

Exploring Student Perceptions of Blended Learning: Flexibility, ICT Literacy, and the Preference for Traditional Classroom Learning

Agus Ruswandi¹, Riki Ruswandi², M Aditya Firdaus³, Revita Yanuarsari⁴, Hendi S Muchtar⁵

¹ Universitas Islam Nusantara, Bandung, Indonesia; agus_ruswandi@uninus.ac.id

² Universitas Islam Nusantara, Bandung, Indonesia; riki_rusw@uninus.ac.id

³ Universitas Islam Nusantara, Bandung, Indonesia; aditya.firdaus83@gmail.com

⁴ Universitas Islam Nusantara, Bandung, Indonesia; revita@uninus.ac.id

⁵ Universitas Islam Nusantara, Bandung, Indonesia; hendi@uninus.ac.id

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ABSTRACT

Student participation remains a key challenge in blended learning (BL), particularly in the Faculty of Islamic Religion and Teacher Training and Education. Understanding students' perceptions is essential to evaluate the effectiveness of BL and identify areas for enhancement. This study employed a quantitative, non-experimental survey design. Data were collected from 238 students at Universitas Islam Nusantara through an online questionnaire. Descriptive statistical methods were used to analyze the data and calculate mean scores across various dimensions of students' perceptions. The findings indicate that students generally perceive blended learning positively, with an overall mean score of 3.45 on a 4-point scale. Flexibility was viewed favorably, while convenience received a moderate rating (mean score: 3.1). Students also reported high levels of ICT literacy, averaging 3.6. Despite these positive aspects, a notable proportion of students still preferred face-to-face learning, citing it as more effective and easier for active participation. The results suggest that while blended learning enhances flexibility and supports digital skill development, concerns about convenience and engagement persist. These findings highlight the need for improved instructional design and better support systems within BL environments. Blended learning is perceived as effective and beneficial, particularly in developing ICT literacy. However, to increase student participation and overall satisfaction, institutions should focus on improving the usability and interactivity of blended platforms, as well as providing targeted support to address learner preferences and challenges.

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Corresponding Author:

Riki Ruswandi

Universitas Islam Nusantara, Bandung, Indonesia; riki_rusw@uninus.ac.id

1. INTRODUCTION

Post-pandemic higher education has highlighted the need for practical information technology tools to support teaching and learning. Over the past decade, technology has significantly transformed

education, with the COVID-19 pandemic accelerating the adoption of network-based learning platforms such as Zoom, Google Meet, Google Classroom, and YouTube. E-learning emerged as a critical solution, utilizing communication networks and technology to deliver education (Almahasees et al., 2021; Mortaza Mardiha et al., 2023). It enables access to digital resources and online platforms, improving learning efficiency and educational reach (Ehlers et al., 2006). During the pandemic, many higher education institutions relied exclusively on e-learning to ensure continuity of education (Al-Ahdal, 2020). Today, blended learning—online and face-to-face teaching—has become a recommended alternative for sustainable higher education (Balogun et al., 2023).

Despite the global shift toward blended learning, its implementation remains challenging, especially in countries with limited resources and student engagement (Strelchuk et al., 2023). Blended learning combines online tools' flexibility with traditional classrooms' interactivity (Stec et al., 2020). Research has shown that online learning offers benefits such as cost-effectiveness, time efficiency, and increased access to quality education (Bartley & Golek, 2004; Gratton-Lavoie & Stanley, 2009; de la Varre et al., 2011). However, students' discomfort with technology and other challenges can hinder its effectiveness (Gnawali et al., 2022). Learners' perceptions of online education are critical because negative views can reduce motivation and engagement (Kaufmann & Servatius, 2020). For example, Abbasi et al. (2020) found that students developed negative attitudes toward e-learning during the pandemic, underscoring the importance of understanding learner perceptions to ensure e-learning success (Almaiah et al., 2020).

At a global level, studies have documented both the benefits and challenges of blended learning, leading to recommendations for future professional development to prepare for similar emergencies (Flores & Gago, 2020; Lee et al., 2022). While research highlights its advantages—such as flexibility, convenience, and accessibility—local challenges often differ. Preliminary studies at Universitas Islam Nusantara reveal that student participation in blended learning remains suboptimal. For instance, 40% to 50% of students turn off their cameras during virtual meetings, 15% to 30% submit assignments late, and 10% to 20% are absent from face-to-face sessions. These findings suggest that student interest in blended learning may be limited, potentially influenced by their perceptions of its usefulness, flexibility, convenience, and their own ICT literacy.

