

DEVELOPING LEARNING INDEPENDENCE THROUGH UTILIZATION OPEN DIGITAL LEARNING RESOURCES: A LITERATURE REVIEW

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Article Info

Article history:

Received June 21, 2026

Revised July 18, 2026

Accepted July 29, 2026

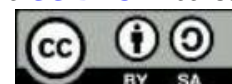
Keywords:

*Independent learning,
digital learning resources,
digital learning,
education.*

ABSTRACT

The development of digital technology has brought about significant changes in education, particularly in students' independent learning processes. The use of open digital learning resources is an alternative that can support increased independent learning because it provides broad, flexible, and easily accessible access to information. This study aims to describe how open digital learning resources can foster independent learning in students. The method used is a literature review, reviewing various journals, books, and scientific articles related to digital learning and independent learning. The results of the study indicate that the use of open digital learning resources can increase students' learning motivation, time management skills, learning responsibility, and critical thinking skills. Furthermore, the use of digital platforms also provides opportunities for students to learn according to their own needs and pace. Thus, open digital learning resources can be an effective tool in building a culture of independent learning in the digital era..

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INTRODUCTION

The development of information and communication technology in the digital era has had a significant impact on education. The learning process is no longer limited to classrooms and printed textbooks, but has evolved toward the use of more flexible and interactive digital technologies. Students now have the opportunity to access a variety of open digital learning resources such as e-books, instructional videos, scientific journals, online learning platforms, and other educational media (Alperi, 2019).

Learning independence is a crucial competency for students in the modern era. Learning independence is the ability of an individual to organize, manage, and evaluate their learning process independently without relying entirely on others. The use of open digital learning

resources is considered to support the development of independence, as students can determine the material, time, and learning methods according to their needs (Hiemstra, 1994).

However, utilizing digital learning resources also requires digital literacy and information management skills to ensure effective learning. Therefore, it is important to understand how open digital learning resources can be optimally utilized to foster student learning independence (Knowles, 1975).

In addition to providing easy access, the development of digital technology has also driven changes in student learning patterns. Students no longer rely solely on teachers as the sole source of information, but can instead acquire knowledge from a variety of widely available digital platforms. This requires students to have the ability to manage their learning process independently to optimally achieve learning objectives (Potolau, 2023).

On the other hand, the use of open digital learning resources also supports lifelong learning. Students can continuously update their knowledge and skills according to current developments through various online learning resources. Thus, the use of digital technology in education not only increases access to learning but also shapes the character of independent, creative, and adaptive students (Prensky, 2001).

The development of information technology in Indonesia during the 2024–2026 period shows significant growth, particularly in the use of the internet and various digital platforms to support educational activities. Based on data from the Indonesian Internet Service Providers Association (APJII), the number of internet users in 2024 reached approximately 221.56 million people, with a penetration rate of 79.5% of the total population. In 2025, this figure increased to approximately 229.43 million users, or approximately 80.66% of the population. This condition indicates that public access to digital services is expanding and has the potential to strengthen technology-based learning transformation (Rahmawati et al., 2024).

With increasing internet access, the use of Learning Management Systems (LMS) such as Moodle, Google Classroom, Canvas, and various other learning platforms has also grown in schools and universities. Furthermore, the use of Open Educational Resources (OER) has expanded through the provision of e-books, learning videos, digital modules, and various educational materials that are freely accessible to the public. This phenomenon demonstrates the growing digital learning ecosystem in Indonesia, supported by easy access to information technology (Ramadhani & Fitria, 2021).

However, the results of various previous studies are still dominated by discussions about the effectiveness of digital learning, LMS implementation, the use of technology-based media, and their impact on learning outcomes and student motivation. These studies generally focus on the application of technology as a learning tool, without specifically exploring the role of open digital learning resources in developing independent learning skills (UNESCO, 2021).

Thus, there remains a research gap that requires further study, namely regarding the relationship between the use of open digital learning resources and students' levels of learning independence. In fact, the characteristics of OER, which are easily accessible, flexible, and enable learning processes without the constraints of space and time, have the potential to encourage students to manage, plan, and evaluate their learning activities independently. Therefore, research examining the relationship between the use of open digital learning resources and learning

independence is expected to provide scientific contributions and serve as a basis for developing more effective learning strategies in the digital era (Widyasari, 2017).

