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THE INFLUENCE OF HYBRID LEARNING ON STUDENT MOTIVATION AND ACHIEVEMENT IN THE DIGITAL ERA

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Abstract

This research focuses on a comprehensive literature analysis on the effect of hybrid learning on students' motivation and learning achievement. Through the literature research method, this study collects, reviews and analyses relevant scholarly works from journals, books, conferences and other academic sources. The results show that hybrid learning, when designed by effectively blending face-to-face and online elements, can increase students' motivation by giving them more control over their learning process. This not only helps in meeting students' individual needs but also in encouraging a sense of responsibility for their own learning. In the context of learning achievement, hybrid learning is proven to deliver positive results, especially when accompanied by strong pedagogical support and active participation from students. Conclusions from the literature analysis emphasise the importance of the teacher's role in designing and implementing hybrid learning to maximise its benefits on students' motivation and academic achievement. This research provides important insights for educational practitioners and policy makers on how hybrid learning can be optimised to support successful educational attainment.

Keywords: Hybrid Learning, Motivation, Student Achievement, Digital Age.

Introduction

The digital age has touched almost every life, including the education sector, by bringing fundamental changes in the way we teach and learn (Aslan & Shiong, 2023); (Aslan, 2019). Advances in information and communication technology have been a catalyst for the transformation of education from traditional methods to a more technology-integrated approach (Nurdiana et al., 2023); (Aslan & Pong, 2023). This approach not only overhauls learning infrastructure and methodologies but also extends the boundaries of the classroom, enabling a more dynamic, interactive and available learning experience for students everywhere (Schmid et al., 2023). Digitisation of learning content, the use of e-

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learning platforms and web-based educational tools have changed the educational landscape, making information more accessible and enabling more flexible and individualised teaching and learning processes (Xu et al., 2023).

These changes require an active response from all stakeholders in the education sector to revise curricula, teaching strategies and assessments to maximise the potential of educational technology. Digital transformation in education focuses not only on technology integration but also on developing new competencies relevant to future needs (Pandesha et al., 2023). Today, skills such as creative problem solving, critical thinking, collaboration and digital prowess are becoming as important as traditional subject knowledge. This marks a shift from a teacher-centred learning model to a learner-centred model, where students become more active in their own learning process, supported by technologies that facilitate and enrich their learning experience (Nong et al., 2023).

Advances in information and communication technology have enabled the merging of traditional face-to-face learning methods with online learning, known as hybrid learning or blended learning. Hybrid learning model, also known as blended learning, is an educational concept that combines elements of traditional face-to-face learning with online learning components (Min & Yu, 2023). In this model, students utilise technology to access learning materials, interact with instructors and fellow students, and carry out assignments through digital platforms, combined with physical classroom sessions that allow for hands-on interaction and practical learning. The online aspect of hybrid learning provides flexibility in terms of time and place, enriches learning resources with multimedia, and allows for more individualised and self-directed learning (Antonelli et al., 2023). Meanwhile, the face-to-face component maintains the important social aspect of education, which includes live discussions, group activities, and personal guidance from the instructor (Yu et al., 2023).

The relevance of hybrid learning models in the current context is increasingly felt along with the increasing demand for more flexible and inclusive access to education. Especially in the face of challenges such as the global pandemic, hybrid learning has become a responsive and resilient educational solution, allowing teaching and learning activities to continue even in situations that do not allow full physical interaction (Anggaira & Sari, 2023). The advantage of this model is its ability to adapt to individual needs, location limitations, and socio-economic changes, while still ensuring that the learning process takes place effectively. By utilising technology in education, the hybrid approach combines the best of both worlds, providing a more holistic learning experience that exploits the advantages of each (Anurogo et al., 2024).

However, although many studies have shown the benefits of hybrid learning, there is still debate regarding its effectiveness in improving students' motivation and learning achievement (Hua & Wang, 2023). Learning motivation is one of the key factors that can influence the success or failure of the learning process. Meanwhile, learning achievement is a key indicator of educational success that reflects students' academic achievement (Nuryadin et al., 2023).

