a digital library can significantly improve students' understanding of social sciences and literacy skills.

Digital libraries are currently widely used in universities and even the most basic education. This shows that elementary schools must also take advantage of technological facilities and keep up with the times. (Khotmi et al., 2024) stated that the basis for the formation of digital libraries is the low interest in reading among students, which still needs to be higher, which is caused by various factors such as lack of family support, inadequate educational facilities, and lack of attraction to utilizing technology. Discovery by (Windiyaning et al., 2022) Regarding the development of Go-reading, becoming a digital library innovation aims to provide convenience in utilizing technology, especially in the context of basic education, teaching that the current technology can be used wisely to explore information and potential.

The development of madrasah libraries today has undergone a paradigm shift from conventional to modern libraries that prioritize technology (Abdul & Sawitri, 2022; Hasibuan & Fadhli, 2023). Now, the existing madrasah library at MI Mambaul Uum Dagan Lamongan has turned into a digital library, which provides offers to students as wide and diverse as database access, online book lending, and online returns. In addition, the madrasah library serves as a learning centre that offers a variety of learning programs and academic assistance that can assist students in acquiring new knowledge and skills (Kim et al., 2022). Strong collaboration between madrasah heads, teachers, and library administrators is needed in identifying student needs and planning appropriate library development strategies to achieve the goals of effective madrasah library development. The hope is to positively impact students' academic success, especially in literacy and improve the quality of madrasah education.

Efforts to adapt to the times and improve the effectiveness of library services are important to integrate digital technology into 21st-century madrasah libraries. Digital technology in madrasah libraries can help increase the accessibility and speed of searching for information, facilitate distance learning, and enrich students' learning experiences through digital utilization (Taha et al., 2023). In addition, integrating digital technology can help optimize collection management and improve library operational efficiency. Integrating digital technology in school libraries includes library management software, digital database integration, and website creation. Integrating digital technology into libraries (Ukachi et al., 2014) Madrasah is important to provide students with the best service and relevant information and support innovative learning processes.

This learning has been digitalized starting with making MI Mambaul Ulum into a digital Madrasah. Thus, the head of the Madrasah decided to develop a digital library to improve library services' effectiveness and efficiency and meet students' needs in obtaining information quickly and easily. With the existence of a digital library in one service, students can access information from various sources, both physical and non-physical. In addition, it can be accessed flexibly without being limited by space and time. So, to make it easier for students to access various things, optimization of the use of digital libraries continues to be carried out and improved to improve the quality of education in today's modern era.

This research aligns with the research conducted by (Mangzila et al., 2019). Yang said that optimizing digital library services aims to make it easier for students to access learning needs and learning resources. In addition, the existence of a developed digital library seeks to find out visitors who come to the library so that this provides comfort to students and attracts students to the library diligently. Other research that is in line is that has been conducted by (Windiyaning et al., 2022), suggesting that with a digital library, students no longer need to worry about bringing books to read or study; just by opening the digital library application, students can access all information sources in the digital library. This can also be one of the factors to increase students' literacy interest in elementary school.

The novelty in the research is the use of the web in developing digital libraries. In this research subject, the web is powered by SLiMS and named <https://perpus.mi-muda.sch.id/>. In addition, this library has advantages and advantages, namely making it easier for managers to record the books they already have. In addition, it can also record the management of borrowed and returned books and record visitors who are visiting the digital library digitally. So, the existence of a digital library at MI Mambaul Ulum contributes to and supports innovations in welcoming education in the era of digitalization. This research can also provide other references in developing digital libraries.

This research focuses on optimizing the use of digital libraries in madrasah ibtidaiyah or elementary school environments. With a digital library, it is hoped that students and teachers can more easily access various rich and varied learning resources. However, along with the potential offered, various challenges must be faced in integrating digital libraries into the basic education system. This research aims to discuss optimization efforts and strategies carried out in developing the sustainability of digital libraries so that they have a significant impact on the student learning process.

## B. Method

The type of research chosen is qualitative descriptive. The subjects in this study are library admins, madrasah heads, and student samples. The location of the research was carried out at MI Mambaul Ulum Dagan Lamongan. The data collection techniques consist of observation, interviews, and documentation.

