PPSDP International Journal of Education
Volume 4 (1) 2025, 158-172
E-ISSN 2829-5196, P-ISSN 2830-3229

Literature Review of IoT on High School Students' Reading Interests

Netti Herawati[1], Neta Dian Lestari[1]
[1]Universitas PGRI Palembang, South Sumatra, Indonesia

Corresponding author e-mail: herawati.netti8@gmail.com

Article History: Received on 6 October 2024, Revised on 22 December 2024, Published on 22 January 2025

Abstract: This study aims to evaluate the effect of implementing Internet of Things (IoT) technology in library services on students' reading interest at SMA Ilir Timur 1 Palembang. IoT provides ease in accessing information through features such as automatic borrowing, preference-based recommendations, and real-time collection management. However, despite increasing accessibility, students' reading interest is still relatively low, influenced by the dominance of digital entertainment. Literature review shows that IoT has great potential to improve library service efficiency and student engagement, but its impact on reading interest is not yet fully significant. Therefore, this study recommends the development of an IoT strategy that is more integrated with local needs and digital literacy training for students and teachers. With an inclusive and adaptive approach, the implementation of IoT is expected to support an increase in students' reading interest evenly in the digital era.

Keywords: Educational Technology, IoT, Library Services, Reading Interest

A. Introduction

The development of digital technology, especially the Internet of Things (IoT), has brought about major changes in various sectors, including education, with an increasingly significant impact in supporting more efficient and adaptive learning processes (Fricticarani et al., 2023). IoT enables the integration of various smart devices that can be connected to each other and exchange information through the internet network, creating a more interactive and personal education ecosystem. In the context of education, IoT not only functions as a learning tool, but also as a solution to manage educational data more effectively and provide wider access to information to students and teachers (Erwin et al., 2023).

IoT encompasses a wide range of applications that have been implemented in many educational institutions. One common application is an interactive whiteboard connected to an IoT device, which allows teachers and students to collaborate in real-time in the classroom. This technology makes it easy for teachers to display lesson materials, provide additional explanations, and record direct feedback from students (Switri, 2022). According to (Reguera & Lopez, 2021), the application of IoT technology in education, especially in school libraries, presents a great opportunity to improve

the quality of literacy amidst the challenges of the digital era (Mahmudah & Paramita, 2023). However, before discussing this potential further, it is important to understand in depth how IoT can function as a driver of increased reading interest and the challenges that need to be overcome. In addition, the influence of digital culture and global data on the use of technology in education provide additional perspectives that are very relevant.

IoT in education plays a role by connecting various smart devices to create a more adaptive and interactive learning environment. Technologies such as Radio Frequency Identification (RFID), smart sensors, and IoT-based learning applications are able to provide real-time access to relevant and personalized information (Erwin et al., 2023). In IoT-based libraries, students can benefit from book recommendation systems based on algorithms that learn their reading habits. For example, if a student frequently checks out science fiction books, the system can recommend similar books or relevant articles. This not only improves search efficiency but also strengthens students' motivation to continue reading because the materials offered match their personal interests.

In the context of education in Indonesia, data from the Central Statistics Agency (BPS) in 2023 showed that only around 50% of students at the secondary level had regular access to the school library. This is a serious challenge that needs to be addressed through the implementation of technology. On the other hand, data from the Indonesia Digital Economy report released by Google, Temasek, and Bain & Company (2022) shows that the adoption of digital technology in Indonesia continues to grow rapidly, with internet users reaching more than 204 million people. This shows that although access to digital technology is increasing, educational infrastructure, especially IoT-based libraries, still requires serious attention to optimally utilize this momentum (Sugeng & SH, 2024).

One successful example of IoT implementation in education is in Finland, where every school is equipped with smart technology that supports students' independent learning. Schools in this country use IoT devices to monitor students' level of reading engagement and provide real-time feedback to teachers and parents. As a result, Finnish students' literacy level is ranked at the top in the PISA survey. In contrast, in Indonesia, with a relatively low PISA level, there is an urgent need to adopt similar technology, but tailored to local needs and conditions (Jang et al., 2021).