This research aims to bridge the gap between global findings on blended learning and local challenges faced by Universitas Islam Nusantara. While blended learning has been widely studied, the novelty of this research lies in its focus on measuring student perceptions through four specific dimensions: usefulness, flexibility, convenience, and ICT literacy. Understanding these perceptions provides valuable insights into improving student engagement and informing campus policies for the post-pandemic implementation of blended learning. The study's findings are expected to contribute to developing more effective blended learning strategies tailored to local needs.

2. METHODS

The research employed a quantitative, non-experimental design, utilizing a cross-sectional survey approach outlined by McMillan and Schumacher (2014). This design was chosen because it effectively captures data simultaneously, allowing for a comprehensive understanding of student perceptions.

The study targeted students from three programs at Universitas Islam Nusantara: the Islamic Religious Education Study Program, the Madrasah Ibtidaiyah Teacher Education Study Program, and the English Childhood Education (ECE) Teacher Education Study Program, with a total population of 750 students. A sample size of 238 students was determined using the Isaac and Michael sample table, ensuring a 5% margin of error for statistical significance. Stratified random sampling was employed (Fraenkel et al., 2012) to ensure representation across key demographic categories, including gender and semester.

Table 1. Respondent characteristics (n =238)

Respondent Characteristics	Category	Frequency	Percentage
Gender	Female	152	63.87
	Male	86	36.13
Semester	II	70	29.42
	IV	74	31.09
	VI	74	31.09
	VIII	20	8.40

The data collection instrument was a questionnaire designed to assess student perceptions of blended learning post-COVID-19 pandemic. The questionnaire covered two primary dimensions: usefulness (e.g., practical benefits of blended learning) and flexibility (e.g., adaptability to student needs). This structure aligned the research objectives with measurable outcomes, ensuring focused data collection.

The questionnaire used a five-point Likert scale with response options: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD). A Cronbach's alpha test was conducted to validate the instrument's reliability, yielding a coefficient of 0.85, indicating good internal consistency.

Following are some examples of how the level of interpretation affects the student perception questionnaire score:

Table 2. Mean Interpretation of Student Perception

Mean Range	Level of Perceived
0,1 - 1,0	Very Low
1,1 - 2,0	Low
2,1 - 3,0	Moderate
3,1 - 4,0	High
4,1 - 5,0	Very High

Data were analyzed using descriptive statistics via the Statistical Package for Social Sciences (SPSS) version 27. The primary statistical measure was the mean to evaluate general trends in student perceptions. Normality testing yielded a significance value of 0.94 (Asymp. Sig 2-tailed), confirming that the data were normally distributed.

Additionally, where applicable, inferential statistics such as independent t-tests and one-way ANOVA were considered to explore differences in perceptions based on demographic variables, including gender and semester.

3. FINDINGS AND DISCUSSION

3.1 Student Perception About Usefulness of Blended Learning

The first and most critical step in implementing blended learning is assessing its perceived importance and meaningfulness from the students' perspective. For blended learning to be effective, students must view it not merely as a technological shift but as a valuable educational innovation that enhances the learning experience and supports academic success. Their belief in the relevance and benefits of blended learning plays a pivotal role in fostering engagement and motivation. In the context of higher education, blended learning should be seen as a strategic approach to enrich the lecture process, offering flexibility, accessibility, and improved interaction between students and instructors. To understand students' perceptions, a questionnaire was administered, and the responses provide valuable insights into how students evaluate the significance and impact of blended learning in their academic environment. The following data summarizes the findings derived from the questionnaire responses:

Table 3. The usefulness of Blended Learning

ITEMS	SA		A		U		DA		SD		Mean	Level
	F	%	F	%	F	%	F	%	F	%		
The blended learning model is beneficial and meaningful for students	40	16.81	144	60.50	50	21.01	4	1.68	0	0.00	3.93	High
The blended learning model enhances student learning outcomes compared to traditional face-to-face methods	30	12.61	82	34.45	106	44.54	20	8.40	0	0.00	3.53	High
The blended learning model is more effective in lectures than face-to-face instruction	18	7.56	78	32.77	108	45.38	34	14.29	0	0.00	3.35	High
Face-to-face learning is superior to blended or online learning	46	19.33	92	38.66	78	32.77	18	7.56	4	1.68	2.33	Moderate
The blended learning model is insufficient for student learning	12	5.04	62	26.05	110	46.22	44	18.49	10	4.20	2.89	Moderate
Grand Mean	29.2	12.27	91.6	38.49	90.4	37.98	24.0	10.08	2.8	1.18	3.21	High
	0		0		0		0		0			