In the current context, the challenges faced by education do not only revolve around the utilisation of technology, but also how the learning model can be integrated effectively to support students' motivation and academic achievement. The question is, can hybrid learning be an effective solution to improve student motivation and achievement in this digital era? Therefore, it is important to further examine the effect of hybrid learning on students' motivation and achievement, in order to identify factors that can maximise the benefits of this learning model. This research is expected to provide new insights for teachers, educational institutions and policy makers in optimising their teaching practices in this evolving era.

Research Methods

The research method conducted in this study is literature. Literature research method is an approach in research that focuses on collecting, analysing, and interpreting data from existing literature sources, such as scientific journals, books, articles, and other written sources (Kim et al., 2024); (Nesset et al., 2024). This technique is widely used in various fields of study to gain an in-depth understanding of the topic or research problem at hand. In the literature research method, researchers collect references and reliable sources to be identified, analysed, and compiled to support the research being conducted (Teixeira & Carvalho, 2024). One of the main advantages of literature research is the ability to access a wide and deep pool of research at once, which allows researchers to gain diverse insights and perspectives on their research problem (Dong et al., 2024).

Results and Discussion

Hybrid Learning Theory

Hybrid learning is an educational model that combines face-to-face classroom instruction with online learning activities (Pandesha et al., 2023). This model is designed to utilise the advantages of both methods, allowing students to gain social interaction and direct support from teachers and classmates, while providing flexibility and access to abundant digital resources (Anggaira & Sari, 2023). With hybrid learning, students can set their own learning pace when accessing online materials, and at the same time benefit from the experience of collaboration and discussion in a physical classroom environment. This facilitates a more personalised and adaptive approach to learning that suits individual needs (Anurogo et al., 2024).

Characteristics of hybrid learning include the need for careful course design, where online and face-to-face components should be seamlessly integrated to ensure a coherent learning experience (Kardi et al., 2023). Typically, course materials, such as videos, readings, and exercises, are provided on an e-learning platform where students can access them as needed. Classroom learning is often focused on activities that utilise hands-on interactions such as group discussions, team-based projects, and practical assessments (Hopkins et al., 2023). In addition, technology in hybrid learning also allows for more varied and continuous assessment, often utilising tools such as online quizzes and discussion forums. As such,

hybrid learning emphasises a student-centred learning experience and promotes greater responsibility of learning to them, while still maintaining a teacher-directed instructional framework (Osaili et al., 2023).

The main components of hybrid learning include online content, face-to-face interaction, as well as the use of technology that supports the blending of both elements. Online content is usually presented in the form of reading materials, video lectures, presentations, podcasts, or interactive simulations that can be accessed through a learning management system (LMS) or other related platforms (Dede & Lidwell, 2023). The face-to-face component involves regular classroom meetings where instructors and students interact face-to-face to discuss and apply material that has been learnt online, often through activities such as discussions, presentations or practical labs. Technology supports this bidirectionality by providing software and hardware that enables content updates and management, student-instructor communication, as well as student progress tracking (Almusaed et al., 2023).

The implementation of hybrid learning in education requires careful planning for students to have a useful and coherent experience. This includes determining a balanced time allocation between online and face-to-face components, as well as building a syllabus that articulates learning expectations, goals and requirements (Ojugo et al., 2023). Instructors should design online activities that promote students' self-understanding and independence, while utilising class time for knowledge application and social interactions that enhance understanding (Meletiadou, 2023). Training for instructors and students in using relevant technologies is also important to ensure that all components of hybrid learning work as intended. Back-end support is also important to ensure that students can access coursework materials smoothly and get technical assistance when needed. Continuous assessment of hybrid learning can provide feedback for continuous improvement in the delivery of materials and achieving expected learning outcomes (Caulfield, 2023).