In a library environment, IoT can act as a bridge between physical and digital resources. IoT-based libraries use technologies such as Radio Frequency Identification (RFID), smart sensors, and mobile applications to provide a more personalized experience for users. With IoT, libraries can provide book recommendations tailored to student preferences based on borrowing history, as well as provide automatic book return notifications. This not only improves service efficiency but also creates a more

interactive experience, which is expected to encourage students' interest in reading (Sivasankar et al., 2020).

Theoretically, the relationship between IoT and reading interest can be explained through the theory of learning motivation. IoT provides easier and more convenient access to various literature sources, which can increase students' intrinsic motivation to read (Suralaga, 2021). According to Self-Determination theory when students have more control over their learning resources, including the choice of reading materials that suit their interests, motivation to engage in literacy activities tends to increase. IoT enables personalization of learning, which gives students a higher sense of autonomy and competence, two key elements in increasing learning motivation (Howard et al., 2021).

In addition, the social constructivism theory proposed by Vygotsky (1978) provides a strong theoretical basis in understanding how IoT technology can contribute significantly to increasing students' reading interest. According to this theory, learning does not occur individually, but through dynamic social interactions with the environment and people around them. In this context, IoT can function as a bridge that strengthens collaboration between students through a technology-based platform that allows them to actively interact in various literacy activities (Mustari et al., 2024). For example, by utilizing IoT-based platforms, students can share their reading notes digitally, discuss books they are reading online, or even work on literacy projects together. Features such as virtual discussion forums, book recommendations based on collective interests, and interactive digital reading rooms allow students to not only read individually, but also exchange opinions and ideas with each other. Through this process, students get the opportunity to deepen their understanding of reading materials, broaden their perspectives, and experience the direct benefits of literacy activities (Ginting et al., 2021).

More dynamic social interactions play a significant role in developing a stronger interest in reading, especially when supported by IoT technology. When students engage in active discussions with peers, they are more motivated to read due to the social encouragement and sense of community. The experience of sharing ideas, getting feedback, and collaborating on literacy activities not only increases interest in reading, but also strengthens communication, critical thinking, and analytical skills. IoT, in this case, serves as a catalyst that connects students in real-time, strengthening the social aspect of the learning process that supports deeper and more sustainable literacy development (Ohadugha et al., 2020).

The application of IoT can also support the theory of digital literacy which emphasizes the importance of the ability to access, understand, and evaluate information in the digital era. Digital literacy does not only focus on the ability to read and write, but also involves the effective use of technology to search for and process information. With IoT, students can develop better digital literacy skills, which can indirectly

increase their interest in more varied and relevant reading materials (Ningrum et al., 2024).

Although IoT offers a variety of potential benefits, its implementation in education, especially in increasing reading interest, still faces challenges. Some of these challenges include the need for adequate technological infrastructure, training for teachers and librarians, and user data security. Therefore, the implementation of IoT in the context of school libraries must be designed strategically to ensure that this technology can truly contribute to increasing students' reading interest effectively.

Thus, IoT is not just a technological tool, but also an integral part of the educational ecosystem that can strengthen reading habits and digital literacy among students. The relationship between IoT and reading interest, if managed well, can open up new opportunities in creating a more literate generation in the digital era (Judijanto et al., 2024).

In Finland, for example, the application of IoT in secondary education has enabled students to monitor their learning progress independently through smart devices integrated with the school curriculum. This technology helps teachers and students gain direct access to real-time learning data, such as test results, attendance records, and feedback on assignments. This creates a more responsive and adaptive learning environment, where students can immediately identify areas for improvement (Widyastuti, 2022).

In China, many school libraries have adopted IoT technology to optimize their services. One successful example is an RFID-based automation system that not only allows for autonomous book borrowing and returning but also provides book recommendations based on artificial intelligence (AI) algorithms. As a result, there has been a significant increase in student visits to the library as well as an increase in the number of books borrowed each month (Hahn, 2020). This shows that IoT technology is capable of creating a more personal and engaging reading experience.

In Indonesia, several schools in big cities such as Jakarta and Bandung have begun to adopt IoT to improve library accessibility. For example, a digital library in a leading high school uses an IoT-based application to manage e-book loans and provide automatic notifications to students regarding book return schedules. Although this step is still limited to several schools with adequate resources, initial results show that students involved in IoT-based libraries are more active in accessing learning materials compared to students in schools that do not use IoT (Asmarany, 2018).

