

The Impact of Blended Learning on Student Engagement in Malaysian Higher Education: A Mixed Methods Case Study of Universiti Kebangsaan Malaysia

Fu Yan

Faculty of Education, Universiti Kebangsaan Malaysia (UKM), Bangi, Selangor, Malaysia
Corresponding Author Email: 1791387076@qq.com

Prof. Dr. Nurfaradilla Binti Mohamad Nasri

Faculty of Education, Universiti Kebangsaan Malaysia (UKM)
Email: nurfaradilla@ukm.edu.my

DOI Link: <http://dx.doi.org/10.6007/IJARPED/v15-i2/28533>

Published Online: 23 June 2026

Abstract

Blended learning is now widely adopted across higher education institutions in Malaysia, yet few empirical studies have explored its effects on student engagement across different dimensions. This study adopts a sequential explanatory mixed-methods approach to investigate how blended learning influences undergraduates' behavioural, emotional and cognitive engagement at Universiti Kebangsaan Malaysia (UKM). For the quantitative part, 350 students completed a revised scale adapted from the National Survey of Student Engagement. The qualitative stage consisted of semi-structured interviews with fifteen students and five instructors. Regression results demonstrate that teaching presence has strong predictive power over all three types of student engagement. Social presence stands out as the most influential factor for emotional engagement, and cognitive presence acts as the leading predictor for cognitive engagement. Cognitive engagement recorded the lowest average score in the overall assessment, and this dimension hinges greatly on deliberate teaching planning. Thematic analysis of interview data identifies four core themes. These include flexible learning modes and independent learning abilities, the essential role of instructor guidance, peer interaction and the building of learning communities, as well as common hurdles such as technical glitches and struggles to keep focused on deep thinking. This research adds valuable empirical evidence from a non-Western context and enriches current theoretical frameworks on student engagement. It also puts forward practical suggestions to improve blended learning course design, support instructor growth and upgrade institutional support resources.

Keywords: Blended Learning, Student Engagement, Community Of Inquiry, Higher Education, Malaysia

Introduction

Digital technologies have gained widespread adoption in global higher education and transformed how teaching and learning operate. Blended learning combines in-person classes with online learning activities, and it is well regarded as a practical way to foster in-depth knowledge acquisition (Garrison & Vaughan, 2008). Malaysia has put forward multiple national initiatives to advance digital teaching, with the Malaysia Education Blueprint 2015-2025 as a key representative. Following this national direction, Universiti Kebangsaan Malaysia (UKM) has steadily rolled out blended learning across campus, and its application grew far more extensively in the period after the COVID-19 pandemic.

Student engagement is understood as a multi-dimensional construct comprising behavioural (time and effort), emotional (interest and sense of belonging) and cognitive (self-regulation and critical thinking) components (Fredricks, Blumenfeld & Paris, 2004). It is consistently shown to predict academic achievement and sustained learning motivation.

Despite the widespread adoption of BL, most Malaysian studies have focused on broad measures such as student satisfaction or final grades, without sufficiently examining how BL affects each dimension of engagement separately (Rashid & Rahman, 2020). Furthermore, little is known about how the three core presences of the Community of Inquiry (CoI) framework – teaching, social and cognitive presence (Garrison, Anderson & Archer, 2000) – differentially shape behavioural, emotional and cognitive engagement in the local context. This study therefore addresses three research questions: (1) What are the self-reported levels of behavioural, emotional and cognitive engagement among UKM students in BL courses? (2) Are there significant relationships between BL design elements (teaching, social, cognitive presence) and the three engagement dimensions? (3) How do students and instructors describe the factors that either facilitate or hinder engagement in BL?

Methodology

Research Design and Context

A sequential explanatory mixed-methods design was employed. The study was carried out at UKM during the first semester of the 2023/2024 academic year. All BL courses adhered to UKM's guideline that 30% to 70% of content and activities should be delivered online via the Moodle platform.

Quantitative Phase

Participants and sampling. From four faculties (Social Sciences, Engineering, Health Sciences, Education), a stratified random sample of 350 second- and third-year undergraduates was selected. An a priori power analysis using G*Power ($\alpha = .05$, power = .80, medium effect size) confirmed that this sample size was sufficient.