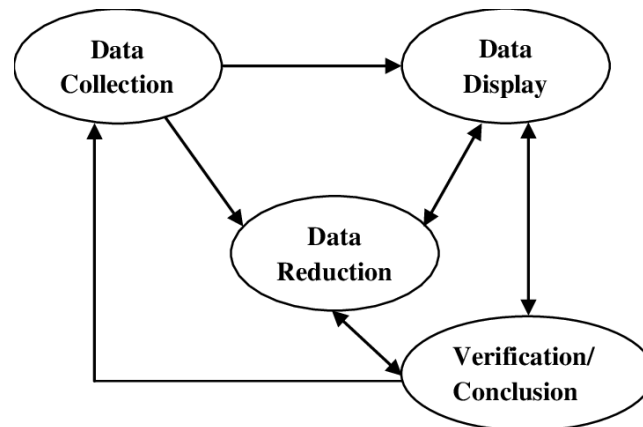


Figure 1. Research Flow

As for the observation stage, the researcher observed the conditions and surroundings in the digital library related to spatial planning, collection, content and digitalization. Interviews at this stage were conducted with library administrators, madrasah heads, and students who were actively involved in the process of managing and using the library, and documentation of the stages to perpetuate activities in the madrasah library. The flow in this research process is depicted in Figure 1.

In Figure 1. Showing an illustration of the research process flow, this stage begins with collecting data using an observation questionnaire sheet about the collection in the digital library. The second stage of data reduction is summarizing, filtering, and collecting data that is appropriate and relevant to the topic being discussed; the next stage is the presentation of data, namely, the data that has been obtained is displayed on graphs or charts, and describe the results of the conclusions that have been collected. Finally, a conclusion was drawn from the summary that had been obtained previously. In this research flow, each process is interrelated with each other and is mutually sustainable. The goal is to get maximum results by expectations.

## C. Result and Discussion

This section contains the results of the research. The researcher explains the study's findings and outlines the results' implications and significance. The presentation of the results and subsequent discussion are described as follows.

## Result

### 1. Results of Digital Library Optimization Efforts

The first effort was made in 2020 where the learning process of the digital library service system, and then in 2021, the library with automation services was released. The automation system used in the library uses a free application available on the internet, namely the Slims Bulian application version 9; by using this application, library services will be more effective and efficient. The use of this application is still very small, especially in Madrasas. This application is still mostly used at the middle and upper levels to use digital libraries in the city. Borrowing, returning, visitor data collection, delay reports, and monthly reports of borrowing and daily visitors are available within this web-based application. This is very helpful for library staff in providing services for visitors at the Tunas Bangsa ICT library faster so that visitors can immediately request services because everything has been provided in the application.

Based on the results of interviews conducted with the head of the Madrasah stated that libraries in Madrasah the need to be optimized because it is very important to meet the need for various information, increase student knowledge and increase interest and reading culture. So that the optimization effort is by improving the management system and services at the MI Mambaul Ulum Dagan library. Therefore, on July 18, 2022, the Lamongan regional library office carried out library management coaching activities.

Another effort made to optimize digital libraries is to guide library managers. Library management coaching activities are an effort to guide library managers to develop human quality in the field of knowledge, expertise, skills and attitudes as library managers. This socialisation activity provides direction and defence to library managers to become professional librarians. The improvement of the library management and service system, especially in the digitalization field, to increase interest and reading culture in the MI Mambaul Ulum Dagan Lamongan community. Presented in Figure 2.



**Figure 2.** Library Development Activities

Figure 2 shows the direct coaching activities from the Lamongan regional library, which provides counselling and direction regarding managing digital library optimization. In its direction, the Lamongan Regional Library guides managing digital library optimization, which includes relevant digital collection development strategies, effective

use of digital library platforms, and maintenance and development of the software and hardware used. It also conveyed the importance of following the latest technological developments and implementing information security standards to protect user data and digital collections.

In addition, other efforts are made to optimize digital libraries by carrying out a learning process that is carried out using digitalization. Especially taking advantage of library facilities during learning. As shown in Figure 3.