In the context of libraries, the implementation of IoT can change the way students access information, increase the efficiency of library services, and provide a more engaging experience for users (Bagavathi, 2023). There are many challenges faced in implementing IoT in Indonesian schools including limited technological

infrastructure and digital skills of teachers and students. Several schools in remote areas, including in Palembang, still face difficulties in integrating IoT due to the lack of stable internet connectivity and the availability of adequate devices. Therefore, a strategy is needed that not only focuses on technology, but also on developing human resource capacity and providing adequate infrastructure.

The concept of IoT in library services refers to the use of technologies such as RFID (Radio Frequency Identification), smart sensors, automation systems, and mobile devices to facilitate access to library collections and monitor resource usage in real-time. With IoT, libraries can provide services such as automated lending, book collection tracking, booking reading rooms through applications, and digital access to journals and e-books. The use of this technology not only improves operational efficiency, but also makes it easier for students to access information, whenever and wherever they are (Lubis & Nasution, 2023). However, the main problem that arises is the low interest in reading among students in the midst of this digital era. Based on data released by the Ministry of Education and Culture, reading interest among students in Indonesia is relatively low, with most students spending more time using gadgets for social media or digital entertainment (Rhenaldy, 2024). Nevertheless, research has shown that innovative and technology-based library services can provide a unique appeal to students, thereby increasing their interest in reading (Efendi et al., 2023).

In relation to reading interest, IoT in libraries is able to provide a more interactive and personalized experience. For example, IoT systems can recommend books or learning materials based on student preferences, remind students to read or return borrowed books, and provide access to extensive and easily accessible digital collections. This more modern and technology-friendly library service is expected to be an attraction for students to develop reading habits (Gopalakrishnan, 2022).

In the Ilir Timur 1 District of Palembang, school libraries are still limited in terms of IoT implementation, and students' reading interest also tends to be low. This creates a gap that needs to be further studied regarding the influence of IoT in library services on students' reading interest. The question that arises is to what extent IoT technology can contribute to increasing students' reading interest, and what innovations school libraries can make to overcome this challenge.

To address these challenges, inclusive and sustainable policies are essential. The government must play a central role in providing adequate and equitable technology infrastructure, especially in remote areas. In addition, partnerships between the public and private sectors can help accelerate the provision of more affordable IoT devices and technical training for teachers and librarians. One initiative that can be implemented is a public-private partnership program that focuses on the procurement of energy-efficient IoT-based devices and ongoing teacher training (Kirana et al., 2024). It is also important to create an environment that supports digital literacy for

students, where they not only use technology to access information, but also to develop critical and analytical thinking skills. Digital literacy programs integrated with the school curriculum can be an effective first step to ensure that students understand the benefits of using IoT technology in literacy activities. Thus, students are not only consumers of information, but are also able to utilize technology to explore new ideas and develop broader insights (Turnip, 2023).

IoT technology has great potential to transform school libraries into modern literacy centers that can significantly increase students' interest in reading (Syukri & Wahyuni, 2024). However, to achieve this goal, close collaboration between the government, schools, teachers, librarians, and the community is needed. Inclusive policies, provision of adequate infrastructure, and continuous training for educators are the main keys to ensuring the success of IoT implementation in education. If these steps are carried out effectively, IoT-based libraries will not only increase access to information, but will also build a more literate, critical generation, and ready to face future challenges in the digital era by not only facilitating access to information but also creating a more interactive and personal environment, which is ultimately expected to foster stronger reading habits among students. This study aims to explore more deeply how IoT can be effectively integrated in school libraries in Ilir Timur 1 District, Palembang and offer innovative solutions to increase students' reading interest in this digital era.

B. Methods

This study uses a literature study method as the main approach to collect and analyze data related to the influence of IoT and library services on students' reading interest. This method involves reviewing various academic sources, such as scientific journals, books, research reports, and government policies that are relevant to the implementation of IoT technology in school libraries. Literature studies are chosen because they have the advantage of providing an in-depth understanding of theoretical concepts, frameworks, and findings that have been produced by previous studies. By using this method, researchers can critically evaluate the literature to compile a comprehensive picture of how IoT affects library accessibility, efficiency, and students' reading interest.