Hybrid learning is an educational approach that integrates online and face-to-face components, utilising technology to offer a learning experience that is flexible and tailored to individual needs. Its key characteristics include the use of digital content accessible through online learning platforms, social interaction and collaboration in a physical classroom environment, and technological support that enables seamless integration between the two components (Sulaiman et al., 2023). The implementation of this model requires careful planning, including the construction of an effective syllabus, training for students and instructors in relevant technologies, and continuous follow-up to evaluate the effectiveness of learning (Krisna, 2024). In conclusion, hybrid learning offers an innovative and responsive educational approach to contemporary learning challenges, enabling more personalised, flexible and accessible education, while maintaining the importance of human interaction in the learning process.

Learning Motivation

Motivation theories in education play a crucial role in understanding and improving student engagement and academic achievement (Aslan, 2022). One motivation theory often associated with educational contexts is the Expectancy-Valence Theory, which states that students' motivation to learn is influenced by their expectation to succeed (hope) and the value they place on that success (valence) (Schmid et al., 2023). Internal motivations, such as curiosity and subject mastery, often take precedence over external motivations, such as assessment and rewards. Other theories such as Self-Determination Theory emphasise the importance of meeting students' basic psychological needs for competence, relatedness, and autonomy in order to promote their intrinsic motivation (Xu et al., 2023). Authentic instructor care, social support from classmates, and opportunities for students to make choices regarding their learning can enhance this intrinsic motivation (Pandesha et al., 2023).

In addition, achievement goal attitude theory reveals that students set process-oriented or outcome-oriented goals that impact their motivation to engage in academic tasks (Nong et al., 2023). Mastery-oriented students tend to understand the material and develop competencies, while achievement-oriented students may be more focused on obtaining grades and recognition from others. Understanding these goal orientations can guide educators in designing learning experiences that meet the needs and enhance the motivation of each student (Min & Yu, 2023). Implementing approaches such as appropriate feedback, creating a challenging yet supportive learning environment, and providing role models to emulate can all strengthen students' motivation and support their academic success. These approaches demand thoughtful and adaptive strategies from educators to continuously stimulate and sustain students' learning motivation (Antonelli et al., 2023).

The learning methods chosen by educators have a significant influence on students' learning motivation. Varied and interactive approaches, such as Project Based Learning or Collaborative Learning, tend to increase motivation as they introduce practical elements and interpersonal relations into the learning process (Yu et al., 2023). These methods allow students to actively engage in the learning process, apply knowledge in real situations, and collaborate with peers, thereby strengthening their understanding and increasing self-confidence (Anurogo et al., 2024). Furthermore, the use of technology in learning, such as game-based learning or interactive learning platforms, can also increase motivation by making subject matter more engaging and accessible, as well as providing quick and personalised feedback on student achievement (Hua & Wang, 2023).

On the contrary, monotonous learning approaches that lack personal engagement can often demotivate students. Traditional methods such as prolonged lectures without sufficient interaction from students can lead to boredom and lack of engagement in the subject matter (Nuryadin et al., 2023). This leads to low external motivation, where students learn only to fulfil external demands and expectations such as grades and exams, rather than for internal satisfaction or curiosity (Umar et al., 2023). For this reason, it is important for

educators to monitor students' responses to the teaching methods used and be ready to adjust their strategies to support a more dynamic and motivating learning environment, which can ultimately improve overall learning outcomes.

Learning Achievement

Learning achievement is generally defined as the results achieved by a student that reflect his or her level of understanding of the material that has been taught. This achievement is often measured through tests or other formal assessments, student papers, projects, or various other forms of evaluation that assess analytical skills, concept mastery, and practical skills (Eliyah et al., 2021). Learning achievement does not only reflect the absorption of knowledge, but also includes the application and analysis of that knowledge in a broader context. It is important as an indicator of students' ability to use what they have learnt in real-world situations, and is often the basis for curriculum development and teaching methods in educational institutions (Nikolopoulou & Zacharis, 2023).