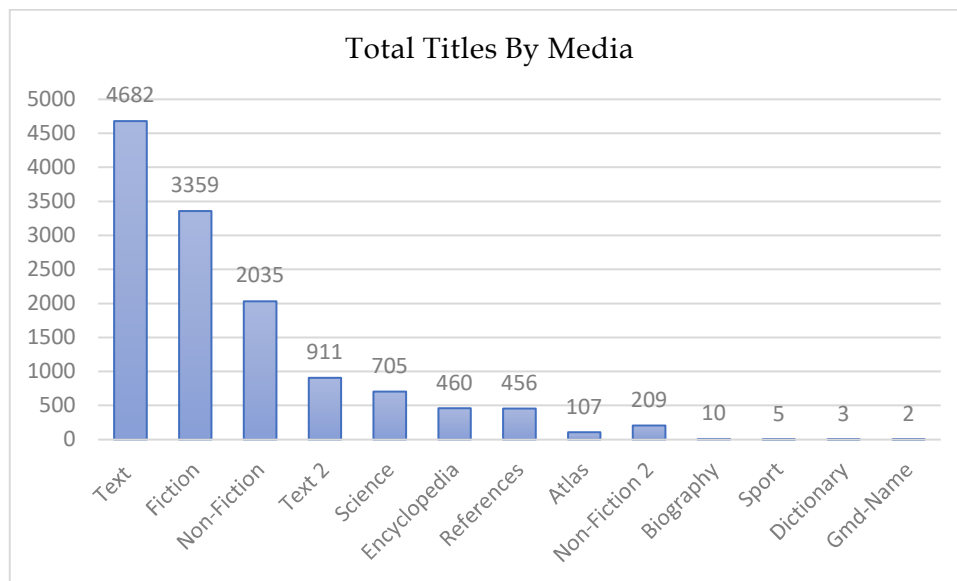


**Figure 3.** Learning Process with ICT in the Library

Figure 3. It shows that library optimization is also focused on students. In addition to gaining knowledge and various book collections, in the Tunas Bangsa ICT library, students can also learn to use other digital to obtain learning. Frequently training students to continue reading is an effort to optimize digital libraries. In addition, this library is also equipped with computers, the purpose of which is to teach the use of computers, especially in the field of education.

## 2. Results of Digital Collection Development Strategy in Libraries

Based on the results of observations, the madrasah library has an overall collection of 12,944, a total of 12,943 copies, a total of 81 borrowed, and an overall collection of 12,862 copies. The total titles according to the media are presented in the Figure 4 .



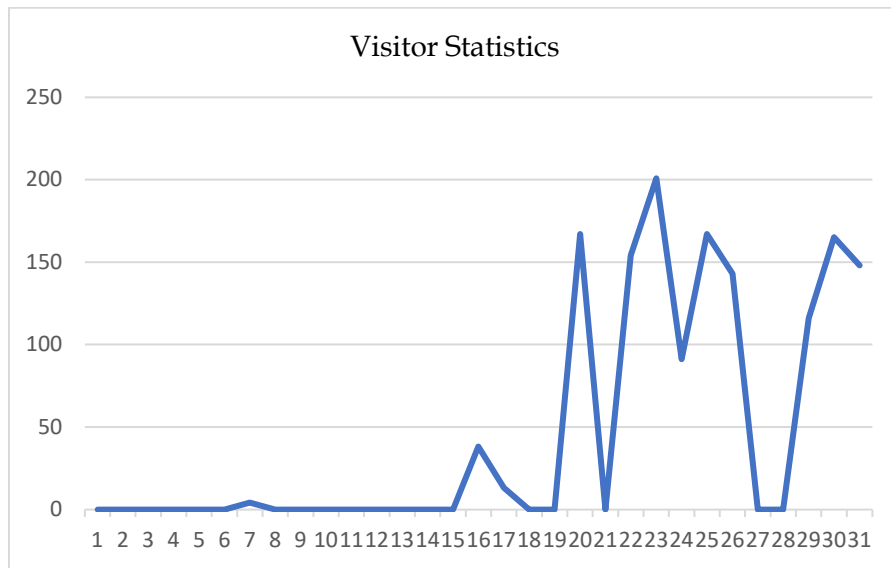
**Figure 4.** Total Titles By Media

Based on the data in table 1, it can be seen that the Tunas Bangsa ICT digital library has a fairly large number of book collections. The collection development is adjusted to students' needs to attract literacy interest, and the Madrasah provides many types of interesting textbooks. The books obtained have also collaborated with the Lamongan regional library or library. The goal is to develop more collections of the books provided.

The data obtained from the observation is also supported by the interview data obtained. The Head of the Madrasah said that the need to develop a book collection aims to increase reading materials for students, users or visitors, both from teachers, students, and the entire community in the Madrasah environment. This statement is also supported by the library admin, who states that the book collection development aims to provide various types of books to add new knowledge for students.

