Hybrid Learning as an Educational Innovation in Elementary Schools: Bridging Physical and Digital Presence

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Abstrak

Pembelajaran hybrid, yang menggabungkan interaksi fisik dan digital, semakin mendapatkan signifikansi dalam lanskap pendidikan saat ini. Tujuan dari penelitian ini adalah untuk menyelidiki metode pembelajaran hybrid, menganalisis dampaknya pada hasil belajar, dan mengidentifikasi faktor-faktor yang memengaruhi, dengan fokus pada pendidikan sekolah dasar. Metodologi penelitian yang digunakan dalam studi ini adalah tinjauan literatur yang mencakup analisis literatur yang relevan tentang pendidikan hybrid, teknologi pendidikan, dan teori-teori pembelajaran. Informasi dikumpulkan dari berbagai sumber seperti jurnal ilmiah, buku, dan laporan penelitian terkait. Hasil analisis data menunjukkan bahwa pembelajaran hybrid memiliki kapasitas untuk meningkatkan prestasi siswa. Integrasi teknologi digital memfasilitasi akses ke beragam materi pendidikan interaktif. Selain itu, penggunaan teknologi memiliki potensi untuk meningkatkan tingkat keterlibatan siswa dan memperkenalkan fleksibilitas yang lebih besar ke dalam proses pembelajaran. Pendekatan multifaset ini, yang menggabungkan komponen fisik dan digital, menawarkan peluang yang menjanjikan untuk meningkatkan pengalaman pendidikan secara keseluruhan dan hasilnya di pengaturan sekolah dasar.

Kata kunci: Pembelajaran Hybrid, Keterlibatan Siswa, Fleksibilitas Pembelajaran, Inovasi

Abstract

Hybrid learning, which amalgamates physical and digital interactions, has gained increasing significance in today's educational landscape. The objective of this research is to investigate hybrid learning methods, analyze their impact on learning outcomes, and identify influencing factors, with a focus on elementary school education. The research methodology employed in this study is a literature review encompassing the analysis of relevant literature on hybrid education, educational technology, and learning theories. Information was gathered from various sources such as scholarly journals, books, and related research reports. The results of data analysis indicate that hybrid learning has the capacity to improve students' achievements. The incorporation of digital technology facilitates access to a broader spectrum of interactive and varied educational materials. Additionally, technology usage has the potential to elevate student engagement levels and introduce greater flexibility into the learning process. This multifaceted approach, combining physical and digital components, presents promising opportunities for enhancing the overall educational experience and outcomes in elementary school settings.

Keywords: *Hybrid Learning, Student Engagement, Learning Flexibility, Innovation*

INTRODUCTION

There are several learning issues faced by students that can lead to academic outcomes below expectations. Among these issues that hinder the satisfactory academic achievement are problems related to the students' grasp of the material and their learning styles. Rogers asserts that the differences in understanding and learning styles are aspects that need attention. Students exhibit diverse learning abilities, with some grasping the material more quickly than others, who may require more time.

Additionally, each student has different learning preferences, such as visual, auditory, or kinesthetic (C. R., 1969).

The VAK learning style (Visual, Auditory, and Kinesthetic) is a model that identifies three primary preferences in how students process information and learn. This model serves as a foundation for educators to design instruction that caters to various learning preferences. Students with a visual learning style tend to comprehend and remember information through images, graphics, and visualizations. On the other hand, students with an auditory learning style perform better through hearing. They understand and recall information through listening and oral conversations. Lastly, students with a kinesthetic learning style learn through physical experiences and direct actions. They prefer learning by involving movement and physical activities.

Therefore, for effective teaching, instructional material must be presented in various forms to accommodate these diverse learning preferences. Teachers should strive to present material in different ways to address these varied learning styles. In addressing this issue, an appropriate form of learning is required. Ganovia, in his research, proves that hybrid learning is effective in creating varied, meaningful, interactive, and enjoyable learning experiences for students (Ganovia et al., 2022). Furthermore, Mufidah et al. revealed in their research that hybrid learning can enhance students' academic achievements (Mufidah & Surjanti, 2021).

According to Garrison et al., hybrid learning is a well-balanced combination of face-to-face and online learning within a single instructional program, allowing each method to contribute to their respective strengths (Garrison & Kanuka, 2004). Rennie et al. also define hybrid learning as the judicious use of a combination of face-to-face and online learning resources to achieve improved learning outcomes (Garrison & Kanuka, 2004). Furthermore, Bonk and Graham in (Ates, 2009) also define hybrid learning as the integration of face-to-face and online learning to create a better and more effective learning experience. From these opinions, it can be concluded that hybrid learning is an instructional approach that combines elements of face-to-face and online learning with the aim of creating a superior, more effective, and adaptive learning experience.