Instrument. An online survey adapted from the National Survey of Student Engagement (NSSE) and the Student Engagement in Blended Learning Scale was used. It measured behavioural engagement (5 items, $\alpha = .87$), emotional engagement (5 items, $\alpha = .83$), cognitive engagement (5 items, $\alpha = .85$), and perceptions of BL design (5 items, $\alpha = .81$). All items employed a 5-point Likert scale. Data were analysed using SPSS version 27, including descriptive statistics, Pearson correlations and multiple linear regression.

Qualitative Phase

Participants. Purposeful sampling from survey respondents who agreed to follow-up interviews yielded 15 students, selected to maximise variation in engagement levels (high, medium, low across dimensions), faculty and gender. Additionally, five instructors with at least two years of BL teaching experience were recruited from the same faculties.

Data collection and analysis. Semi-structured interviews lasting 45-60 minutes were conducted via Zoom, with audio recordings transcribed verbatim. Thematic analysis followed Braun and Clarke's (2006) six-phase process, supported by NVivo 12 software.

Results*Quantitative Findings*

Levels of engagement. Behavioural engagement recorded the highest mean score ($M = 3.72$, $SD = 0.68$), followed by emotional engagement ($M = 3.58$, $SD = 0.72$) and cognitive engagement ($M = 3.45$, $SD = 0.75$). Among behavioural indicators, regular login to Moodle scored highest ($M = 4.05$), whereas active online discussion participation was notably lower ($M = 3.45$). For emotional engagement, sense of belonging was the lowest-rated item ($M = 3.45$). For cognitive engagement, critical evaluation of online information ($M = 3.35$) and deep understanding of underlying principles ($M = 3.38$) were particularly low.

Table 1

Descriptive Statistics for Student Engagement Dimensions

Engagement Dimension	Mean	Standard Deviation
Behavioural Engagement	3.72	0.68
Emotional Engagement	3.58	0.72
Cognitive Engagement	3.45	0.75

Correlations and regression. All three Col presences correlated significantly with all three engagement dimensions ($p < 0.01$). Multiple regression results showed that teaching presence significantly predicted behavioural ($\beta = 0.35$), emotional ($\beta = 0.26$) and cognitive engagement ($\beta = 0.28$); social presence was the strongest predictor of emotional engagement ($\beta = 0.38$) but did not significantly predict cognitive engagement ($\beta = 0.09$, $p = 0.110$); and cognitive presence was the strongest predictor of cognitive engagement ($\beta = 0.35$). Collectively, the regression models explained 30-38% of the variance in engagement dimensions.

Table 2

Pearson Correlation Matrix for Col Presences and Student Engagement Dimensions

Variable	1	2	3	4	5	6
Teaching Presence	1.00					
Social Presence	0.52	1.00				

Variable	1	2	3	4	5	6
Cognitive Presence	0.58	0.61	1.00			
Behavioural Engagement	0.48	0.41	0.44	1.00		
Emotional Engagement	0.53	0.56	0.49	0.62	1.00	
Cognitive Engagement	0.55	0.45	0.61	0.58	0.56	1.00

Note: All correlation coefficients are significant at $p < 0.01$ (2-tailed)

Qualitative Findings

Thematic analysis produced four major themes.

Thematic analysis produced four major themes.

Theme 1: Flexibility and learning

autonomy Students valued the ability to arrange their own study time, pick learning venues and control their learning pace. This kind of flexibility requires solid self-discipline, and many learners had trouble managing their daily study schedule. One student commented: "The blended format gives me the freedom to plan my study schedule... but you cannot just leave everything to the last minute."

Theme 2: Centrality of instructor facilitation

Clear guidance, organised tasks and timely feedback were recognised as fundamental to effective learning. A student who previously showed limited engagement said: "When instructors provide detailed feedback explaining what I did well and how to improve, I am much more motivated." Teaching staff also mentioned that designing cohesive blended learning courses demands far more time than preparing for conventional classes.

Theme 3: Role of peer interaction and community

Collaborative activities and a tight-knit learning community help students stay emotionally invested in coursework. Online discussion spaces drew mixed reactions, as most shared content stayed superficial and lacked depth. One student offered this suggestion: "Instructors need to model what good discussion looks like and set expectations for quality."

Theme 4: Challenges and barriers

Learners encountered several notable obstacles throughout the process. Unstable internet, confusing platform operations and overwhelming content from multiple blended courses created extra pressure. Many also found it hard to keep up sustained deep thinking during study. One student acknowledged: "It is easy to go through the motions – watch the video, take the quiz – without really thinking deeply."