Based on the interview results, information was obtained that the development of book collections in the digital library was also through collaboration with the Lamongan regional library. So that the Madrasah continues to strive to develop the existing collection. On the other hand, the development of book collections is also assisted by all elements in the school by providing information about books that need to be added and can also be filled with collections from the works of students.

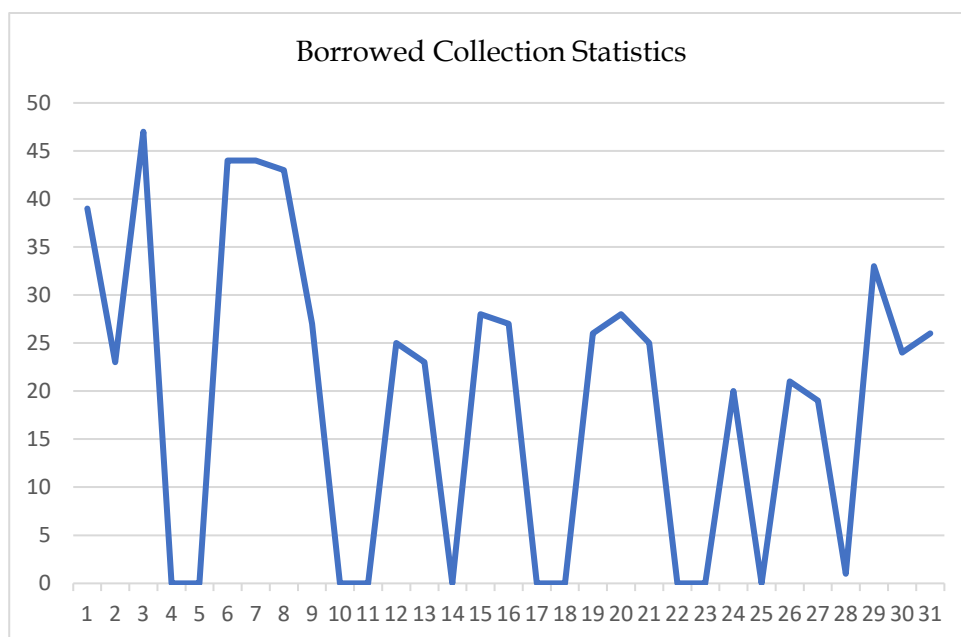
The results of the strategy carried out have a good impact on madrasahs, especially digital libraries. This is shown by the increase in visitors to the digital library. Shown in Figure 5.



**Figure 5.** Visitor Statistics

Based on Figure 5, it shows an increase in visitors to the Tunas Bangsa ICT library. Where in the beginning, the interest of students or teachers in visiting the library still seems low, slowly but surely, the interest of visitors continues to increase. However, on madrasah holidays, visitors to the Madrasah are quiet or non-existent. The results of interviews with library administrators also support this graphic data. The library is always crowded daily with visitors, except on holidays and certain days or events in madrasahs.

Another change that can be felt from a digital library is that many library members borrow existing collections, as presented in Graph Figure 6.



**Figure 6.** Borrowed Collection Statistics

Figure 6 Optimising digital library services and management can indirectly attract the school community's interest in borrowing various library collections. The more visitors and the more book borrowing, the reading culture and literacy of the Madrasah's vision and mission are also slowly achieved over time and from the various processes that have been carried out.

## Discussion

Optimizing digital libraries in the current era of digitalization can have a positive impact, especially in the elementary school environment. The first step that can be taken is to hold training or coaching for managers or librarians in Madrasahs. The goal is to improve technical skills in managing and developing digital libraries, especially in carrying out services in digital libraries. This is in line with research conducted by (Hamad et al., 2021), who stated in their findings that a librarian must have professional skills and competencies in the context of information and become a guideline in developing competencies and updating digital libraries.

The learning process by utilizing resources from the library digitally is also one of the ways to optimize digital libraries. The student learning process using Information and Communication Technology (ICT) has been widely applied, so digital library services can also increase knowledge and community interests, especially in the madrasah environment. Digital libraries strive to provide prospective readers with alternative reading materials in the learning process. Students also preserve culture and customs that future generations can learn. The use of digital libraries as a source of learning includes aspects of education and society. This is also supported by the results of research conducted by (Ilahi, Widiaty, Wahyudin, & Abdullah, 2019), which states that the implementation of the Digital Library is very helpful for education to get information quickly and dynamically, students can learn and take advantage of the existence of a digital library, help the teaching and learning process, and Madrasah can help in obtaining catalogues, references and information about books according to the needs and age of students.