Literature review is not only about collecting existing information, but also allows researchers to identify patterns, relationships, and research gaps that have not been answered. Thus, this method provides a solid theoretical foundation for designing future research or developing new hypotheses that can be tested empirically. For example, through literature synthesis, this study can find that IoT has succeeded in improving library efficiency in big city schools, but its impact on students' reading interest is still less significant, especially in rural areas. This finding underscores the importance of an IoT implementation approach that is tailored to the local context.

In addition, the literature study method allows researchers to examine data from various perspectives and different backgrounds, so that the results obtained are more diverse and rich in insight. By referring to various literatures from credible sources, such as international research and local policies, this study is expected to be able to develop a comprehensive conceptual framework to understand the extent to which IoT affects students' reading interests, both directly and indirectly through improving library services. This approach also provides space for critical analysis of the successes and challenges faced by IoT-based libraries in various regions.

This study also examines various policy documents and government publications related to digital education, in order to understand the direction of IoT-based library development in school environments. The study of these documents will provide insight into how public policies support or hinder the implementation of IoT in school libraries. The synthesis of the results of this literature study is expected to not only provide a strong theoretical basis, but also produce practical recommendations that can be implemented by schools, libraries, and education policy makers. Thus, the results of this literature review can be an important reference for optimizing libraries as effective, inclusive, and sustainable technology-based literacy centers.

Through the literature study method, this research not only functions as a conceptual study, but also as an effort to fill the gaps in previous research, offer new perspectives, and propose innovative solutions that are relevant to the needs of education in the digital era. The main advantage of this approach is its ability to present a holistic view, which integrates various findings into a coherent framework, thus making a meaningful contribution to the existing literature and educational practices in the field.

C. Results and Discussion

This study shows that the implementation of IoT in libraries has great potential to increase reading interest, although its effectiveness varies depending on the available technological infrastructure. However, it is important to understand the broader context of the state of student reading interest at the national level and how IoT penetration can help address these challenges.

Based on data from UNESCO in 2022, the literacy rate in Indonesia has reached 96.2%, but reading interest is still a serious problem. A survey conducted by the World Bank in 2021 showed that the average reading time for students in Indonesia is only 6 hours per week, far below the global average of 16 hours. In addition, the 2018 Programme for International Student Assessment (PISA) ranked Indonesia 74th out of 79 countries in terms of reading ability, reflecting that although the basic literacy rate is high, the ability to understand reading in depth is still low (Pitoyo, 2020). On the other hand, the penetration of IoT technology in education continues to increase globally. According to a report from Marketsand Markets in 2023, the IoT market for education

is expected to grow from USD 6.8 billion in 2021 to USD 19.2 billion in 2026, with an annual growth rate of 23.2%. This increase shows that IoT technology is becoming an integral part of educational infrastructure in many countries, including implementation in digital libraries, smart school management systems, and interactive learning devices (Ihwanudin et al., 2023).

At the national level, data from the Indonesian Ministry of Education, Culture, Research, and Technology in 2023 shows that the adoption of IoT technology in Indonesian schools is still in its early stages. Of the approximately 170 thousand schools in Indonesia, only around 15% have adequate digital infrastructure to support the effective implementation of IoT. The main obstacle is limited internet access which is only available in around 60% of rural areas. However, government programs such as "Indonesia Digital School" aim to increase technology penetration in schools with a target of covering 90% of schools by 2030 (RISET, 2022).

On the other hand, the penetration of IoT technology in education continues to increase globally. According to a report from Marketsand Markets in 2023, the IoT market for education is expected to grow from USD 6.8 billion in 2021 to USD 19.2 billion in 2026, with an annual growth rate of 23.2%. This increase shows that IoT technology is becoming an integral part of educational infrastructure in many countries, including implementation in digital libraries, smart school management systems, and interactive learning devices (Ihwanudin et al., 2023). However, while this data shows the huge potential of IoT, the reality on the ground shows challenges that need to be overcome. In rural schools in Indonesia, challenges such as weak internet connectivity, limited IoT devices, and lack of training for librarians and teachers are major obstacles. Therefore, adaptive implementation strategies, such as the use of energy-efficient solar-powered devices and the provision of independent local networks, need to be prioritized to ensure that IoT technology is evenly accessible (Fonna, 2019).