Discussion

This study provides empirical evidence from a non-Western context to prove that blended learning improves student engagement, with the magnitude of such improvements determined by the practical implementation of teaching, social and cognitive presences. The superior level of behavioural engagement, which is most strongly shaped by teaching

presence, aligns with existing studies that highlight the value of structured course design and consistent student participation (Means et al., 2013). Low levels of active student participation in online discussions can be attributed to the cultural traits of high-power-distance and collectivist societies, where students tend to avoid public disagreement with others.

Social presence, embodied in peer interaction and a strong sense of learning community, serves as the core driver of students' emotional engagement. This finding validates a key proposition of the Community of Inquiry framework that social presence underpins a supportive learning environment. The lack of a significant correlation between social presence and cognitive engagement further indicates that superficial peer interaction cannot facilitate deep learning. Meaningful interactions focused on knowledge construction are essential for cognitive improvement (Richardson & Swan, 2003).

The insufficient and conditional nature of student cognitive engagement stands out as the most notable finding of this research. While cognitive presence acts as the primary predictor of cognitive engagement, its positive effects do not take effect passively. Students generally struggle to critically assess online learning materials, integrate diverse ideas, and apply theoretical knowledge to solve unfamiliar problems. This observation matches the results of previous local studies in Malaysia (Lim & Morris, 2021), confirming that mere access to online learning resources fails to cultivate students' higher-order thinking skills. Targeted pedagogical approaches including problem-based learning, metacognitive prompts and authentic assessment are therefore essential to foster in-depth cognitive learning.

Local contextual factors play a vital role in blended learning implementation in Malaysia. The shift from teacher-centred to student-centred blended teaching requires robust technological infrastructure as well as fundamental cultural transformation within educational settings. Instructors need to maintain a practical balance. They should deliver clear structural guidance to accommodate local high-power-distance cultural norms while progressively fostering students' independent learning capabilities. Institutional support also plays an irreplaceable role, covering key measures such as bridging the digital divide, balancing academic workload across different courses, and incorporating blended learning teaching achievements into faculty evaluation and promotion systems.

Conclusions and Implications

This mixed-methods case study at UKM demonstrates that blended learning positively influences student engagement when supported by sound pedagogical design and institutional backing. Behavioural and emotional engagement are enhanced by clear structure, timely feedback and a supportive learning community. In contrast, cognitive engagement remains the most challenging dimension and requires explicit design for critical inquiry, reflection and authentic problem-solving.

Practical Implications

Instructors may organise weekly study plans to fully align online learning modules with in-person teaching sessions. They can deploy structured discussion activities with clear grading guidelines and design coursework that encourages students to practise analysis, evaluation and creative thinking.

Course designers and academic development teams should deliver targeted professional training on blended learning curriculum planning, online teaching facilitation and authentic assessment implementation. They can also build long-term support mechanisms through educator practice communities.

Higher education institutions need to resolve digital inequity issues by improving campus Wi-Fi stability, offering device borrowing services and preparing offline learning resources for students. Programme-level coordination of blended learning curricula helps prevent redundant learning content and excessive information burden. Institutions should also recognise the additional labour costs of blended teaching and incorporate such work into faculty workload arrangements and promotion evaluation standards.

Limitations and Future Research

This is a single-institution case study relying on self-reported data. Future research should employ longitudinal designs, multi-institutional samples, learning analytics from Moodle, and experimental interventions to test specific pedagogical strategies. In conclusion, blended learning is a viable approach for enhancing student engagement in Malaysian higher education, but achieving its full potential – particularly for cognitive engagement – demands deliberate, evidence-based design and sustained institutional commitment.

References

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59-109.
- Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), 87-105.
- Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. Jossey-Bass.
- Kuh, G. D. (2009). The National Survey of Student Engagement: Conceptual and empirical foundations. *New Directions for Institutional Research*, 2009(141), 5-20.
- Lim, S. Y., & Morris, R. (2021). Student perceptions of blended learning in a business faculty: Engagement and challenges. *Malaysian Journal of Educational Technology*, 21(2), 45-58.
- Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2013). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies*. U.S. Department of Education.
- Rashid, A. A., & Rahman, M. N. A. (2020). Blended learning in Malaysian public universities: Readiness and challenges. *International Journal of Emerging Technologies in Learning*, 15(4), 207-219.
- Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Networks*, 7(1), 68-88.
- Shea, P., Li, C. S., & Pickett, A. (2006). A study of teaching presence and student sense of learning community in fully online and web-enhanced college courses. *The Internet and Higher Education*, 9(3), 175-190.