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THE EFFECT OF TECHNOLOGY USE IN LECTURER LEARNING IN THE CLASSROOM ON STUDENT LEARNING MOTIVATION: A LITERATURE REVIEW

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Abstract

The effect of lecturers' use of technology in the classroom on students' motivation to learn refers to the extent to which the integration of technological tools and methods by lecturers can change the level of engagement, participation and encouragement that students feel in the learning process. Technology in this context includes various digital tools and platforms such as computer-based presentations, educational applications, online discussion forums, learning videos, and other interactive media used to support classroom teaching. The aim is to provide a more engaging, interactive and effective learning environment, so as to increase students' interest and motivation to learn. This influence can be positive, such as increased participation and understanding of the material, but it can also be negative if the use of technology is not well managed, such as causing distraction or passivity in learning. The results show that the integration of technology in teaching has the potential to increase student engagement and participation, which positively affects their motivation to learn. Technology tools such as interactive presentations, online discussion forums, and multimedia-based learning applications allow for a more dynamic and interactive learning environment.
Keywords: Technology, Lecturer Learning, Learning Motivation, Students.

Introduction

The development of information and communication technology has brought significant impacts in various aspects of life, including in the field of education. Today, the use of technology in education has become increasingly common and widely accepted at various levels of education. Various technology tools and platforms, such as Learning Management Systems (LMS), mobile applications, video conferencing tools, and social media, have been integrated into the learning curriculum. During the COVID-19 pandemic, many educational institutions turned to online learning as a solution to maintain educational continuity amid physical restrictions (Sitopu et al., 2024); (Guna et al., 2024); (Fawait et al., 2024); (Syakhrani & Aslan, 2024). This has accelerated the adoption of digital technologies in the classroom, changing the way lecturers and students interact and access information. Technologies such as augmented reality (AR) and virtual reality (VR) are also being introduced to create more immersive and interactive learning experiences. (Suripah & Susanti, 2022)..

Along with these developments, new challenges have also emerged, especially related to the digital divide that still exists in various regions. Access to technological devices and a stable internet connection are the main obstacles for some students and lecturers. (Rajput et al., 2022).. In addition, the readiness and ability to utilise technology

effectively varies across educational institutions. Nonetheless, advances in educational technology are expected to overcome some of these obstacles and continue to improve the quality of learning. Educational institutions and the government continue to strive to improve technology infrastructure and provide the necessary training so that all parties can benefit from the digital transformation in education (Tambunan & Sihite, 2020). (Tambunan & Sihite, 2020).

Lecturers as the main driver of the learning process in higher education have a strategic role in utilising technology to improve the quality of education. By integrating technology in learning methods, lecturers are expected to increase student learning motivation. High learning motivation is one of the key factors for student academic success. (Firmandani & Sukrawan, 2021)..

However, in its implementation, there are several challenges faced, including; first, not all lecturers and students have adequate readiness and skills in using technology in the classroom. This can affect the effectiveness of its use in learning. Second, the uneven availability of technology infrastructure and internet access is also an obstacle, especially in areas with limited facilities. Thirdly, lecturers need to adapt their teaching style to the technology used, so that the teaching method is not monotonous and can increase student involvement. Fourth, the use of technology needs to be accompanied by an appropriate evaluation system to measure its effectiveness on student learning motivation. (Melda et al., 2021).

Understanding the effect of technology use on student learning motivation is important in improving the quality of higher education. Therefore, this research aims to review the existing literature on the effect of technology in the learning process on student learning motivation, as well as identify the factors that can influence it. Thus, it is hoped that the findings of this research can be the basis for the development of more effective and innovative learning strategies in the future.

Research Methods

The study in this research uses the literature method. The literature research method is a systematic approach to identifying, evaluating, and interpreting works relevant to a particular topic or field of study. This process involves collecting information from various sources, such as books, journal articles, research reports, and other official documents that have been published before. (Afiyanti, 2008); (Syahrizal & Jailani, 2023). Literature research aims to provide an in-depth understanding of the current state of knowledge in the field, identify unfilled research gaps, and provide a strong theoretical context for future research. This method also helps in structuring theoretical frameworks and developing hypotheses for future empirical research. (Sahar, 2008).

Results and Discussion

Aspects of Motivation for Learning in Higher Education

Motivation to learn in higher education is a crucial aspect that influences students' academic success. Highly motivated students tend to be more actively involved in the learning process, have a desire to understand the material in depth, and show better academic performance. Motivation can come from within the individual (intrinsic motivation) such as curiosity, high interest in a field of study, and personal satisfaction from academic achievement. In addition, motivation can also come from outside (extrinsic motivation), such as the ambition to get high grades, the desire to get a good job after graduation, or pressure from family and society. (Sartika & Fransiska, 2024); (Judijanto et al., 2024).