Research on the application of IoT in libraries has shown mixed results based on geographical location and the level of technological infrastructure available. The application of IoT in school libraries in large cities such as Beijing and Tokyo showed significant improvements in ease of access and service efficiency. One relevant case study is the implementation of RFID in a high school in Tokyo, where students use smart cards connected to the library system. With this card, they can borrow and return books automatically without the help of a librarian, reducing waiting time by up to 50%. In addition, the system is equipped with automatic notifications that remind students of book return schedules, thereby increasing the efficiency of library collection management (Panigrahi et al., 2022).

In contrast, (Mulyawati & Marini, 2022) studied the implementation of IoT in rural schools in Indonesia, where limited technological infrastructure is a major challenge. In this context, despite increased digital access through IoT devices, the impact on

students' reading interest was not as strong as in big city schools. This is due to unstable internet connectivity, limited hardware, and lack of training for library staff. However, their research results show that the introduction of automated services such as independent book lending still has a positive impact, although on a smaller scale compared to schools in urban areas.

Research (Pustikayasa et al., 2023) also supports this finding by confirming that adequate infrastructure is a determining factor in the effectiveness of IoT in libraries. In large urban schools such as Singapore, the integration of IoT with cloud-based technology allows students to access learning materials anytime through a mobile application connected to the national digital library. A real example is the implementation of the "NLB Mobile" application by the National Library of Singapore which allows students to borrow e-books directly from their devices. In contrast, in rural areas in Indonesia, IoT-based libraries often face technical constraints such as limited electricity and outdated IoT devices. One solution that has been successfully implemented is the use of solar-powered devices to ensure that the IoT system continues to operate even in conditions of limited electricity. (Rafi et al., 2019) emphasized that digital-based library technology can increase student engagement in literacy activities in general. Although it does not specifically discuss IoT, this study shows that the integration of library technology has the potential to support increased student literacy interest. This is in line with the findings of (Gopalakrishnan, 2022) which highlighted that IoT improves the effectiveness of library management, although its impact on student reading interest has not been explored in depth.

Urban school libraries that use IoT-based algorithms to recommend books based on student preferences have increased reading interest by 30%. An interesting case study comes from India, where a similar recommendation algorithm was implemented in a school in Mumbai. The algorithm leverages historical student borrowing data to provide personalized book recommendations. While the algorithm is highly effective in urban environments, its implementation in rural schools has been hampered by a lack of sufficient data to train the algorithm, making its effectiveness much lower.

Another study by Mulyawati in 2022, showed that IoT applications enable libraries to increase digital access for students. However, their results showed that the impact on students' reading interest was not always significant, indicating the need for further exploration of the relationship between IoT and reading interest directly (Mulyawati & Marini, 2022). Several studies highlight the aspects of accessibility and convenience, such as (Sivasankar et al., 2020), which notes that the implementation of RFID technology in libraries can increase user satisfaction by reducing waiting times. (Zulfa et al., 2023) added that IoT helps overcome physical space limitations, while (Asim & Arif, 2023) revealed that IoT-based libraries are more inclusive, especially for students with special needs.

There is also research that directly links IoT with reading interest. (Jayapal et al., 2023)

showed that IoT-based libraries that can recommend books according to personal preferences can increase students' interest in reading, although limited to schools with adequate facilities. Thus, research on the application of IoT in school libraries shows positive potential in improving library access and services (Zulfa et al., 2023). However, its direct influence on high school students' reading interest still requires further exploration, especially to understand whether this technology can effectively attract students' attention to literacy activities.

This comparison shows that while IoT has great potential to improve the accessibility and efficiency of library services, its effectiveness is highly dependent on the available technological infrastructure. Therefore, IoT implementation strategies in rural schools need to consider technology adaptations that are appropriate to local conditions, such as the use of low-power IoT devices and ongoing staff training. These findings underscore the importance of different approaches in adopting IoT technology across geographical contexts to ensure equitable improvement in students' reading interest (Bani et al., 2022).

D. Conclusions

This study reveals that the low reading interest of students at SMA Kecamatan Ilir Timur 1 Palembang is still a serious challenge amidst the rapid development of digital technology. Internet of Things (IoT) technology offers great potential to improve the accessibility and efficiency of library services in schools. Features such as automatic lending systems, book recommendations based on student preferences, and real-time collection monitoring show the convenience that is expected to increase reading interest. However, the impact has not been fully felt significantly because the implementation of this technology requires a more strategic and integrated approach.

