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THE MODERATING EFFORTS OF BLENDED LEARNING ON THE FLEXIBLE WORK ARRANGEMENTS APPROACH AND STUDENTS' PERFORMANCE: EVIDENCE FROM STUDENT PERCEPTIONS

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ABSTRACT

This research explores students' perceptions regarding the impact of flexible working arrangements (FWA) approach on their academic performance, with a focus on the moderating role of blended learning (BL) as an educational setting. A survey was conducted with students across foundation, undergraduate, and postgraduate levels in a Malaysian university to gather insights on how FWA and BL intersect to influence their performance. The findings indicate that FWA positively and significantly influences student performance. Additionally, the integration of BL was found to enhance the relationship between FWA and student performance. This suggests that the flexibility afforded by FWA, when combined with the benefits of BL such as increased engagement and personalised learning, can lead to improved academic outcomes from the students' perspective. The study provides practical implications for educators and institutions seeking to leverage technology and flexible arrangements to create more effective and adaptive learning environments. The theoretical contributions lie in enriching existing frameworks on student engagement, educational technology integration, and the dynamics of BL settings. Overall, this research offers valuable insights into how students perceive the combined effects of FWA and BL on their academic performance.

***Keywords**: student perceptions, flexible working arrangements, blended learning and teaching, students' performances, university students*

INTRODUCTION

Following the COVID-19 pandemic, which had a profound impact on society worldwide, the modern educational environment has witnessed a transformation in the acquisition and dissemination of knowledge through the integration of technology and pedagogy. Since learning and teaching can now be done online, it gave educators more flexibility in their working arrangements and became a defining characteristic of the contemporary academic ecosystem (Sufian et al., 2020). According to Smith and Boscak (2021), the delivery and assessment have also been impacted by the ongoing improvements in technology, particularly in the post-COVID-19 context and its associated disruptive conditions. As a result, the majority of higher education institutions worldwide are now distinguished by the application of blended learning strategies to improve the quality of curriculum delivery (Chowdhury, 2020).

In this case, the benefits of FWA to educators include increased autonomy, reduced commute times, and a focus on work-life balance (Sam M et al., 2020). This consequently enables educators to increase their productivity, promote creativity in the learning environment (Routley, 2020), and complete their work from home or another remote location, where blended learning (BL) is useful. In instances in which BL provides an online and in-person component (Siraj & Maskari, 2019), including self-paced learning using web learning modules, online resource links, simulations, online self-assessments, workbooks, or CDs is one possible BL approach (Andriotis, 2018). As a result, rather than holding additional classes at different times, most educators in the modern era give their students the necessary resources to continue the learning session. Considering that students were observed to work more independently, intently, and

with greater responsibility for their own learning, it will certainly impact students' performance. Integrating FWA and BL can create a synergistic relationship that enhances student performance by providing flexibility, increasing engagement, and leveraging technology. However, the specific mechanisms by which these approaches influence student performance and the factors that moderate their effectiveness are not fully understood.

Despite the growing popularity of FWA and BL in education, there is limited research on the specific factors that influence student performance in these learning environments. While studies have shown that BL can improve student engagement and academic performance (Cannon et al., 2021), the role of FWA in this relationship remains largely unexplored. Moreover, student perception is a critical factor that can influence the effectiveness of FWA and BL in improving academic outcomes (Zeqiri et al., 2021). Students who perceive these approaches as beneficial and engaging are more likely to participate and perform well academically actively. However, if students negatively perceive FWA and BL, their performance may be adversely affected. Additionally, research by Alsalhi et al. (2021) revealed that the motivation and self-control of the students determine how well the BL strategy works for their learning and how it will affect their performance.

In addressing these gaps, further research is needed to investigate the specific mechanisms by which FWA and BL influence student performance and the moderating effects of student perception and other individual factors. By understanding these relationships, educators can design more effective learning environments that cater to the diverse needs of modern students and improve academic outcomes.

Therefore, the aim of this study is to investigate the impact of the FWA approach on student performance and to examine if there is any relationship between BL and students' performances:

1. To investigate the impact of the FWA approach on student performances.
2. To investigate the relationship between BL towards the FWA approach and student performances.

Since this study helps to recognise and understand students' perceptions regarding BL and the FWA approach, it can contribute to a more inclusive educational environment that accommodates diverse learning styles and preferences. This could guide educators' professional development programs, helping them adapt to or refine their teaching strategies. Besides, the study involving BL contributes to theories of student perception by exploring how students perceive the combined effects of BL and the FWA approach in their learning activity.

