CHASING ACADEMIC EXCELLENCE: A DATA-DRIVEN ASSESSMENT OF BLENDED LEARNING EFFICACY

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Article Info

Received: 20/08/2023
Accepted: 28/10/2023
Published: 24/11/2023

Abstract

This study examines the effect of blended learning on student learning achievement. Blended learning is a mixture of online and face-to-face or traditional learning. The purpose of this research is to find out the positive or negative effect of blended learning. The method used is descriptive quantitative. Data was obtained from distributing questionnaires to selected respondents. The data that has been collected and calculated shows that there are more positive effects of blended learning where one of them is the achievement of better student academic scores. However, it is crucial to note a divergence in student preferences revealed in the study. Despite the positive academic outcomes, some students express a preference for face-to-face learning over online components within the blended learning model. While the academic achievements indicate a positive trend, the acknowledgment of student preferences introduces a layer of complexity. The recognition that some students favor traditional face-to-face instruction suggests that the success of blended learning may vary among individuals. The study underscores the need for further research to delve into the potential negative effects of blended learning. By addressing this aspect, educators and policymakers can gain a more comprehensive understanding of the dynamics involved in implementing blended learning approaches, facilitating informed decision-making to optimize the learning experience for diverse student populations. Further research is also needed to analyze the negative effect of blended learning.

Keywords:
blended learning
academic achievement
student
university

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1. INTRODUCTION

Education is crucial for all students, ranging from elementary to university levels. Today, education is readily available to students. The worldwide spread of the pandemic in 2020 resulted in the emergence of blended learning, which combines face-to-face and online learning. This innovative pedagogical approach is examined in this study to determine its effect on students’ academic achievement. The increasing incorporation of technology in education plays a crucial role in enhancing students’ academic progress. Additionally, blended learning facilitates easier access to education. The integration of technology in education is crucial for students’ progress, and blended learning offers enhanced accessibility. This research provides insights into optimizing educational methods to adapt to changing circumstances and technological advancements.
Blended learning combines online and face-to-face learning. Blended learning fosters a learning milieu that is interactive, dynamic, and adaptable to the diverse learning styles of students. It is imperative to conduct empirical research on the influence of dynamic models. Educational institutions worldwide are embracing and modifying their systems for education to thrive. The aim of this research is to examine the impact of blended learning on students’ academic success. Blended learning can be a strategy to improve the quality of training for teachers and students to utilize current technology (Tong et al., 2022). Educators can use blended learning teaching to improve their professional capacity in teaching using technology (digitalization) and students can develop their learning techniques to be more comfortable and efficient.

Through the analysis of questionnaire responses, this study endeavours to present an impartial perspective on the efficacy of blended learning. Subsequently, the results were examined to identify the factors that either facilitate or impede the use of blended learning in improving students’ academic achievements. Blended learning has the potential to revolutionize education by combining traditional and digital teaching methods. As education becomes increasingly digitized, it is important to understand the effects of such dynamic models. This study analyzes the responses to the questionnaire to provide an unbiased perspective on the effectiveness of blended learning. Through the analysis of questionnaire responses, this study endeavours to present an impartial perspective on the efficacy of blended learning. Subsequently, the results were examined to identify the factors that either facilitate or impede the use of blended learning in improving students’ academic achievements.

This research is empirical and evidence-based. Its aim is to identify the factors that either encourage or hinder the adoption of blended learning, with the goal of improving student academic achievement. The use of questionnaires was a powerful methodology for gathering insights from participants, which fostered a comprehensive understanding of their experiences and perceptions within a blended learning framework. As educators and policymakers navigate the constantly changing educational landscape, it is essential to gain actionable insights from research efforts. This study provides a nuanced exploration of the factors that influence the effectiveness of blended learning. The subsequent examination of the results aims to identify the intricate dynamics that contribute to or hinder the success of blended learning in improving student academic achievement.

The study aims to contribute to the ongoing education discourse by highlighting blended learning’s potential as a transformative tool. By evaluating its impact, the research endeavors to provide valuable insights that can inform educational policy decisions, offering a roadmap for leveraging innovation to advance education in the digital era. In this era of rapid technological advancement, the study recognizes the important role of blended learning in addressing the immediate needs of education and shaping the future of learning methodologies. The integration of current technology within the blended learning framework improves academic outcomes and nurtures a generation of learners and educators who are adept at navigating the digital landscape.

