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THE IMPACT OF DIGITAL LEARNING LICENSES ON ACCESS TO EDUCATION IN PRIMARY SCHOOLS: A LITERATURE REVIEW

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ABSTRACT

This research aims to analyze and identify various previous research results related to the impact of digital learning licenses on access to education in elementary schools. This research is qualitative research using a literature review approach. The data used in this research are scientific articles and journals that are relevant to the research topic. The data sources selected include research published within the last 5 years, which discusses issues related to digital learning licensing, educational access, and technology implementation at the basic education level. The data collection technique used is through academic databases such as Google Scholar, JSTOR, ProQuest, and so on. By using keywords such as "digital learning license", "digital education access", "educational technology in primary schools". The data was analyzed qualitatively with stages of data reduction, data presentation, and drawing conclusions. Based on the research results, it is known that digital learning licenses, both open and paid, have a significant impact on access to education in elementary schools. Open licenses provide broader access and more affordable costs, while paid licenses, although offering more advanced features, often limit access especially in schools with limited budgets. Infrastructure challenges and economic disparities remain major inhibiting factors in harnessing the potential of digital learning technology. Therefore, efforts to increase access to digital education must include investments in infrastructure as well as policies that support the use of open licenses and technology based learning throughout elementary schools.

Keywords: Impact, Licensing, Digital

ABSTRAK

Penelitian ini bertujuan untuk menganalisis dan mengidentifikasi berbagai hasil penelitian terdahulu yang berkaitan dengan dampak lisensi pembelajaran digital terhadap akses pendidikan di sekolah dasar. Penelitian ini merupakan penelitian kualitatif dengan menggunakan pendekatan kajian literatur. Data yang digunakan dalam penelitian ini adalah artikel ilmiah, dan jurnal-jurnal, yang relevan dengan topik penelitian. Sumber data yang dipilih mencakup penelitian yang diterbitkan dalam rentang waktu 5 tahun terakhir, yang membahas isu terkait lisensi pembelajaran digital, akses pendidikan, dan implementasi teknologi di tingkat pendidikan dasar. Teknik pengumpulan data yang digunakan yaitu melalui basis data akademik seperti Google Scholar, JSTOR, ProQuest, dan sebagainya. Dengan menggunakan kata kunci seperti "lisensi pembelajaran digital", "akses pendidikan digital", "teknologi pendidikan di sekolah dasar". Data dianalisis secara kualitatif dengan tahapan reduksi data, penyajian data, dan penarikan kesimpulan. Berdasarkan hasil penelitian diketahui bahwa lisensi pembelajaran digital baik yang terbuka maupun berbayar memiliki dampak yang signifikan terhadap akses pendidikan di sekolah dasar. Lisensi terbuka memberikan akses yang lebih luas dan biaya yang lebih terjangkau, sementara lisensi berbayar, meskipun menawarkan fitur lebih canggih, sering kali membatasi akses terutama di sekolah-sekolah dengan anggaran terbatas. Tantangan infrastruktur dan kesenjangan ekonomi tetap menjadi faktor penghambat utama dalam memanfaatkan potensi teknologi pembelajaran digital. Oleh karena itu, upaya untuk meningkatkan akses pendidikan digital harus mencakup investasi dalam infrastruktur serta kebijakan yang mendukung penggunaan lisensi terbuka dan pembelajaran berbasis teknologi di seluruh sekolah dasar.

Kata Kunci: *Dampak, Lisesnsi, Digital*

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INTRODUCTION

In the digital era that continues to experience rapid development, technology has become an essential component in everyday life, including in the education arena. Technology has created various new opportunities to improve the quality of learning, especially with the launch of digital learning.(Alenezi, 2023). Digital learning involves the use of various software, applications, online platforms, and other digital resources that can be utilized by educators to enrich the teaching and learning process (Das, 2023).

This innovation opens up new opportunities to improve the effectiveness and engagement of students in learning. Elementary schools (SD), as the fundamental basis for children's education, play a crucial role in optimizing the use of technology to be offered by technology in education, there are challenges related to digital learning licenses. This role not only equips them with knowledge, but also the skills needed to face challenges in the digital era (Abulibdeh, et all., 2024).) However, behind the great potential offered by technology in education, there are challenges related to digital learning licensing (Haleem et all., 2022).

Licenses refer to legal rights or permissions granted to individuals or institutions to use certain software, learning materials, or digital applications in an educational context (Choksi et al., 2024). In this context, educational licenses aim to ensure that the use of learning materials and technology in learning is carried out in accordance with applicable regulations, and to avoid copyright infringement that could harm developers of these digital devices and resources. Effective license management at the elementary school level is crucial to maintaining the quality and legitimacy of the resources used (Mohzana et al., 2023).