There are several factors that influence learning motivation among students. Firstly, the quality of teaching and the pedagogical approaches used by lecturers play an important role. Interactive, relevant and challenging teaching can increase students' interest and encourage them to be more actively involved in the learning process. Secondly, a supportive learning environment, including adequate facilities and easy access to learning resources, also contributes to learning motivation. In addition, support from peers and involvement in the academic community can provide additional encouragement for students. (Indriyani et al., 2024)..

Technology also has a significant influence on learning motivation in higher education. The use of learning technologies such as Learning Management Systems (LMS), simulations, and visual aids can make the learning process more interesting and interactive, thus increasing student motivation. In addition, the easy access to various online resources allows students to learn according to their own pace and learning style, which can increase their sense of engagement and motivation. (Williams, 2024). However, it is important to note that the use of technology without the right approach can be a distraction and reduce motivation if not managed properly.

Finally, personalised strategies adopted by students also play a role in learning motivation. Awareness of the importance of time management, effective study approaches, and clear goal setting can help students stay motivated and focused in achieving their academic goals. Academic advisors and counselling services in higher education can provide the necessary support and guidance to help students develop effective strategies. By paying attention to and managing these various aspects of motivation, higher education institutions can create an environment that is conducive to students' academic success.

The Role of Technology in Learning

The role of technology in learning has become more prominent with the times and the demand for more modern and efficient education. Technology has changed the way we access information, interact with learning content, and communicate with

teachers and peers. In the context of formal education, the use of technology such as Learning Management Systems (LMS) has enabled the learning process to be more flexible and structured. Through LMS, students can access course materials, submit assignments, participate in discussions, and get feedback online, thus providing unlimited flexibility in time and place. (Sudarjo & Suyitno, 2023)..

In addition, technology offers various learning aids that can improve the effectiveness of the teaching and learning process. For example, simulations and virtual labs allow students to practice concepts that are difficult to grasp theoretically in a safe and controlled environment. Learning videos and interactive presentations make learning more interesting and understandable, especially for those who are more responsive to visualisation. Augmented reality (AR) and virtual reality (VR) technologies even provide immersive learning experiences, which were previously not possible within the conventional learning framework. (Hsieh & Maritz, 2023)..

Technology also enables personalisation of learning, which is one of the main advantages of modern education. With the help of adaptive technology, learning materials can be customised to suit each individual's learning pace and style. Data analytics integrated in digital learning systems provide in-depth feedback on student performance and learning difficulties, allowing lecturers to tailor their teaching strategies to meet the needs of each student (Iksal et al., 2024); (Irwan et al., 2024). For example, platforms such as Khan Academy use algorithms to suggest further material to students based on previous performance.

However, while the role of technology in learning is significant, there are challenges that need to be overcome. One of the main challenges is the gap in access to technology between different groups of students. Not all students have equal access to adequate digital devices and the internet, which can create inequities in the learning process. In addition, such advanced technology cannot fully replace human interaction, which is essential in the learning process. Therefore, it is important for educational institutions to ensure that technology is used as a complement that enriches the learning experience, not as a substitute for real interaction between teachers and students.

The Influence of Technology on the Learning Process

Technology has had a significant impact on the learning process, both in formal and non-formal education. One of the most obvious impacts is the ease of access to various sources of information. With the internet, students can easily find additional reference materials, e-books, scientific journals, and learning videos from various educational platforms such as Coursera, edX, and YouTube. (Luo & Derakhshan, 2024).. This allows students to deepen their knowledge beyond the material provided in class and learn according to their own rhythm and needs.

Apart from access to information, technology has also facilitated interaction and collaboration between students and teachers. Platforms such as Google Classroom, Microsoft Teams, and Zoom have facilitated distance learning with ease. Students can attend classes, have group discussions, and work on collaborative projects despite not being in the same physical space. Features such as breakout rooms in video conferencing applications allow for the simulation of small discussion rooms that aid in a more immersive and interactive learning process. (Gaddis, 2020).

Technology also plays a role in increasing student engagement and motivation through the use of interactive and gamified learning tools. Apps such as Kahoot!, Quizizz and Duolingo use gaming elements to make learning more fun and engaging. With elements of competition, clear goals and rewards, gamification can increase student engagement and make them more motivated to learn. (Wang, 2022). In addition, technologies such as AR and VR provide a more immersive and contextualised learning experience, helping students understand complex concepts in a more tangible and practical way. (Sun, 2024).