In addition, the study recognizes the dual function of blended learning, which not only enhances academic achievement but also serves as a vehicle for professional development. By adopting blended learning strategies, educators can improve their teaching methods by incorporating technology and digital tools to impart knowledge more effectively. Blended learning’s potential to transform education is underscored by its dual impact. The study’s questionnaire responses are crucial for understanding the diverse perspectives of education stakeholders. The analysis of these responses aims to provide valuable insights that go beyond individual experiences, offering a holistic view of the impact of blended learning on academic success.

The study takes a broader perspective by exploring the factors that influence the adoption of blended learning beyond the immediate focus on academic achievement. Understanding these factors is crucial for educators and policymakers to create an environment that enables successful implementation of blended learning strategies. The study identifies facilitators and barriers,
providing actionable intelligence to inform decision-making and shape educational policies to optimize the benefits of blended learning. The study aims to provide valuable insights and evidence to aid educational policy makers in advancing education through innovation. Additionally, it aims to contribute to the improvement of student learning outcomes in the digital era.

In conclusion, this research aims to be a beacon of understanding in the evolving landscape of education, where blended learning stands as a testament to the dynamic synergy of tradition and technology. The study seeks to unravel the intricacies of blended learning and provide a nuanced understanding of its impact on academic success through empirical analysis and exploration of participant perspectives. By contributing to the body of knowledge in education, the study seeks to provide educators, policymakers, and stakeholders with evidence-based insights to navigate the transformative journey toward a more innovative and effective educational landscape.

2. METHOD
The type of research the author uses is descriptive quantitative. Data collection was carried out by distributing questionnaires. Sampling was carried out by distributing google form links to respondents. The number of respondents was five people who were Ahmad Dahlan University students in the fifth semester of 2021. The questionnaire is closed so that respondents can choose an alternative answer to each question. The responses that must be answered are; agree and disagree. The results will be accumulated with a literature review from the author. The questionnaire in this study does not use doubtful answers with the aim of minimize respondents' mistakes in filling out the questionnaire. The questionnaire statements in this study have been adjusted to the grid as a reference for making questions.

To complement the empirical findings, the study will synthesize the accumulated results from the questionnaires with a literature review conducted by the author. This synthesis aims to provide a comprehensive understanding of the research topic by juxtaposing the collected quantitative data with existing theoretical and empirical knowledge in the field. Through these methodological choices, the research seeks to provide a well-rounded exploration of the impact of blended learning on student academic success. The focused and systematic nature of the questionnaire, coupled with the integration of the literature review findings, contributes to a solid foundation for the study's analysis and conclusions.

3. RESULTS AND DISCUSSION
The questionnaire was distributed through google form to five respondents. Respondents were chosen with the condition that they must be university students because the author wants to research the influence of blended learning among universities. The proposed statement was made with multiple choice method and respondents could only choose one answer between agree and disagree. The author seeks to present statements to aid in analyzing respondents' answers and reduce uncertainty. Five statements were made, all pertaining to the impact of blended learning on student achievement in university settings.

The list of questions is as follows:

1) Learning using the blended learning strategy is very innovative and fun;
2) I feel happy if most of the lessons have utilized blended learning;
3) I prefer online learning over face-to-face;
4) Blended learning makes me more enthusiastic in learning because of the time efficiency that can be done online or face-to-face;
5) My academic grades have improved since blended learning was implemented.

After the questionnaire was answered by five respondents, the following results were found:

<table>
<thead>
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<th>No.</th>
<th>Statements and Results</th>
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<tr>
<td>1.</td>
<td>Learning using the blended learning strategy is very innovative and fun.</td>
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The graph shows the percentage of respondents who agreed and disagreed with the statement. The majority of respondents agreed that learning using the blended learning strategy is very innovative and fun.
2. I feel happy if most of the lessons have utilized blended learning.

3. I prefer online learning over face-to-face.

4. Blended learning makes me more enthusiastic in learning because of the time efficiency that can be done online or face-to-face.

5. My academic grades have improved since blended learning was implemented.

Source: Results of Research Data Processing, 2023

Based on processed research results, each statement has shown results in a pie chart table. The author discusses the five submitted statements.

The first statement shows that learning with blended learning is highly innovative and enjoyable, with 80% of respondents agreeing and 20% disagreeing. Specifically, four respondents agreed and one disagreed with this statement. The respondents generally agreed that blended learning provides increased learning flexibility and greater opportunities for customization. This is because students can learn at their desired pace and access course materials from anywhere with an internet connection (Kwak et al., 2015). Blended learning is considered innovative and highly effective for multitasking students who can efficiently learn anywhere and choose courses tailored to their needs. Plus, students who work part-time can utilize blended learning to simultaneously balance work and studies.