LITERATURE REVIEW

Flexible Working Arrangements (FWA)

From the standpoint of the education industry, FWA can encompass teleworking, flexible work schedules and platforms (Berkery et al., 2017). It also includes flexitime, which can significantly impact student performance by providing flexibility, reducing stress, and improving work-life balance (Thai et al., 2020). FWA allows students to set their starting and stopping times and complete their work tasks remotely, either at home or in another location. This flexibility can increase learners' productivity and satisfaction (Sam M et al., 2021). By giving students more control over their learning environment and schedule, FWA can help reduce stress and create a more conducive atmosphere for academic success. A supported study by Subramaniam (2020) shows that the use of technologies in FWA has accelerated growth in the academic sectors, with increased productivity and satisfaction among learners. The integration of online platforms and tools in FWA can facilitate a more engaging and personalised learning experience, catering to diverse learning styles and preferences. Thus, the following hypothesis is formulated:

H_1: FWA positively and significantly influences student performances.

Blended Learning (BL)

BL combines traditional classroom instruction with online learning under a single framework (Hisham Hanafy et al., 2023). Allowing students to engage in self-paced learning using web-based modules, online resources, simulations, and assessments (Andriotis, 2018). This approach gives students more control over the place, time, path, and pace of their learning, which aligns with the principles of FWA. The

flexibility FWA offers can complement BL's self-paced and technology-driven nature. By allowing students to access course materials and complete assignments at their convenience, FWA can reduce stress and improve work-life balance, ultimately leading to better academic performance (Darlis et al., 2021). According to a study from Hisham Hanafy (2023), flipped sessions and in-person education occur in a classroom setting or virtually increase student involvement in the teaching and learning process. Since students can have control over the place, time, path, and pace (Naglaa & Asmaa, 2022), they can look over the course materials as often as they please. Therefore, the following hypothesis is formulated:

H_2: BL positively and significantly influences the relationship FWA and student performances.

Students' Performances and Perception

Student performance refers to the extent of achieving short-term and long-term goals in education (Zohair, 2019). Excellent student performance is one of the indicators of learning outcomes in a learning institution (Ofori et al., 2020). Meanwhile, perception is a complex cognitive process that involves processing information from the environment. It is influenced by several elements, such as attention, memory, and previous experiences (Ahmed et al, 2021). Their perceptions will indicate how effective FWA and BL are towards their academic performance.

CONCEPTUAL FRAMEWORK DEVELOPMENT

The conceptual framework proposed in this paper suggests that BL can act as a moderating variable in the relationship between FWA and student performance as shown in Figure 1. By providing a more engaging and personalised learning experience, BL can enhance the positive impact of FWA on student performance.

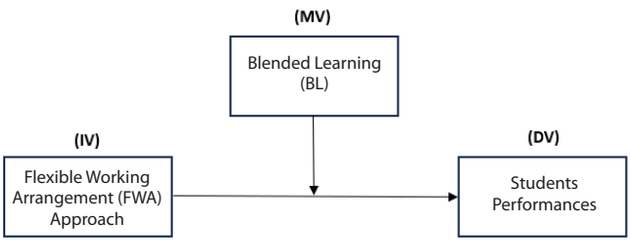

Figure 1 Conceptual framework of blended learning

Integrating FWA and BL can create a more dynamic and effective learning environment that caters to the diverse needs of modern students. The flexibility offered by FWA, combined with the technology-driven and self-paced nature of BL, can lead to improved student engagement, reduced stress, and better academic outcomes. Moreover, the synergistic relationship between FWA and BL can promote a more sustainable and eco-friendly learning environment by reducing the need for physical infrastructure and transportation. By leveraging online learning and remote work, this approach can help protect global environmental resources while providing students a flexible and engaging learning experience. In conclusion, the conceptual framework highlights the moderating role of BL in the relationship between FWA and student performance. By understanding and leveraging the strengths of both approaches, educators can create more effective and sustainable learning environments that improve academic outcomes and prepare students for success in the 21st century.

METHODOLOGY

A quantitative research approach was employed, and G*Power analysis was used to calculate the sample size with the final sample size minimum of 74 respondents. A voluntary response sampling is implemented for the questionnaires delivered to Malaysian university students, who are chosen randomly. As a result, this study collected 251 respondents from various universities and academic programs who experienced both FWA and blended learning. Data were collected through structured questionnaires. The questionnaire assessed students' perceptions of FWA, BL, and their performance to provide deeper insights into students' perceptions towards BL and FWA. Quantitative data were then analysed using statistical methods like SPSS to identify correlations and moderating effects. Qualitative data were coded and analysed thematically to support and explain the quantitative findings.