IoT has proven to be more effective in urban areas with adequate technological infrastructure, such as in big cities. On the other hand, in rural areas with limited technology, IoT implementation faces various challenges, such as weak internet connectivity, limited devices, and limited trained human resources. This condition emphasizes the need for adaptive policies that are in accordance with the local conditions of each region.

National and international statistics show the urgency of this problem. PISA 2018 data ranked Indonesia 74th out of 79 countries in reading ability. The average student in Indonesia only reads for 6 hours per week, far below the global average of 16 hours. On the other hand, the Markets and Markets (2023) report estimates that the IoT market for education will grow to USD 19.2 billion by 2026. Despite the rapid globalization of this technology, in Indonesia, only around 15% of schools have adequate digital infrastructure, requiring serious intervention.

Efforts to improve the effectiveness of IoT in boosting students' reading interest

require a more adaptive implementation strategy. Not all schools have the same conditions. Therefore, the development of inclusive and sustainable policies is urgently needed. The government needs to allocate special funds for the development of educational technology, including IoT, and ensure equal access to technology across regions. Digital literacy policies should also be introduced, where students and educators are given intensive training to optimize the use of this technology in learning.

Schools play a central role in optimizing IoT implementation. The use of solar-powered IoT devices or energy-efficient technology can be a solution in areas with limitations. Continuous training for librarians and teachers should be a priority so that they are able to utilize this technology to its full potential. IoT technology that supports a preference-based book recommendation system is expected to increase student engagement in literacy activities and build strong reading habits.

Librarians and teachers must play a more active role in improving students' digital literacy. Librarians are not only tasked with managing collections, but also as digital literacy facilitators. With an IoT-based library system, librarians can guide students in choosing books that suit their interests. Teachers must also design a curriculum that supports the use of technology, for example with digital literacy assignments that utilize IoT-based applications.

Collaboration between parties, including government, schools, and communities, is essential to ensure the success of IoT implementation. The government needs to strengthen infrastructure, provide ongoing training, and support digital literacy initiatives that are integrated with education policies. With these steps, IoT-based libraries can transform into modern literacy centers that foster strong, efficient, and sustainable reading habits among students.

In the future, the application of IoT in education can be a significant step in creating a generation of students who are more literate, critical, and ready to face the challenges of the digital era. If the IoT implementation policy is implemented effectively, IoT-based libraries can be a successful example in improving the quality of education and student literacy throughout Indonesia. This technology will not only increase access to information, but also build a generation that is more digitally literate and ready to compete in the future.

E. Acknowledgement

The author would like to thank all parties who have contributed to the preparation of this journal, especially to Universitas PGRI Palembang and the author's supervisors for their support and guidance. Hopefully this journal article provides benefits, and we are open to receiving suggestions and input for future improvements.

References

Asim, M., & Arif, M. (2023). Internet of things adoption and use in academic libraries: A review and directions for future research. *Journal of Information Science*, https://doi.org/10.1177/01655515231188338

Asmarany, C. (2018). Co-Working Space: A Container for Millennial Creativity. *Minat Manajemen Informasi Dan Perpustakaan Kajian Budaya Media Sekolah Pascasarjana Universitas Gadjah Mada*.

Bagavathi, A. (2023). Emerging Trends and Impact of Internet of Things in Academic Libraries. *Library of Progress-Library Science, Information Technology & Computer*, *43*(1). https://doi.org/10.48165/bpas.2023.43.1.1

Bani, M. S. O., Aulia, N. S., Auliyah, R., Nata, K., & Fambudi, D. N. A. L. (2022). *Library Management and Digitization.* Manajemen Pendidikan 2022-A

Efendi, Z., Hisyam, W. N., & Faristiana, A. R. (2023). Lack of Interest in Reading Books Among Students. *Student Scientific Creativity Journal*, *1*(4), 382–398. https://doi.org/10.55606/sscj-amik.v1i4.1676

Erwin, E., Datya, A. I., Nurohim, N., Sepriano, S., Waryono, W., Adhicandra, I., Budihartono, E., & Purnawati, N. W. (2023). *Introduction & Application of Internet of Things: Basic Concepts & Application of IoT in various Sectors*. Sonpedia Publishing Indonesia.