However, despite its many benefits, technology also brings its own challenges to the learning process. One of them is the high potential for distraction. Technology devices such as smartphones and laptops used for studying can also be a source of distraction if not used wisely. Social media, online games and various other applications often cause students to lose focus. In addition, over-reliance on technology can lead to a lack of important social and face-to-face communication skills (Setena et al., 2021). Therefore, it is important for educational institutions and educators to implement a balanced technology use strategy, ensuring technology is used as an effective tool to support learning rather than hinder it.

Besides the challenge of distraction, there is also the issue of disparity in access to technology that needs to be considered. Not all students have equal access to adequate technology devices and the internet. This digital divide can lead to inequities in the learning process, where some students may not be able to fully utilise the benefits that technology offers. Educational institutions need to find solutions to bridge this gap, for example by providing loan devices or free internet access for students in need. (Hariyono, 2023).

Technology also brings opportunities for personalised learning. Using analytics and artificial intelligence tools, teachers can monitor each student's learning progress in real-time and customise learning methods and materials according to individual needs. Adaptive learning platforms such as Khan Academy and DreamBox use algorithms to present questions and materials that match students' abilities and progress. This can help accelerate the learning process and ensure that each student gets the attention and guidance that suits their learning pace. (Raisah et al., 2023)..

In addition, the development of technology skills through the integration of technology in learning also has a positive long-term impact. Along with the times, digital

skills are becoming increasingly important in the world of work. With early familiarisation with technology in an educational context, students can develop competencies that are relevant to future labour market demands. The ability to use various software, conduct online research, and work collaboratively on digital platforms will be a plus for them when they enter the professional world. (Khasanah et al., 2022)..

As such, the influence of technology on learning is immense, offering benefits such as easy access to information, increased interaction and collaboration, higher engagement through interactive tools, and personalisation of learning. However, challenges such as distraction and access gaps need to be overcome for technology to be utilised optimally. With a thoughtful approach and a balanced strategy, technology has great potential to revolutionise education and prepare students with relevant and in-demand skills for the future.

Positive and Negative Impacts of Technology Use on Learning Motivation

The use of technology in education has brought a number of positive impacts, especially in increasing students' learning motivation. One of the biggest positive impacts is the increased accessibility to various learning resources. With the internet, students can easily search for additional information, access learning videos and use interactive educational applications. This allows students to learn at their own pace and learning style, which in turn can increase their interest and engagement with the material. (Salsabila & Usman, 2021).

In addition, technology enables personalised learning that can motivate students. Through adaptive learning platforms, teachers and students can monitor learning progress in real-time and customise teaching materials and methods according to individual needs. When students feel that the material learnt is relevant and appropriate to their abilities, motivation to learn increases. Educational games and gamification-based applications also provide a fun and challenging learning experience, so students are more motivated to complete the learning. (Nisa, 2020).

However, behind these positive impacts, the use of technology also brings a number of negative impacts that can affect students' learning motivation. One of the most common negative impacts is distraction. With technological devices, many students tend to lose focus as they are tempted to access social media, games or other non-education-related content. This distraction reduces the time and energy that should be allocated to learning, and reduces the effectiveness of learning. (Youard, 2023).

In addition, the gap in access to technology can also affect learning motivation. Not all students have equal access to adequate technological devices and the internet. Students who are disadvantaged in terms of this access may feel left behind or lack motivation because they cannot take full advantage of the resources available. This

feeling of injustice and frustration can have a negative impact on their enthusiasm and motivation to learn. (Argyroulis, 2022).

Overall, the use of technology in education has great potential to increase learning motivation by providing better accessibility, personalisation of learning and enjoyable learning experiences. However, to optimise its benefits, challenges such as distraction and technology access gaps must be overcome. With a balanced and thoughtful approach, technology can be an effective tool in creating a more motivational and productive learning environment for students.

Conclusion

The use of technology in learning by lecturers in the classroom has a significant influence on students' learning motivation. Based on the literature review, technology can increase student engagement and participation in the learning process. The implementation of technological tools such as interactive presentations, online discussion forums, and multimedia-based learning applications helps to create a dynamic and interactive learning environment. This allows students to be more actively engaged, better understand the subject matter, and feel more motivated to learn.

However, the impact of this technology is not always positive. Challenges such as dependency on technology and potential distractions can also reduce learning effectiveness. Some literature suggests that excessive or uncontrolled use of technology can cause students to become passive and lose focus. Therefore, a balance in the use of technology and conventional teaching strategies should be maintained by lecturers to ensure that technology can actually increase students' learning motivation effectively.

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