The issue of digital learning licensing in elementary schools is not only related to legal and ethical aspects, but also has a strong relationship with fair and equitable access to education. Access to quality education is highly dependent on the availability of resources that can be accessed by students and teachers (Belay et al., 2020). This shows the importance of providing adequate facilities and learning materials to support the teaching and learning process. In various regions, especially in rural areas or less developed areas, limited access to quality and licensed learning devices can exacerbate the gap in education.

This is a major challenge that needs to be addressed comprehensively. This is often due to high licensing costs or limited school budgets to acquire legitimate digital learning devices. Digital learning licenses also play a role in influencing the distribution and accessibility of teaching materials in the classroom, so that all students, including those at the elementary school level, can access them easily (Hill & Hannafin, 2001).Unequal access to licensed materials can result in disparities in the quality of education, where only schools with adequate funding can access optimal educational technology (Mwangi, J. (2024).

This has the potential to exacerbate educational disparities among disadvantaged institutions. Conversely, schools with limited budgets may have difficulty in obtaining licensed learning devices, which in turn may hinder effective learning processes. This of course affects educational equality which is a crucial principle in the national education

system. One of the main challenges in implementing digital learning licensing is the lack of in-depth understanding of copyright and licensing regulations among many educators and elementary school managers (Azzahra et al., 2024).Many educators and educational institutions utilize digital resources without evaluating the validity of their licenses, potentially creating a risk of copyright infringement.(Ferullo & Butler, 2023).

In addition, the majority of digital learning materials available on the market require significant licensing fees (Komljenovic, 2021).Thus, schools with limited budgets are forced to seek alternatives that may be illegitimate or of low quality. On the other hand, there are learning materials that can be accessed with open licenses that schools can use at no cost. However, not everyone is aware of their existence or how to use them. In an effort to overcome this challenge, it is important to understand how digital education licensing can affect not only the availability of learning materials, but also the quality of learning received by students (Rodriguez et al., 2020).When licensing is properly regulated, it can ensure that teachers have access to legitimate and quality teaching materials, which in turn can support the development of students' critical and problem-solving skills. Conversely, lack of understanding and inadequate management of licensing can result in a suboptimal learning process. In fact, this has the potential to cause legal problems that can be detrimental to educational institutions.

This study aims to analyze the impact of digital learning licensing on access to education in elementary schools by reviewing various relevant literature. This literature review aims to analyze how effective licensing management can improve access to quality education, especially in areas with minimal facilities or adequate budgets. Emphasis will be placed on the importance of appropriate strategies in optimizing licensing to achieve these goals. This study will also identify the challenges faced by elementary schools in obtaining and managing digital learning device licenses, and explore how more inclusive licensing policies can help address educational disparities.

Through this literature review, it is expected to reveal a deep understanding of the significant role of digital learning licenses in ensuring fair and equitable access to education for all students, regardless of their socio-economic background or geographic location. In addition, this study will emphasize the significance of awareness of copyright and licensing regulations in the context of elementary school education, as well as provide recommendations for improving the management of licenses that have been implemented.

Thus, this study will not only contribute to the understanding of the relationship between licensing and access to digital education in primary schools, but will also pave the way for better and more inclusive policies in the use of educational technology at the primary level. Through a deeper understanding of the impact of licensing, it is hoped that schools can manage and utilize educational technology in a legitimate and effective manner, in order to support equality and quality of education inthroughout Indonesia.

RESEARCH METHODS

This study is a qualitative study using a literature review approach. This literature review aims to analyze and identify various

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previous research results related to the impact of digital learning licenses on access to education in elementary schools. The data used in this study are scientific articles and journals that are relevant to the research topic. The selected data sources will include research published in the last 5 years, which discuss issues related to digital learning licensing, access to education, and implementation of technology at the elementary education level. The data collection technique used is through academic databases such as Google Scholar, JSTOR, ProQuest, and so on (Gusenbauer & Haddaway, 2020). Using keywords such as "digital learning license", "access to digital education", "educational technology in elementary schools", and the like. Data were analyzed qualitatively with the stages of data reduction, data presentation, and drawing conclusions.