The innovative nature of blended learning is particularly beneficial for multitasking students, who can learn efficiently from anywhere and tailor their courses to meet their specific needs and preferences. This adaptability is critical for accommodating students’ diverse learning styles and schedules, providing a personalized and effective learning experience. In addition, the study recognizes blended learning as a valuable tool for part-time students. The flexibility inherent in blended learning allows these students to seamlessly balance their work commitments with their academic pursuits. This underscores the practicality of blended learning in meeting the diverse lifestyle demands of students, thereby contributing to a more inclusive and accessible education. The discussion reveals a positive inclination towards blended learning among the respondents, highlighting its innovative and enjoyable aspects. The study is consistent with the existing literature, which emphasizes the flexibility and adaptability of blended learning. The adaptability of this educational model to different learning styles and individual circumstances positions it as a promising avenue for improving the overall learning experience. As education continues to evolve, blended learning is proving to be a dynamic and effective approach that meets the diverse needs of today’s students.

The second statement indicates that the majority of university students majoring in English Literature prefer blended learning for most courses, with 80% in agreement and 20% in disagreement. The second statement indicates that the majority of university students majoring in English Literature prefer blended learning for most courses, with 80% in
agreement and 20% in disagreement. Therefore, it can be inferred that blended learning is an acceptable mode of course delivery for this group of students. A study by Hijazi and AlNatour (2020) suggests that teachers can employ a variety of strategies, methods, and techniques for integrating blended learning into their teaching to enhance student engagement and decrease boredom. Blended learning may incorporate visual and auditory aids, thereby enabling deeper and more critical learning for students. The use of activities such as analyzing literature through images, songs, or films, which are typically incorporated into assignments, may also assist students in completing their tasks. On the other hand, teachers should receive training on implementing blended learning to enhance digitalization or information technology skills (Hijazi & AlNatour, 2020).

The study indicates that the integration of visual and auditory aids in blended learning can promote more profound and critical learning experiences for students, offering a multifaceted comprehension of literary concepts. The research emphasizes the potential of blended learning to introduce innovative and interactive activities into the English Literature curriculum. Analyzing literature through media such as images, songs, or films, as proposed in the assignments, can enhance the learning process. This approach aligns with the preferences of the majority and emphasizes the versatility of blended learning in accommodating diverse learning styles and fostering a more immersive educational experience. The discussion highlights the significant preference for blended learning among university students majoring in English Literature.

The study indicates that accepting this mode of course delivery aligns with the discipline’s inherent characteristics and can effectively enhance student engagement. The integration of diverse teaching strategies and creative activities further emphasizes the potential of blended learning to transform the learning experience within the context of English Literature. Recognizing the importance of teacher training is crucial for the successful implementation of blended learning in this academic domain.

The third statement is that students prefer online learning to face-to-face learning. The result is 20% agree and 80% disagree. That is, 1 respondent agreed with the statement and 4 others disagreed. One study explained that blended learning makes students pay less attention to planning group discussions, seeking feedback, and monitoring the learning process (Wang, 2010). The study also found that students often experience problems with networking and a tense atmosphere in the classroom (Wang, 2010). This causes students to neglect the learning process. As explained in the second statement, teachers should also be able to implement blended learning wisely. This is also a reference for teachers to implement blended learning for university students. Network problems in online teaching are also a challenge, so the learning process will also be hampered. The classroom atmosphere that suddenly requires online attendance will also make students tense if the network problem is not used as an excuse by the instructor. This makes students more or less comfortable with face-to-face classes.

This study highlights the importance of judiciously implementing blended learning for teachers, based on insights from the second statement. It serves as a reference for educators working with university students, who acknowledge that challenges such as network issues and the sudden shift to online presence can create a tense classroom atmosphere. The study acknowledges that challenges may decrease students’ comfort with online learning, contrary to the initial assumption that students prefer online learning over face-to-face instruction. These findings suggest that a nuanced and balanced approach is necessary when implementing blended learning. While recognizing the benefits of flexibility and customization, educators must also address potential challenges that may arise, such as network issues and their impact on the classroom atmosphere. Proactive measures, such as providing adequate teacher training and support, are crucial to mitigate the challenges and ensure a positive learning experience for students.