In the context of hybrid education for elementary schools, there are several knowledge gaps that require further research. Firstly, the constraints and challenges faced by teachers in integrating hybrid learning methods into the elementary school curriculum have not been clearly elucidated. Identification of these barriers will provide crucial insights for the development of training and support for teachers. Secondly, despite the flexibility offered by the hybrid approach, the extent to which the adaptation of traditional curriculum into digital formats influences students' understanding and achievement is not fully understood. A profound understanding of how elementary school curricula can be effectively translated into digital formats will enrich our perspective on hybrid learning at the elementary level.

Previous research indicates positive developments in integrating technology into elementary education, yet the extent to which this implementation includes the use of

hybrid methods remains a novel area of investigation. There is already preliminary evidence of the success of hybrid methods in improving learning outcomes at the college level, but whether this approach has similar impacts in elementary schools still needs further exploration. Furthermore, with the continuous evolution of technology, questions regarding the sustainability and adaptability of hybrid learning methods in the future need to be explored.

This research aims to detail, analyze, and comprehend the complexity of the hybrid learning approach at the elementary school level. Firstly, the study systematically aims to identify specific challenges faced by teachers in integrating hybrid learning methods into the elementary school curriculum. By understanding these obstacles, the research seeks to provide concrete solutions and recommendations to support teachers in adopting this approach more effectively. Furthermore, the study aims to comprehensively assess the profound impact of adapting the elementary school curriculum into digital formats on students' understanding and learning outcomes. Through comprehensive analysis, this research will provide a deep understanding of the extent to which hybrid learning can influence students' academic achievements at the elementary level. Additionally, the research also aims to contemplate the future of the hybrid learning approach by considering the continuous development of technology. By identifying trends and the potential integration of new technologies, this study will provide a clear picture of how elementary education will transform and how hybrid learning can remain relevant and effective in an ever-changing technological era.

METHODS

This research adopts a comprehensive literature analysis method. Data are acquired from reliable sources such as articles or scientific journals. Relevant sources are selected and analyzed based on key themes, including teacher challenges, curriculum adaptation, impact on students, and future projections of hybrid learning. The results of this analysis are summarized into findings that provide in-depth insights into the impact and potential of hybrid learning at the elementary school level. This approach offers a clear understanding of the factors influencing hybrid learning and assists in formulating recommendations for the development of more effective learning approaches in the future.

RESULTS AND DISCUSSION

Advantages Hybrid Learning

Students have the option to learn either in-person in the classroom or online, allowing for customization based on their schedules and preferences. This accommodates various student needs. Some students prefer in-person classroom learning for social interaction and direct guidance from teachers, while others may opt for online learning due to time and location flexibility (Dian & Paramita, 2023). This ensures that the learning approach can be tailored to the individual preferences and

needs of students.

With digital components, students can access a richer array of learning resources, including videos, simulations, online materials, and more. This aids in enhancing the understanding of concepts and presents diverse educational content. Digital resources are often designed to be more engaging and interactive, facilitating students to explore the material more deeply and actively participate in the learning process (Hidayat & Khotimah, 2019).

Digital technology enables more interactive learning. Students can engage in online activities, discussions, and quizzes, enhancing their involvement and understanding. Interaction with digital tools and engaging content tends to make learning more captivating for students, thereby potentially boosting their motivation and active participation in the learning process (Ambarwati et al., 2022).

Hybrid learning allows the utilization of sophisticated digital assessment tools. This can assist educators in conducting assessments more efficiently and providing prompt feedback to students. These tools can be employed to gauge students' understanding in real-time, monitor their progress, and generate reports that can be utilized to enhance teaching (Veronika Sitepu et al., 2022).

In a hybrid environment, students can collaborate online, share resources, and engage in collaborative projects. This can enhance crucial collaborative skills applicable in the real world. Students learn how to communicate and cooperate effectively through digital platforms, which are valuable skills in their professional careers and personal lives. It also opens up opportunities for cross-geographical collaboration, bringing a global perspective into their learning (Fattah, 2023).

The hybrid learning approach, combining in-person and online learning, has brought various benefits to students. The offered flexibility enables students to choose learning methods according to their individual preferences and needs. The utilization of digital technology in education provides access to diverse and rich learning resources, including videos, simulations, and online materials, enhancing conceptual understanding. The interactive nature of online learning experiences also boosts student engagement through activities such as discussions, quizzes, and collaborative projects. Moreover, advanced digital assessment tools allow efficient evaluation with prompt feedback to students, while online collaboration strengthens collaborative skills and opens opportunities for global cooperation. With this approach, students can develop highly valuable skills for their personal and professional lives in the digital era.