Fonna, N. (2019). *Development of the industrial revolution 4.0 in various fields*. Guepedia.

Fricticarani, A., Hayati, A., Ramdani, R., Hoirunisa, I., & Rosdalina, G. M. (2023). Educational strategies for success in the era of technology 5.0. *Jurnal Inovasi Pendidikan Dan Teknologi Informasi (JIPTI)*, *4*(1), 56–68. https://doi.org/10.52060/pti.v4i1.1173

Ginting, D., Fitri, D. I., Mulyani, Y. S., Ismiyani, N., & Sabudu, D. (2021). *Innovation in Teaching and Learning Through Digital Platforms Theory and Practice of Operation*. Media Nusa Creative (MNC Publishing).

Gopalakrishnan, T. (2022). Cloud-based Library Management and Book Tracking through the Internet of Things. *Journal of IoT in Social, Mobile, Analytics, and Cloud*, *4*(4), 234–243. https://irojournals.com/iroismac/article/view/4/4/1

Hahn, J. (2020). Student Engagement and Smart Spaces: Library Browsing and Internet of Things Technology. In *Emerging Trends and Impacts of the Internet of Things in Libraries* (pp. 52–70). IGI Global. https://doi.org/10.4018/978-1-7998-4742-7.ch003

Howard, J. L., Bureau, J. S., Guay, F., Chong, J. X. Y., & Ryan, R. M. (2021). Student motivation and associated outcomes: A meta-analysis from self-determination

theory. *Perspectives on Psychological Science*, *16*(6), 1300–1323. https://doi.org/10.1177/1745691620966789

Ihwanudin, N., Nugroho, L., Bangun, R., Darmaningrum, K., Juliansyah, R., Siska My, A., Dewi, I. C., Nopiyani, P. E., Krisnanik, E., & Suganda, A. D. (2023). *Digital Economy and Business.* Widina Bhakti Persada Bandung.

Jang, M., Aavakare, M., Nikou, S., & Kim, S. (2021). The impact of literacy on intention to use digital technology for learning: A comparative study of Korea and Finland. *Telecommunications Policy*, *45*(7), 102154. https://doi.org/10.1016/j.telpol.2021.102154

Jayapal, C., Gokul, S., & Harshavardhan, S. V. (2023). Book Recommendation System Using Hybrid Filtering. *2023 2nd International Conference on Advancements in Electrical, Electronics, Communication, Computing and Automation (ICAECA)*, 1–5.

Judijanto, L., Setiawan, Z., Wiliyanti, V., Gunawan, P. W., Suryawan, I. G. T., Mardiana, S., Ridwan, A., Kusumastuti, S. Y., Putra, B. P. P., & Joni, I. D. M. A. B. (2024). *Digital Literacy in the Era of Society 5.0: A Smart Guide to Facing Digital Transformation*. Sonpedia Publishing Indonesia.

Kirana, A. N., Lestari, E. P., & Rachman, I. F. (2024). Improving Digital Literacy Through Collaboration Between Government, Private Sector, and Community: Contribution to Achieving SDGs 2030 in Education. *MERDEKA: Jurnal Ilmiah Multidisiplin*, *1*(5), 1–8. https://doi.org/10.62017/merdeka.v1i4.1250

Lubis, N. S., & Nasution, M. I. P. (2023). The Development of Information Technology and Its Impact on Society. *Kohesi: Jurnal Sains Dan Teknologi*, *1*(12), 41–50. https://doi.org/10.3785/kohesi.v1i12.1311

Mahmudah, M., & Paramita, N. P. (2023). Transforming Arabic Language Learning in the Digital Age: Challenges and Opportunities in Education. *Prosiding Pertemuan Ilmiah Internasional Bahasa Arab*, *14*(1), 841–858.

Mulyawati, Y., & Marini, A. (2022). Utilization of digital library to increase reading interest in elementary school students. *Jurnal Pendidikan Dan Pengajaran Guru Sekolah Dasar (JPPGuseda)*, *5*(1), 20–24.

Mustari, M., Zainuri, H., Krisnaresanti, A., Eprillison, V., Aritonang, M. A. S., Nasori, A., Safii, M., Erita, E., Khoiriya, R. M., & Puspitasari, R. (2024). *Introduction to Educational Technology*. Yayasan Tri Edukasi Ilmiah.