This discussion highlights the discrepancy between the assumed preference for online learning and the actual sentiments of the respondents, emphasizing the potential
challenges associated with blended learning. Wang’s (2010) research highlights the importance of balancing blended learning implementation to address network issues and classroom tensions. Educators can use these findings to refine instructional strategies and create a conducive learning environment that meets students’ preferences and comfort levels.

**The fourth statement** is that blended learning makes me more enthusiastic about learning because of the time efficiency of online and face-to-face learning. The result is 80% agree and 20% disagree. This means that 4 respondents agreed and 1 respondent disagreed. This statement is overwhelmingly agreed with by the respondents. Students think that blended learning is a way to save time. The flexibility of blended learning allows students to choose how they learn and access materials (O’Toole & Absalom, 2003). Blended learning can be more cost effective than traditional classroom learning because more resources are allocated to improve the quality of education (Islam et al., 2018). Blended learning has many positive effects on student learning. The efficiency provided by blended learning can benefit both students and instructors. It can also be used as a reference to increase digitization in the current 5.0 era and reduce the number of technology-savvy human resources.

This statement highlights the positive impact of blended learning on student engagement and motivation. The perceived time efficiency of blended learning aligns with its flexible nature, allowing students to customize their learning experience according to their preferences and schedules. This flexibility is crucial in today’s digital age, giving students autonomy to navigate their educational journey efficiently. Additionally, this study acknowledges the cost-effectiveness of blended learning in comparison to traditional classroom settings. This is supported by the findings of Islam et al. (2018). Allocating resources to enhance the quality of education in a blended learning environment is viewed as a strategic investment that benefits both students and instructors. The cost-effectiveness of blended learning makes it an attractive option for educational institutions seeking to optimize their resources without compromising the educational experience.

Blended learning has positive effects that extend beyond individual enthusiasm to broader implications for education in the 5.0 era. Blended learning’s efficiencies serve as a reference point for increasing digitization in education, in line with the broader trend of technology integration. This approach meets students’ immediate needs and contributes to reducing the demand for tech-savvy human resources, reflecting a forward-thinking approach to education in the digital age. This discussion highlights the positive response to the idea that blended learning increases enthusiasm for learning due to its time efficiency. This research aligns with existing literature, which emphasizes the flexibility and cost-effectiveness associated with blended learning. The study identifies positive effects of blended learning that benefit both students and position it as a strategic reference point for increasing digitalization in the contemporary educational landscape. Blended learning’s efficiency and adaptability make it a critical tool in shaping the future of learning and meeting the diverse needs of students and educational institutions in the evolving 5.0 era.

**The fifth statement** is that blended learning can improve students’ academic performance. The result is that 100% of the respondents agree with this statement. This means that all five respondents agree and their academic scores have improved since blended learning was implemented. One study argues that blended learning has a very positive effect, where students who attended mass lectures and face-to-face tutorials scored almost 20% higher on average than those who did not attend mass lectures (O’Toole & Absalom, 2003). Blended learning can also improve student motivation and achievement (Islam et al., 2018). The use of technology in online learning is also necessary for the effectiveness of blended learning. The quality of technology use is a significant predictor of final grades, and completing online activities has a positive impact on student outcomes, namely higher final grades (López-Pérez et al., 2013).

López-Pérez et al. (2013) highlighted the crucial role of technology in the effectiveness of blended learning. Their research indicates that the quality of technology use significantly predicts final grades. The completion of online activities, facilitated by technology integration, positively impacts student learning outcomes,
resulting in higher final grades. The importance of using technology judiciously in a blended learning framework to maximize its benefits on academic performance is emphasized.

Respondents unanimously agree that blended learning is a catalyst for improving students’ academic performance. This finding is consistent with existing literature, which emphasizes the positive impact of blended learning on student motivation, engagement, and achievement. The use of technology in the blended learning model has been identified as a significant factor in the improvement of academic scores. These findings confirm the potential of blended learning as a transformative tool to enhance student outcomes and promote more effective and engaging learning experiences in the ever-changing educational landscape.

From all the data gathered and discussed, it can be concluded that blended learning has a positive impact on students. Students can study anywhere and choose online courses of their own choice. Due to the efficiency provided by blended learning, students no longer feel that the knowledge they acquire is difficult. Student achievement through blended learning can be seen from one of the ways, namely academic score, where all respondents stated that they agree that blended learning can make academic score better. Besides academic achievement, students’ self-learning ability and learning attitude are also positive effects of blended learning (Tong et al., 2022). On the other hand, instructors also feel helped by blended learning where instructors can also save their time for other more important things. However, educators should also provide clear guidance to students on how to use blended learning and provide continuous feedback to help students in their successful pursuit of knowledge (O’Toole & Absalom, 2003).