THEORITICAL REVIEW

Learning Independence

Learning independence is the ability of students to actively manage their own learning process , starting from determining learning objectives , choosing strategies, to evaluating learning outcomes . Malcolm Knowles explains that learning independence (*self-directed learning*) is a process when individuals take the initiative in diagnosing learning needs , determining goals , choosing learning resources , and evaluating learning outcomes independently .

In the context of modern education , independent learning is a crucial competency because students are required to adapt to the rapid development of information and technology . Independent students tend to have high learning motivation , a sense of responsibility , and better problem - solving skills .

According to Hiemstra (1994), students who demonstrate independent learning typically demonstrate self-confidence , discipline , and the ability to manage their learning time effectively . These attitudes are essential in digital - based learning , which provides students with greater freedom to determine their own learning process .

The development of information technology in Indonesia during the 2024–2026 period shows a significant increase , especially in the use of the internet and various digital platforms to support educational activities . Based on data from the Indonesian Internet Service Providers Association (APJII), the number of internet users in 2024 reached approximately 221.56 million people with a penetration rate of 79.5% of the total population. In 2025, this figure increased to approximately 229.43 million users or approximately 80.66% of the population. This condition indicates that public access to digital services is expanding and opening up greater opportunities for the development of technology-based learning.

In line with the increasing internet access, the use of Learning Management Systems (LMS) such as Moodle, Google Classroom, and various other learning platforms is increasingly widespread in schools and universities. In addition, the use of Open Educational Resources (OER) is also experiencing rapid development . According to UNESCO , OER are teaching materials , learning materials , and educational resources in various formats that are in the public domain or openly licensed so that they can be freely accessed , used , adapted , and redistributed by anyone . This concept is in line with the principles of Open Learning, namely a learning approach that provides flexibility to students to determine the time , place , pace , and method of learning according to their individual needs and characteristics . With the existence of OER and Open Learning , students have wider opportunities to acquire knowledge without being limited by space , time , or cost .

However , the successful use of open digital learning resources depends not only on the availability of technology , but also on the ability of students to manage their learning process independently . In this case , the Self-Regulated Learning (SRL) theory proposed by Barry Zimmerman is a relevant foundation . Zimmerman explains that self-regulated learning is an active process when individuals set learning goals , plan strategies, monitor progress , control behavior , and reflect on and evaluate their learning outcomes . Students who have good self -

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regulation skills tend to be more able to face learning challenges independently and achieve optimal learning outcomes .

Learning independence in the perspective of Self-Regulated Learning includes several important aspects , namely learning motivation , time management , responsibility for the learning process , discipline in implementing the learning plan , and self - evaluation of the achievements that have been obtained . Learning motivation functions as an internal driver that keeps students committed to achieving learning goals . Time management helps them set priorities and use time effectively . Responsibility and discipline are reflected in the consistency of participating in learning activities and completing assignments without relying on others . Meanwhile , self - evaluation allows students to identify strengths and weaknesses , then improve learning strategies to achieve better results .

Although various previous studies have discussed the effectiveness of digital learning , the use of Learning Management Systems (LMS), and the use of technology in improving learning outcomes and student motivation , studies that specifically link the use of open digital learning resources (OER) with learning independence based on the Self-Regulated Learning perspective are still relatively limited . Most studies focus more on the use of technology as a learning medium , without examining how access to open learning resources can encourage students to develop the ability to regulate and control their own learning process .

Therefore, research on the relationship between the use of OER and independent learning is important. The availability of easily accessible and flexible digital learning resources is believed to strengthen students' abilities to increase learning motivation, manage time effectively, foster a sense of responsibility and discipline, and conduct continuous self-evaluation. Therefore, the integration of the concepts of OER, Open Learning, and Barry Zimmerman's Self-Regulated Learning theory is expected to provide a strong theoretical foundation in explaining how open digital learning resources contribute to the formation of more independent students who are ready to face the challenges of learning in the digital era.

Open Digital Learning Resources

Open digital learning resources are a variety of technology-based learning materials that can be freely accessed via the internet. These resources include e-books, instructional videos , e-journals , *Massive Open Online Course* (MOOC) platforms , educational podcasts , and other interactive learning media .

Utilizing open digital learning resources provides students with the flexibility to learn anytime , anywhere . Furthermore , the use of digital media also makes the learning process more interactive , engaging , and tailored to individual learning needs .