The factors that influence student learning achievement are very diverse and can be divided into two broad categories: internal factors and external factors. Internal factors include students' psychological aspects such as learning motivation, self-confidence, cognitive ability, learning style, and mental or emotional health (Katal et al., 2023). Students who are motivated and have high self-confidence generally show better learning achievement as they are more likely to take initiatives and handle academic challenges proactively. On the other hand, external factors include the learning environment, teaching quality, social support from family and friends, and available educational resources (Purnama et al., 2023). A conducive environment with adequate support from educators and family can provide positive stimulation and minimise obstacles in the learning process, which in turn can boost students' academic achievement (Cannon et al., 2023).

Learning methods are one of the important factors that directly affect student learning achievement. The chosen learning method must be able to facilitate the absorption of knowledge, encourage deep understanding, and improve analytical skills and knowledge application in various contexts (Sukatin et al., 2023). Interactive methods that prioritise students' active participation, such as project-based learning, class discussions or collaborative learning, have been shown to be effective in improving learning achievement. This is because these methods allow students to be directly involved in the learning process, apply theory in practice, and develop critical and problem-solving skills (Ansari et al., 2023). Active participation in the learning process not only improves concept understanding but also strengthens memory and facilitates the transfer of knowledge to new situations (Widjaja & Aslan, 2022).

On the other hand, the use of technology in learning, such as digital education, learning apps, and interactive media, also has a significant positive impact on learning achievement. Technology provides access to extensive learning resources, allows

personalisation of learning according to students' individual learning pace and style, and offers quick and precise feedback (Setyosari et al., 2023). This is very important in encouraging learning motivation and allowing students to track their progress independently. Combining effective learning methods with the strategic use of technology can create a dynamic and engaging learning environment, which ultimately supports the improvement of students' overall learning achievement (Insani & Hariyadi, 2023). Therefore, the selection of appropriate learning methods in accordance with the material and the needs of students is key in achieving optimal learning outcomes.

The Effect of Hybrid Learning on Student Motivation

Hybrid learning, which combines face-to-face and online learning methods, has a significant impact on students' learning motivation. This model allows students to benefit from both forms of learning, where they can interact directly with teachers and peers in class, while enjoying the flexibility offered by online learning (Mayer, 2023). The flexibility in setting learning schedules and the ability to access digital learning materials anytime and anywhere can increase learning motivation as students feel they have more control over their learning process (Helsa & Juandi, 2023). This success rests on the hybrid model's ability to adapt to individual needs, facilitate deeper learning, and provide variety that keeps learning aversion high (Wikanta et al., 2023).

However, effective implementation of hybrid learning requires clear structures and consistent support to guarantee that students continue to be motivated. For example, the lack of adequate social interaction and over-reliance on online components might demotivate learning if not managed well. Therefore, educators need to invest in building a solid learning community and providing appropriate technical assistance and learning resources (Navio-Marco et al., 2024). In addition, constructive and regular feedback can support students in overcoming challenges they may face in hybrid learning. With a considerate and comprehensive approach, hybrid learning can be a very effective tool to increase learning motivation, enabling students to reach their full potential in an adaptable and supportive environment (Benawa & Sihombing, 2023).

To maximise the positive influence of hybrid learning on student learning motivation, education should focus on rigorous design and implementation. This includes choosing user-friendly technology platforms, ensuring accessibility of resources for all students, and developing engaging and relevant learning materials (Essa, 2023). Also, the use of innovative teaching techniques, such as game-based learning, interactive videos, and virtual simulations, can increase student engagement and provide them with opportunities to apply knowledge in real contexts. It is also important for educators to continuously monitor students' participation and identify any difficulties they may experience, both academic and technical, so that appropriate interventions can be provided to help students stay motivated (Hariadi & Sunarto, 2023).

Fostering a sense of community and personal connection in hybrid learning is also vital. The creation of discussion groups, online Q&A sessions, and collaborative activities can help students feel more connected to their peers and educators, reducing feelings of isolation that may be experienced in online learning (Napaporn et al., 2023). The opportunity to collaborate on group projects or participation in discussion forums also gives students a sense of belonging and personal growth, both of which are important for keeping learning motivation high (Ghannam & Chan, 2023).