Although blended learning has more positive impacts than negative, additional research is necessary for the betterment of education on a global scale. According to this research, students refute the notion that they prefer online learning over face-to-face learning. This demonstrates that not all students enjoy learning online, despite the perceived efficiency of online learning, which allows for learning at any time and from any location. However, based on existing research data, further investigation can be conducted to uncover the adverse effects of online learning. This can lead to the development of a more innovative approach to blended learning.

These findings underscore the intricacy of student preferences and the significance of acknowledging diverse perspectives in the educational realm. This presents a crucial opportunity for additional research into student experiences and preferences regarding online learning. Although online learning is often considered efficient due to its accessibility at any time and from anywhere, it is important to understand why some students resist this mode of learning. Identifying the reasons behind this resistance can help in developing more effective educational strategies.

Therefore, further research is necessary to explore the negative impacts of online learning. Although blended learning has a positive impact, it is important to recognize that not all students can thrive in an online environment. Therefore, it is necessary to explore comprehensively the potential drawbacks of blended learning. By uncovering these negative impacts, researchers can contribute to the development of more innovative and nuanced approaches to blended learning. This research suggests that a one-size-fits-all approach to online and blended learning may not be suitable for the diverse needs and preferences of students. The identified contradictions suggest that educators and researchers should consider alternative models that take into account students’ varying comfort levels and learning styles. This model advocates a student-centered approach that prioritizes individual preferences and experiences to create a more inclusive and effective educational environment.

Blended learning has shown many positive impacts. However, it is important to acknowledge that students prefer online learning. Therefore, ongoing research is imperative to investigate the negative impacts of online learning. This will pave the way for better and more suitable approaches to blended learning on a global scale. The educational landscape is constantly changing and requires ongoing evaluation and adaptation to meet the diverse needs of
students and promote inclusive learning experiences that are truly transformative.

4. CONCLUSION
Blended learning combines online and face-to-face learning. It provides students with both traditional classroom instruction and online resources like videos, interactive exercises, and discussion forums (Kwak et al., 2015). Through blended learning, students and teachers can adjust their learning experience for flexibility. Students can study at any time and place, and can choose courses according to their preferences. Likewise, instructors can utilize this approach to implement blended learning by continually monitoring students and providing clear guidelines and feedback, enabling students to review previously explained material and completed assignments. Blended learning has the potential to enhance students’ academic grades, achievements, and self-directed learning abilities, indicating that it has a positive impact on students.

The flexibility of blended learning is a key attribute, allowing students and teachers to customize their educational experience. Students benefit from the freedom to study anytime and anywhere, empowering them to choose courses that suit their individual preferences and learning styles. This adaptability meets the diverse needs of students, encouraging a more personalized and student-centered approach to education. In the realm of blended learning, instructors have a crucial role in creating a dynamic and effective learning environment. By continuously monitoring student progress and implementing clear guidelines and feedback mechanisms, instructors can optimize the benefits of blended learning. This approach promotes student engagement, allowing them to review previously learned material and evaluate their task completion. The interaction between teacher and learner in a blended learning model supports a continuous cycle of learning, improving understanding and retention of course content.

Blended learning has the potential to significantly impact students’ academic grades, achievement, and self-learning ability beyond the live learning environment. Blended learning is effective in contributing to holistic student development by integrating diverse learning modalities and developing multifaceted skills that transcend the boundaries of conventional classrooms. The positive correlation between blended learning and improved academic performance underscores its effectiveness in meeting the evolving educational landscape’s demand for innovative and adaptive approaches. Blended learning, which combines traditional and online teaching, offers a more engaging and enriched learning experience. It also helps students develop self-learning skills, promoting autonomy and responsibility for their education.

In conclusion, blended learning is a powerful educational paradigm that combines the strengths of both traditional and online learning. The flexibility provided to students and instructors allows for a more customized and engaging learning experience. The collaborative and iterative nature of blended learning encourages continuous improvement and adaptation, fostering an environment where students can thrive academically and develop important self-learning capabilities. As the educational landscape evolves, blended learning is seen as an innovative approach that offers a more dynamic, inclusive, and effective educational experience for both students and educators.

REFERENCES