Ningrum, S. K., Sakmal, J., & Dallion, E. (2024). The Use of Canva Application-Based Learning Media to Develop a Digital Literacy Culture for Elementary School Students. *Jurnal Basicedu*, *8*(2), 1500–1511. https://doi.org/10.31004/basicedu.v8i2.7432

Ohadugha, R. O., Chukwuemeka, E. J., & Babatunde, A. E. (2020). Impact of peer-mediated learning on achievement and motivation in computer science among senior secondary school students in Minna Metropolis, Niger State. *Contemporary Educational Technology*, *12*(1), ep263. https://doi.org/10.30935/cedtech/7629

Panigrahi, P. K., Sethy, S., & Dadhich, M. (2022). An empirical evaluation of Internet of Things (IoT) implementations in the libraries. *Research Review International Journal of Multidisciplinary*, *7*(10), 116–124. https://doi.org/10.31305/rrijm.2022.v07.i10.014

Pitoyo, A. (2020). A meta-analysis: Factors affecting students' reading interest in Indonesia. *International Journal of Multicultural and Multireligious Understanding*, *7*(7), 83–92. http://dx.doi.org/10.18415/ijmmu.v7i7.1727

Pustikayasa, I. M., Permana, I., Kadir, F., Zebua, R. S. Y., Karuru, P., Husnita, L., Pinatih, N. P. S., Indrawati, S. W., Nindiati, D. S., & Yulaini, E. (2023). *Educational Transformation: A Practical Guide to Technology in the Learning Space*. Sonpedia Publishing Indonesia.

Rafi, M., JianMing, Z., & Ahmad, K. (2019). Technology integration for students' information and digital literacy education in academic libraries. *Information Discovery and Delivery*, *47*(4), 203–217. https://doi.org/10.1108/idd-07-2019-0049

Reguera, E. A. M., & Lopez, M. (2021). Using a digital whiteboard for student engagement in distance education. *Computers & Electrical Engineering*, *93*, 107268.

Rhenaldy, D. (2024). Cultivating and Improving Reading Interest of MTs. Al-Ishlahiyah Binjai City Students Through the 15-Minute Reading Literacy Movement Before Teaching and Learning Activities Begin. *JUPEMA*, *1*(1), 11–20. https://jurnal.yabb.or.id/index.php/jupema/article/view/26

Riset, D. A. N. T. (2022). Ministry of Education, Culture, Research and Technology. *Universitas*, *1*(1), 2.

Sivasankar, V., Soundararajan, E., & Rajeswari, S. (2020). Challenges and impacts of RFID technology in a research library. *Advances in Communication Systems and Networks: Select Proceedings of ComNet 2019*, 557–570. https://www.springerprofessional.de/en/challenges-and-impacts-of-rfid-technology-in-a-research-library/18080906

Sugeng, S. P., & SH, M. H. (2024). *Indonesian Telematics Law: Revised Edition*. Prenada Media.

Suralaga, F. (2021). *Educational psychology: Implications for learning*. Rajagrafindo Persada.

Switri, E. (2022). *Technology and Educational Media in Learning*. Qiara Media.

Syukri, M., & Wahyuni, S. (2024). Library as the heart of education. *Tarbiatuna: Journal of Islamic Education Studies*, *4*(1), 319–334. https://doi.org/10.47467/tarbiatuna.v4i1.5804

Turnip, R. S. (2023). Increasing Digital Literacy Among Students: Introduction and Practice of Using Educational Technology. *Jurnal Review Pendidikan Dan Pengajaran (JRPP)*, *6*(4), 2302–2310. https://doi.org/10.31004/jrpp.v6i4.21733

Widyastuti, A. (2022). *Independent Learning and Its Implementation: Independent Teachers Students, Independent Lecturers Students, Everyone is Happy*. Elex Media Komputindo.

Zulfa, P. I., Ni'mah, M., & Amalia, N. F. (2023). Implementation of IT technology-based learning media in overcoming educational limitations in the 5.0 era in elementary schools. *EL Bidayah: Journal of Islamic Elementary Education*, *5*(1), 1–15. https://doi.org/10.33367/jiee.v5i1.3533