The optimization of digital libraries in the field of education also has other advantages, not only to attract the interest of visitors and many who borrow collections. Other advantages include preserving valuable records, library compilations, archives, and other important documents. Maintained information sources, provision collection downloads, provision of quick accessibility to library assets through library automation catalogues, help find physical and digital accounts from various fields, instant search by users, and automatic data collection so that it is effective and efficient (Khan, 2021; Mangzila et al., 2019).

The strategy carried out is to increase the various collections of books in the library, which can be adjusted to the age and support the learning process activities. As already shown in Table 1. Regarding the collections already owned in the digital library, there are collections in the form of texts that can be used as additional sources of information for students to carry out the learning process. There are also types of fiction books with a wide variety of titles. There are also non-fiction collections, encyclopedias and many more. Of

course, all of them have also gone through the selection stage according to the users in the Madrasah. So that with many types of collections, students have many choices to borrow and it is hoped that students can improve literacy activities and help meet the needs of students in understanding the school curriculum (Anggraeni & Riady, 2024).

The development of book collections has a strategy carried out as an initial step, namely getting full support from the head of the Madrasah so that the Tunas Bangsa ICT digital library can develop rapidly. Supported by teachers at MI Mambaul Ulum, each teacher provides information assistance or additional book sources that can be used in the library. Not only that, there are library officers who arrange, tidy and manage the library so that it grows. As well as the cooperation carried out by the Madrasah with the Lamongan regional library and the national library or national library. The development of this library receives support and contribution from the allocation of funds budgeted in the RKAM, namely the Madrasah Work Plan and Budget, so that the carrying capacity of the development of the Tunas Bangsa ICT library is maximized.

However, on the other hand, in optimizing and strategizing digital libraries, some obstacles often occur namely application servers that sometimes crash and cannot be used. To deal with this problem, the library will temporarily close activities in the library. Obstacles can be overcome if every community in the madrasah environment supports each other. This is done because it requires support from all parties to optimize the use of digital libraries. Even to achieve the strategy, help from all aspects is also needed.

In the face of development, it is necessary to have an appropriate and directed strategy, as it is revealed that strategic management is the organized development of resources in functional areas, finance, manufacturing, marketing, technology, labour, etc., in achieving its goals. This uses the entire entity resource (Manoj et al., 2014). From this, the development of digital libraries carried out from the Madrasah can also look at the usefulness of the library in-depth and comprehensively so that the library can be used and function according to needs. In addition, the source of funds in the development process is also very determined for all processes and needs (Hartono, 2019).

It is important to ensure that digital libraries are well-managed and accessible to students. By optimizing digital libraries, students can access various digital resources supporting their learning process (Haleem et al., 2022; Sunu, 2022). Rapid technological advances in digital libraries as a discipline have seriously impacted how digital libraries can meet educational needs (Bansode & Shinde, 2019; Petrocelli & Ferilli, 2023). Therefore, about educational goals and keeping up with technological developments, digital libraries provide (Fox et al., 2002) (a) A set of digitally enhanced services for the archiving, reviewing, dissemination and sharing of targeted and high-quality educational resources and pedagogical practices and strategies; (b) infrastructure to support traditional, sustainable, and distance education using innovative materials and methods; (c) A virtual environment in which in this case provides space, the possibility of access for users who are not in the Madrasah.

## D. Conclusion

Training and coaching of librarians and digital learning processes can effectively optimize the use of digital libraries in Madrasas. Educational processes that utilize information technology can also result in more interactive, flexible, and student-centered learning. Digital libraries can also increase the attractiveness and interest of students in literacy. Library optimization is also supported by the strategy of developing collections in the library so that this can be an attraction for students and provide convenience for students to get relevant teaching materials.

Digital libraries have brought fresh air into the world of education, especially at the elementary school level. Implementing digital libraries provides various positive implications, such as increasing the development of digital literacy in the 21st century, attractive collections, diverse media, book recommendations, fast service, and effective and efficient data collection processes. However, on the other hand, there are also negative implications, namely that it can make dependence on technology. However, it can be anticipated with technologically wise education.

The suggestions that can be given to readers and researchers are to study more broadly related to the application of digital libraries. In addition, it is possible to compare the use of digital libraries at each level of education so that the differences can be known.

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