RESEARCH RESULTS AND DISCUSSION

Literature Review Results

In a literature review conducted on a number of relevant sources regarding the impact of digital learning licenses on access to education in elementary schools, there were several main findings that can be described as follows:

1. The role of digital licensing in improving access to education.Based on the study conducted on various studies, many findings show that open digital learning licenses provide greater opportunities to increase access to education. Open licenses allow digital learning materials, software, and applications to be used without high licensing fees, which is very beneficial for schools with limited budgets, especially in less developed areas (Fair et al., 2024). Several studies have also highlighted the successful implementation of open source learning platforms in various elementary schools. For example, software such as Moodle and Google Classroom, which are often used in the context of open licenses, allow teachers to access and share teaching materials with students without any cost constraints, thereby reducing the gap in access to education in various regions.
2. The challenge of paid licensing in access to education. On the other hand, paid licenses, although they often offer more complete and integrated features, can be a significant barrier to increasing access to education, especially in elementary schools located in remote areas or with limited budgets (Siregar et al., 2024). Several studies have found that paid licenses often require schools to allocate large funds to purchase software licenses or learning platforms used in the teaching and learning process (Bacaw et al., 2012). This can lead to inequality of access, where only schools with larger budgets or those supported by government funding are able to take advantage of the technology (Darling-Hammond (2013).
3. Accessibility in remote areas.Several literatures show that access to education through digital licensing in remote areas is greatly influenced by two main factors, namely licensing costs and technological infrastructure. Although open-licensed software provides cheaper access, other issues such as limited internet access and lack of adequate hardware in rural areas remain major barriers (Gatkal et al., 2024). Therefore, although open licensing is more cost-effective, infrastructure constraints remain a major challenge in increasing access to education in primary schools.
4. Diversity of licensing models and their impact on the quality of education. The

diversity of licensing models in the world of digital learning such as licenses that allow customization and licenses that require restrictions can affect the quality of the learning experience (Rahman et al., 2023). Platforms based on open licenses provide flexibility for educators and students to adapt to their needs, while paid licenses are usually more rigid and limited in content modification. These results emphasize the importance of choosing a licensing model that suits the educational needs of elementary schools.

Research Discussion

Based on the research results in the literature review in this study, there are several discussions, including: (a) The impact of open licenses on educator access. Open licensing has been shown to have a significant impact in increasing the accessibility of education in primary schools, especially for areas with limited funding (Shadmi et al., 2020). By using open license-based software or learning materials, elementary schools can provide wider access to students without being burdened by high licensing costs (Varkey et al., 2023). This is in line with the findings of several studies showing that open licenses can reduce financial barriers that usually prevent schools from implementing learning technology (Neumeyer et al., 2020).

It is important to note that open licenses provide flexibility in adapting materials to local contexts. For example, teaching materials in local languages or adapted to local curricula can be more easily implemented using open source licenses compared to more rigid and non-modifiable commercially licensed software. The diversity of learning materials available in open licenses allows teachers to create a more inclusive learning environment that suits students' needs (Sanger, 2020). (b) Challenges in implementing paid licenses. However, although paid licenses often offer more complete and sophisticated features, the cost of the license is a major barrier, especially for elementary schools with limited funds. Many schools, especially in rural or less developed areas, cannot afford the cost of purchasing a license for paid digital learning tools (Ferri et al., 2020).This can worsen the educational gap between schools in rich and poor areas (Kurniawan, 2021).

On the other hand, some schools with larger funds may be more able to access paid licensed technology, which allows them to take advantage of advanced features such as student data analysis, integration with other learning platforms, and the provision of more complete teaching materials. However, this gap can actually exacerbate inequalities in education, where only a small number of schools can make optimal use of technology. (c) Technological infrastructure as a key factor in access to digital education. Although digital learning licenses can provide significant benefits in increasing access to education, infrastructure factors are also key. Issues such as limited internet access, hardware availability, and other technical difficulties often hinder the effective use of digital learning technology in primary schools. Research by Suryani et al. (2023) confirms that these infrastructure constraints can reduce the potential positive impact of digital licenses on access to education, especially in more remote areas.

Therefore, to maximize the positive impact of digital learning licenses, there needs to be investment in technology infrastructure, including improving internet access and

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adequate distribution of devices. Without adequate infrastructure improvements, the use of digital learning licenses, both open and paid, will be difficult to provide significant benefits in improving access to education. (d) Policy implications for improving access to digital education.

Based on these findings, there are several policy implications that can be taken to increase the positive impact of digital learning licenses on access to education in elementary schools. One of them is the development of policies that support open licenses, which can be widely accessed by all schools without being constrained by costs. The government also needs to create teacher training programs to maximize the use of digital technology in learning, as well as ensure that schools in remote areas receive the necessary infrastructure support (Khosyiin & Khoiiri.,2024).

In addition, policies that encourage collaboration between the government, private sector, and educational institutions in providing digital learning resources with flexible and open licenses can also expand access to digital education in elementary schools.

CONCLUSION

Based on this literature review, it can be concluded that digital learning licenses, both open and paid, have a significant impact on access to education in elementary schools. Open licenses provide wider access and more affordable costs, while paid licenses, although offering more advanced features, often limit access, especially in schools with limited budgets. Infrastructure challenges and economic disparities remain major inhibiting factors in harnessing the potential of digital learning technologies. Therefore, efforts to increase access to digital education must include investment in infrastructure and policies that support the use of open licenses and technology-based learning across elementary schools.

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