In conclusion, hybrid learning, with the right mix of online and face-to-face approaches, has great potential to increase students' learning motivation. It creates a flexible, responsive and diverse learning environment, which gives students more control over their education and allows them to learn according to their own rhythm. However, the success of this model relies heavily on careful planning, sufficient resources, technical support, and engagement and commitment from educators and students. With a strategic and student-centred approach, hybrid learning can redefine the learning experience and open the door to more inclusive and engaging educational methods in the future.

The Effect of Hybrid Learning on Student Learning Achievement

Effective hybrid learning can have a significant positive impact on student achievement. Through the combination of face-to-face and online instruction, students get the opportunity to explore the subject matter in depth and at their own pace, which allows for greater differentiation of learning and personalisation (Bećirović & Dervić, 2023). These features are crucial in customising the learning experience to the various learning styles and individual needs of students. With access to extensive online resources, students can not only deepen their understanding of a particular topic but also develop important skills such as digital literacy, problem solving and self-learning (Krisna, 2024). In addition, hybrid learning provides an opportunity for educators to collect real-time learning data through digital tools, which allows for more careful adaptation of curriculum and teaching to meet students' learning needs, all with the potential to improve student achievement (Rijst et al., 2023).

However, the success of hybrid learning in improving learning achievement also largely depends on the quality of implementation and the level of support provided. This includes adequate teacher training to design and deliver hybrid instruction, reliable technological infrastructure, and support for students who need additional help in adjusting to this new way of learning (Cheng et al., 2023). Aspects such as motivation reinforcement, time management, and the development of effective study skills are crucial to ensure that students can fully utilise the potential of hybrid learning. By providing a supportive environment, along with the right tools and strategies, students are expected to achieve better learning outcomes, not only in terms of academic knowledge but also in core competencies that will give them an advantage in their further education and professional careers (Karmini et al., 2023).

In a long-term context, successful implementation of hybrid learning can help prepare students for an increasingly digital and interconnected world. Along with improvements in academic achievement, students who participate in hybrid learning environments often develop skills such as independence, self-management and adaptability (Sudrajat et al., 2023). Hybrid learning motivates students to take greater responsibility for their own learning process, which is an important asset in higher education and work environments that require critical thinking and continuous learning. Moreover, the experience they gain in managing digital resources and collaborating with others online is useful in various real-life situations (Krisna, 2024).

Overall, hybrid learning, when implemented with careful consideration, can be a powerful catalyst for improving student learning achievement (Sulaiman et al., 2023). It can transform traditional teaching into a more interactive, flexible and engaging experience, which is accessible to students with different backgrounds and ability levels. However, it is important to remember that the success of this approach depends not only on technology, but also on the quality of pedagogy, institutional commitment, and resources allocated to learning support (Guerrero-Quiñonez & ..., 2023). A well-designed hybrid education should ensure that all students can access quality learning, regardless of the challenges they may face in online or face-to-face learning, thus encouraging them to reach their full potential academically (Meletiadou, 2023).

Conclusion

Hybrid learning has significant potential to improve student motivation and achievement. By combining interactive face-to-face instruction with flexible online components, it offers a more personalised and self-taught learning experience. This approach allows students to plan their learning according to their individual learning pace and style, which can increase their internal motivation to learn. The digital side of hybrid learning expands students' access to learning resources and materials without time and location restrictions, encouraging deeper exploration and self-directed learning. These factors, when accompanied by strong pedagogical support, can increase students' engagement with the subject matter, which is key in improving motivation and, in turn, learning achievement.

However, the success of hybrid learning in improving student learning achievement depends largely on its implementation. Reliable technological infrastructure, effective teacher training and adequate resources are essential components. Teachers play a crucial role in designing engaging and challenging learning activities that utilise the advantages of both learning modes. In addition, hybrid learning demands a greater commitment from students to manage their own learning, which enables the development of skills such as time management and independence. When these two factors - institutional support and active student participation - are present, hybrid learning can provide an environment that

motivates students not only to achieve but also to exceed their learning goals, showing a significant positive impact on student motivation and achievement.

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