Open digital learning resources also support equitable access to education . Students from various regions can access quality learning materials without being limited by geographic or economic constraints . Therefore, open digital learning resources have significant potential to improve the quality of education in the digital age .

Digital Era Learning

The digital era demands a paradigm shift in education from *teacher- centered* to *student - centered learning* . Students no longer simply receive information from teachers but also

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actively seek, manage, and utilize information independently. The use of digital technology in education supports the creation of 21st-century learning that emphasizes critical thinking, creativity, communication, and collaboration. Furthermore, digital learning also provides opportunities for students to develop technology skills and digital literacy, which are crucial for the future. According to Prensky (2001), the current generation of students are *digital natives* who have grown up alongside the development of digital technology. Therefore, learning needs to be tailored to student characteristics to make the learning process more effective and relevant to current developments.

RESEARCH METHODS

This study applies the Systematic Literature Review (SLR) method to systematically examine various research findings related to the use of Open Educational Resources (OER) and their impact on self-regulated learning. The SLR approach was chosen because it allows researchers to conduct structured literature searches, evaluations, and synthesis, resulting in a more comprehensive and scientifically sound understanding.

1. Literature Identification Stage

The initial stage of the research began with identifying the topic and formulating research questions that formed the basis of the literature search. Next, the researcher identified relevant keywords, such as Open Educational Resources (OER), digital learning resources, self-regulated learning, learning independence, open learning, learning independence, and other terms related to digital learning resources.

The search process was conducted through several reputable scientific databases, namely Google Scholar, Scopus, ERIC (Education Resources Information Center), Directory of Open Access Journals (DOAJ), and Garuda (Digital Reference Center). The use of various sources aims to obtain references that are broader, more diverse, and in line with research developments at the national and international levels.

2. Literature Selection Stage

The obtained literature was then screened based on established inclusion and exclusion criteria. The selected articles were scientific publications discussing the use of OER, digital learning, Open Learning, Self-Regulated Learning, or independent learning, and were available in full-text format for in-depth analysis.

Conversely, articles that are not directly related to the research focus, are duplicates, or only provide abstracts without access to the full content are not included in the analysis stage. This selection process aims to ensure that the literature used is truly relevant and of adequate academic quality.

3. Literature Analysis Stage

After the selection process was completed, each article was analyzed using a content analysis approach. The analysis was conducted by examining various important aspects, including the research objectives, methods used, characteristics of the research subjects, the implementation of OER (digital learning resources), and indicators of learning independence such as learning motivation, time management, discipline, responsibility, and self-evaluation.

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Through this process , researchers can identify patterns of findings , similarities and differences between studies , and observe trends in research findings that have developed in the field . Analysis is also used to identify research gaps that require further study .

4. Literature Synthesis Stage

The final stage of this method is to synthesize all the analytical results obtained . This synthesis is carried out by integrating various research findings to form a comprehensive picture of the relationship between the use of open digital learning resources and student learning independence .

In addition to compiling conclusions from previous research results , the synthesis process also aims to group the main themes , compare the results between studies , and build a conceptual framework that explains how Open Educational Resources (OER) and the concept of Open Learning can support the development of Self-Regulated Learning. Thus , this study is expected to be able to provide a deeper understanding of the role of OER in increasing learning motivation , time management skills , sense of responsibility , discipline , and self -evaluation as the main components of learning independence .

RESULTS AND DISCUSSION

The study results show that open digital learning resources play a crucial role in enhancing student learning independence . Access to online learning materials allows students to learn anytime , anywhere , without the constraints of time and space . This provides opportunities for students to be more active in determining their own learning strategies .

Utilizing digital learning resources can also increase learning motivation. Digital-based learning media are generally presented interactively through videos, animations, simulations, and online quizzes, making the learning process more engaging. Students are not merely passive recipients of information but are actively engaged in the learning process.

Furthermore, open digital learning resources help students develop critical thinking and problem-solving skills. Through broad access to information, students can compare various sources, conduct analyses, and draw conclusions independently.

However, there are several challenges in utilizing digital learning resources, such as limited internet access, low digital literacy, and lack of supervision in technology use. Therefore, teachers and parents need to play a role in providing guidance so that students can use digital learning resources wisely and productively.