Disadvantages Hybrid Learning

Hybrid learning, coupled with the use of digital technology, assumes that all students have equal access to technology and a stable internet connection. However, the reality is that not all students share the same level of access. This can create disparities in access and learning opportunities among students (Salsabila, 2021). Students with limited access to technology may face challenges in participating in online learning, highlighting the need for efforts to address this disparity to ensure that

all students can benefit from hybrid learning.

The online learning environment can diminish physical social interaction among students, impacting the development of their social skills and peer connections. Face-to-face interactions in traditional learning provide opportunities for learning communication, collaboration, and building interpersonal relationships, which are crucial in students' social lives (Domitila et al., 2021).

Hybrid learning requires effective time management from students. They need to plan and organize their time between online and offline learning. This challenge can be difficult for some students, especially those who may not have developed strong time management skills (WH et al., 2023). Teachers and parents can play a role in assisting students in overcoming these challenges.

The quality of the hybrid learning experience is highly dependent on the teacher. Teachers must possess sufficient skills and knowledge to effectively integrate technology into education. They need to design engaging and supportive learning experiences, provide guidance to students in utilizing technology, and offer constructive feedback. The role of teachers in hybrid learning is crucial to ensuring the success of students' learning (Yusuf Hidayat & Andira, 2019).

The online environment can be distracting for some students. Disturbances from social media, websites, or other online messages can disrupt students' concentration during online learning. Therefore, it is crucial for students to cultivate self-discipline in managing online distractions and remain focused on their learning (Amelia, 2021).

The hybrid learning approach, utilizing digital technology, holds significant potential to enhance the flexibility and diversity of learning. However, substantial challenges arise when not all students have equal access to technology and the internet, creating disparities in learning opportunities. Additionally, physical social interactions among students may diminish in the online learning environment, impeding the development of crucial social skills. Good time management is also required from students, with teachers playing a key role in designing effective and supportive learning experiences. Students need to develop self-discipline to stay focused in the potentially distracting online learning environment.

In addressing these challenges, collaboration among schools, teachers, parents, and the government is crucial. Collective efforts must be undertaken to bridge the technology access gap, provide time management training, support the development of social skills, and guide students in managing online distractions. Only through a holistic and collaborative approach can the hybrid learning model be successful and provide balanced benefits for all students.

The Impact of Learning Outcomes from the Implementation of Hybrid Learning in Elementary Schools

Hybrid learning allows flexibility in education as students can choose between in-person classroom learning and online learning according to their preferences and needs (Dian & Paramita, 2023). This provides a greater choice for students with

diverse learning styles. Some students feel more comfortable with face-to-face learning for social interaction and direct guidance from teachers, while others opt for online learning for time and location flexibility. Moreover, it accommodates students who may have different learning needs, such as those with special requirements or hectic schedules.

Online learning in the context of hybrid learning provides students with the opportunity to manage their own time and become more independent in their learning, as they can schedule and take responsibility for their own progress (WH et al., 2023). In an online learning environment, students have the flexibility to study at any time according to their preferences, which can aid in developing time management skills and independence. They need to take the initiative to understand the material, complete assignments, and achieve their own learning objectives, which are valuable skills that will benefit them in the future.

The use of technology in hybrid learning can enhance student engagement as interaction with digital devices and captivating content often makes learning more interesting and relevant for students (Ambarwati et al., 2022). Contemporary students have grown up in the digital era, making the use of technology align more closely with their lifestyle and preferences. Technology can also provide a more interactive and visual learning experience, which naturally appeals to many students. When students feel engaged in the learning process, they tend to be more motivated to actively participate, consequently enhancing their understanding and retention of learning materials.

Students engaged in hybrid learning will develop crucial technology skills in the modern world as they learn how to use technological devices, access information online, and communicate digitally (Hidayat & Khotimah, 2019). In this learning environment, students will become familiar with digital tools, software, and online platforms commonly used in various aspects of life, including work and higher education. This will provide them with an advantage in facing technological challenges in the future and help them become more competent and prepared for an increasingly digitally connected world.

With the presence of digital components, students can access a wealth of diverse educational materials. This may include online resources, instructional videos, simulations, and much more (Hidayat & Khotimah, 2019). This can help students understand concepts in a more engaging and effective manner because the material is often presented in an interactive format that is easily accessible. Digital resources also enable students to learn at their own pace and in a more suitable learning style, which can enhance their understanding of the learning material.

Overall, the use of hybrid learning has the potential to improve the educational experience for students. Hybrid learning in elementary schools provides flexibility with the choice between in-person and online learning, allowing students to manage their time and develop independent skills. The use of technology increases student engagement and prepares them for the digital world. With access to rich educational

resources, students can better grasp concepts, making learning more interesting and effective. This approach creates an attractive and relevant learning environment, laying a solid foundation for students' future.