RESULT AND DISCUSSION

Based on the analysis, most participants fall within the age range of 22-24, which is a significant portion of the sample. This age group is likely to be in their early to mid-20s, which could be a crucial period for their academic and personal development. Moreover, this

study is almost evenly split by gender, with females comprising 55.8% and males 44.2% of the participants. Meanwhile, the highest proportion of participants have an undergraduate education level, making up 74.9% of the sample. This suggests that most participants are pursuing a bachelor's degree or have already completed one.

Relation between FWA and Student performance from students' perception

Table 1 Relation between FWA and SP ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.146	1	5.146	80.855	.000[b]
Residual	15.848	249	.064		
Total	20.994	250			

Further, from the ANOVA table, the F-value is 80.855, indicating a strong relationship between FWA and students' performance from students' perspective, as shown in Table 1. Besides, the model is statistically significant since the p-value is below 0.05. Thus, the larger F-value and p-value less than 0.05 suggest a significant relationship between the FWA as a whole and the student performance from the students' perspective. This indicates hypothesis H_1: *Flexible working arrangements (FWA) positively and significantly influence student performances* are accepted. The findings are consistent with the study by Ghali et al. (2021), which found that FWA positively impacts academic satisfaction and indirectly influences students' positive perspectives towards their performance. Flexibility plays a crucial role in enhancing student performance, as FWA in the learning environment allows students to tailor their schedules, methods, and pace of learning to suit their individual needs (Awais et al., 2023). This autonomy fosters a sense of ownership and motivation among students, ultimately boosting their productivity and engagement.

Relation between BL towards FWA and Student performance from students' perceptions

This ANOVA table shows a strong causal effect between FWA and student performances from the student perspective with moderation of BL, as shown in Table 2. Since the p-value is .000 and it is less than 0.05, the relationship is significant.

Table 2 Relation between BL, FWA and SP ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.281	2	3.141	52.939	.000[b]
Residual	14.713	248	.059		
Total	20.994	250			

Table 3 Results of the effect of BL

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.866	.199		14.426	.000
INT	.063	.014	.238	4.375	.000
FWA	.367	.045	.443	8.135	.000

Finally, the results of the effect of BL as the moderation effect. From Table 3, the interaction term (INT) has a P-value of .000, which shows that the moderator variable BL has an effect on the relationship between FWA and students' performance based on student perceptions.

PROCESS MACRO

In order to ensure the credibility of the moderation results, PROCESS macro analysis also implemented:

Table 4 PROCESS Macro model summary BL, FWA and SP

R	R-sq	F	p
.6330	.4007	55.0514	.000

Table 4 shows that the interaction effect is significant since the p-value is less than 0.05. This indicates that BL moderates the relationship between FWA and students' performance from the student perspective.

Table 5 PROCESS Macro Relationship Table

Model	coeff	se	t	p
Constant	4.4980	.0164	273.4539	.0000
FWA	.1669	.0520	3.2114	.0015
BL	.3884	.0600	6.4684	.0000
INT	.5027	.1267	3.9673	.0001

In addition, Table 5 shows all the variables are significant since the p-values are .000 and less than 0.05. This indicates that BL as a moderator is statistically significant in the relationship between FWA and students' performance from student perspectives. Also, the results are not likely to have occurred by chance.

Thus, hypothesis H_2: *Blended learning (BL) positively and significantly influences the relationship between flexible working arrangements (FWA) and student performances* are accepted. Notably, this concludes this finding correlated with Jusuf et al. (2022), that implementing blended learning approaches positively impacts student outcomes. Moreover, Claire's (2020) studies found that students perceive blended learning positively, with benefits such as increased engagement, enjoyment, and flexibility in learning activities. Duong et al. (2022) confirmed in their study that blended learning enhances student performance, fosters deeper learning experiences, reduces stress, and increases student satisfaction. This approach enables students to pace themselves, practice new material at their own speed, and engage with educational content beyond traditional classroom hours (Matthew, 2018).

CONCLUSIONS

The integration of blended learning (BL) and flexible web-based assessment (FWA) has been found to enhance students' performance and satisfaction in higher education settings. By combining traditional and online learning methods, universities can offer a more personalised and engaging educational experience, leading to improved academic outcomes and higher student satisfaction levels. Therefore, universities should prioritise leveraging technology to meet the evolving needs of students, innovate teaching practices through blended learning, and improve overall academic performance. Future research should focus on empirically assessing the tangible impacts of flexible and blended learning on academic performance, providing valuable insights into their effectiveness. By continuously investigating these areas, researchers can contribute to a deeper understanding of how flexibility and blended learning influence student outcomes, ultimately guiding universities in optimising their learning and teaching frameworks and enhancing student performance and academic success.

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