While digital learning resources do provide freedom to learn , the teacher's role as a facilitator and guide remains crucial . Teachers need to help students select valid learning resources, develop digital literacy, and guide them in the wise use of technology. Teachers also play a role in creating a learning environment that encourages students to actively ask questions, engage in discussions, and explore knowledge independently.

The successful use of digital learning resources is greatly influenced by students' digital literacy skills. Digital literacy relates not only to the ability to use technology, but also to the ability to understand, evaluate, and utilize information critically and responsibly. Students with good

digital literacy are better able to filter relevant information and avoid misuse of technology in the learning process.

Despite the many benefits of digital learning resources, several challenges require attention, including disparities in internet access and technological devices, low digital literacy skills, impaired concentration due to social media use, lack of supervision of technology use, and the risk of disseminating invalid information. Therefore, collaboration between schools, teachers, parents, and the government is necessary to support the optimal use of digital learning resources.

In addition to enhancing learning independence, open digital learning resources can also help students develop project-based independent learning skills . Students can search for various digital resources to complete assignments, engage in online discussions, and present their learning outcomes through digital media. These activities encourage students to be more creative, active , and responsible in their learning process .

The use of digital technology also supports the creation of *more* personalized learning . Students can choose materials based on their individual interests, abilities, and learning needs. This makes the learning process more effective because students can learn at their own pace and style.

Inhibiting Factors

a. Limited Internet Access and Devices

Not all students have stable internet access or adequate digital devices . This infrastructure gap can limit opportunities to make optimal use of digital learning resources , especially in areas with limited connectivity .

b. Low Digital Literacy

Some students still struggle to find relevant information, evaluate the credibility of sources, or use digital platforms effectively. As a result, OER utilization is less than optimal and can potentially lead to misunderstandings.

c. Lack of Discipline and Time Management

The flexibility offered by OER requires a high *level* of time management and discipline . Students who are unable to manage their study schedules effectively tend to procrastinate , leading to a disorganized learning process .

d. Low Learning Motivation

Without strong motivation , students tend to use OER passively or not at all . This can hinder the development of independent learning because the initiative to seek and develop knowledge is limited .

e. Quality and Validity of Diverse Learning Resources

Not all digital learning resources are of equal academic quality. Some materials may be outdated, inaccurate, or inconsistent with the curriculum. If students fail to make critical selections, the information they obtain can lead to misconceptions.

a. Lack of Guidance from Educators

Although OER is designed to support independent learning, guidance from a teacher or lecturer is still necessary. Without adequate guidance, students may experience confusion in selecting appropriate resources or struggle to understand complex material.

b. Digital Distractions and Interruptions

Using the internet for learning often comes with various distractions, such as social media, online games, or other digital entertainment. These distractions can reduce focus and impact the effectiveness of digital learning resources.

c. Analysis of Supporting and Inhibiting Factors

Overall, the success of fostering independent learning through the use of open digital learning resources is greatly influenced by the balance between supporting and inhibiting factors. Adequate technological infrastructure, strong learning motivation, *self-regulated learning* skills, and strong digital literacy will strengthen the effectiveness of OER use. Conversely, limited access, poor learning management skills, minimal mentoring, and high levels of digital distractions can hinder the achievement of these goals.

Therefore, efforts to optimize the use of open digital learning resources need to be accompanied by increased digital literacy, strengthened *self-regulated learning* skills, provided more equitable access to technology, and active support from educators and educational institutions. With a comprehensive approach, OER will not only serve as a source of information but also as an effective tool in developing independent, responsible, and lifelong learners.

CONCLUSION

Utilizing open digital learning resources can be an effective strategy for fostering student learning independence. Easy access to information, learning flexibility, and a variety of learning media can increase student motivation and ability to manage the learning process independently.

While various challenges remain in implementation, the use of digital learning resources still holds significant potential to support more innovative and adaptive learning in the digital age. With the advancement of educational technology, students are required not only to be able to receive information but also to manage their learning independently and responsibly.

Therefore, the use of open digital learning resources needs to be continuously developed as part of educational innovation that supports lifelong learning. Support from schools, teachers, parents, and the government is essential for the use of technology in education to provide optimal benefits for student development.

The use of open digital learning resources (OER) has been proven to play a crucial role in enhancing student learning independence. OER provides flexible access to a variety of learning materials, encouraging students to learn independently, manage their learning process, and develop self-regulated learning skills. However, its success is influenced by digital literacy, learning motivation, and support from the educational environment.

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