Factors Influencing Hybrid Learning

Hybrid learning, which combines elements of face-to-face and online learning, is influenced by several factors that can impact its implementation and outcomes. Here are some key factors affecting hybrid learning

The availability and quality of technological infrastructure, including fast internet access and adequate hardware, are crucial factors in hybrid learning. (Meliani et al., 2021). This affects the ability of students and teachers to effectively conduct online learning, impacting access to learning materials, interaction in online learning, continuity of learning, flexibility, learning quality, and technology skill development. Good infrastructure is a crucial foundation to ensure the success of hybrid learning and the achievement of optimal learning outcomes.

The quality of digital learning materials and educational software is paramount in hybrid learning (Indarta et al., 2020). This is because high-quality materials ensure relevance to the curriculum, enhance student engagement, allow for customization, empower teachers, utilize multimedia effectively, support measurement and evaluation, meet curriculum standards, and motivate students. This quality is a key factor in enhancing students' learning experience and achieving optimal learning outcomes in the hybrid learning model.

Therefore, it requires teachers' ability to facilitate learning (Siswanto & Arbani, 2021). Teachers must possess skills in designing and managing hybrid learning as these skills enable them to integrate technology effectively into teaching, manage the complex learning environment, and provide necessary support to students in using digital tools. With these skills, teachers can create relevant, effective, and supportive learning experiences in the hybrid learning environment, ultimately enhancing students' learning outcomes.

Measurement and evaluation of learning outcomes are needed to gauge students' progress, provide feedback to students, adjust teaching methods, understand the effectiveness of instructional approaches, identify potential issues in the hybrid environment, assess the appropriateness of learning materials, promote accountability, and measure long-term development (Veronika Sitepu et al., 2022). With evaluation methods suitable for the hybrid learning environment, teachers can provide more effective, relevant, and responsive instruction tailored to students' needs. Sound evaluation also aids students in understanding their performance and motivates them to enhance their learning outcomes. However, teachers must also consider the needs of students. Given the diverse learning styles and individual needs of students, teachers should take into account students' preferences and requirements when designing hybrid learning experiences. This is crucial for creating effective, relevant, and inclusive learning experiences, as well as motivating students, addressing individual

challenges, and fostering self-directed learning skills. Thus, consideration of the diverse characteristics of students becomes a key factor in achieving optimal learning outcomes in hybrid learning.

Social interaction among students and between students and teachers is crucial in hybrid learning as it supports the development of students' social skills, enhances engagement and learning motivation, enables collaborative learning, and contributes to students' mental well-being (Domitila et al., 2021). This interaction creates a more holistic learning experience and enables teachers to provide more personalized feedback. Therefore, establishing meaningful interactions, both in face-to-face and digital contexts, is key to achieving optimal learning outcomes in the hybrid learning environment.

To encourage the creation of effective hybrid learning, support from the school, school leaders, and administrative staff is also required (Rahman et al., 2008). They play a primary role in managing resources, providing training, designing policies, offering psychosocial support, conducting monitoring and evaluation, and demonstrating commitment to student success. With their support, the implementation of hybrid learning can proceed more effectively, providing greater benefits to students and helping achieve optimal learning outcomes.

Schools also require parental involvement in hybrid learning, as parents serve as key supporters in students' success (Salsabila, 2021). Parents can assist students in navigating online learning more effectively, ensuring adherence to schedules, and providing the necessary emotional support. They can also communicate with teachers to monitor students' progress and help address challenges that may arise in the hybrid learning environment. Thus, the role of parents not only enhances students' learning experience but also contributes to better learning outcomes in the context of hybrid learning.

However, of all the factors, it can be concluded that hybrid learning in schools, especially elementary schools, cannot smoothly proceed without government support. Education policies and government regulations influence the implementation of hybrid learning, as regulations related to data privacy, online security, and academic standards can restrict or shape how hybrid learning is implemented. Data privacy regulations require schools to protect students' personal information, which can affect the use of digital tools in learning. Additionally, online security policies ensure that students and teachers are protected from online risks, while academic standards regulate the expected level of achievement. Therefore, elementary schools and teachers must comply with these rules when designing and implementing hybrid learning models.

CONCLUSION

Advantages of Hybrid Learning include flexible options for students between in-person and online learning, access to rich digital resources, higher interactivity, sophisticated digital assessments, and enhanced collaborative skills. On the other hand,

disadvantages involve disparities in access, potential lack of social interaction, time management challenges, and dependence on teacher quality. The impacts encompass increased flexibility, student independence, high engagement, technology skill development, and access to diverse learning materials. Factors influencing hybrid learning involve technological infrastructure, the quality of learning materials, teacher skills, learning outcome assessments, student needs, social interaction, school and parental support, as well as government regulations. Therefore, the implementation of hybrid learning requires holistic support to ensure success and optimal learning outcomes, especially for elementary school students.

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