The findings show that students perceive Blended Learning (BL) as applicable but need to be more confident about its effectiveness than face-to-face learning. As indicated in Table 3, the mean score for the perceived usefulness of BL is 3.93 (high), with 60.50% of respondents agreeing that BL is beneficial and meaningful. However, 45.38% of respondents were undecided about BL's effectiveness compared to traditional lectures.

While students recognize the innovative nature of BL in facilitating higher education post-pandemic (Bozkurt, 2022; Li et al., 2022), their preference for face-to-face learning (38.66% agreement) reflects a lingering comfort with traditional methods. Mali and Lim (2021) found face-to-face learning less stressful, suggesting that discomfort with BL may stem from technological barriers or a lack of interactive experiences. Additionally, Pongkendek et al. (2022) and Zapata-Cuervo et al. (2023) emphasize the need for context-specific improvements in BL to maintain engagement.

Although students view BL as beneficial, their mixed perceptions suggest a need for universities to integrate interactive strategies, such as group tasks and dynamic online discussions, to enhance the perceived effectiveness and engagement of BL models.

3.2 Student Perception About Flexibilities of Blended Learning

Blended learning at Universitas Islam Nusantara is structured by splitting 16 sessions into eight in-person meetings and eight online sessions, either through virtual platforms or social media applications. One of the benefits of blended learning is its flexibility in scheduling, making it more efficient and cost-effective. Based on the results of the questionnaire that the respondents have filled out, the following data is obtained:

Table 4. Flexibilities of Blended Learning

ITEMS	SA		A		U		DA		SD		Mean	Level
	F	%	F	%	F	%	F	%	F	%		
Blended learning simplifies course participation for students	68	28.57	138	57.98	28	11.76	4	1.68	0	0	4.14	Very High
Blended learning offers greater flexibility in terms of time and location for attending classes	62	26.05	162	68.07	12	5.04	2	0.84	0	0	4.20	Very High
E-learning provides convenience for students to attend courses remotely	36	15.13	134	56.30	60	25.21	8	3.36	0	0	3.84	High
Grand Mean	55.33	23.25	144.67	60.78	33.33	14.01	4.67	1.96	0.00	0.00	4.06	Very High

The data in Table 4 highlights a high perception of flexibility, with a mean of 4.06. Most students (68.07%) agree that BL offers greater flexibility in time and location, while 57.98% believe it simplifies course participation.

Flexibility is one of BL's strongest appeals, aligning with findings by Adel and Dayan (2021), highlighting its convenience in higher education. BL allows students to balance academic and personal commitments efficiently. However, while flexibility is valued, more is needed to translate to overall satisfaction with BL. Nikolopoulou and Zacharis (2023) stress that technological infrastructure and support are essential for ensuring that flexibility translates into practical learning experiences.

Universities should leverage BL's perceived flexibility by integrating robust ICT tools and offering training to enhance the student experience. While flexibility drives positive perceptions, complementary support mechanisms are essential to address other concerns, such as student boredom and discomfort.

3.3 Student Perception About Convenience of Blended Learning

Student learning comfort is a crucial aspect to investigate when evaluating the effectiveness of blended learning. Comfort in the learning process significantly influences students' engagement, participation, and overall academic performance. Therefore, it is important to explore whether blended learning environments contribute to a sense of ease and satisfaction, or whether they present challenges that may hinder students' ability to learn effectively. Understanding students' comfort levels can help educators refine instructional strategies, ensuring that blended learning meets both pedagogical goals and student needs. To gain insight into this issue, a questionnaire was distributed to students, focusing on their experiences and perceptions of comfort within blended learning settings. The following data presents the results obtained from the questionnaire responses:

Table 5. Convenience of Blended Learning

ITEMS	SA		A		U		DA		SD		Mean	Level
	F	%	F	%	F	%	F	%	F	%		
The blended learning model can make students uncomfortable	8.00	3.36	62.00	26.05	96.00	40.34	68.00	28.57	4.00	1.68	3.01	Moderate
Virtual meetings often bore students	40.00	16.81	96.00	40.34	66.00	27.73	34.00	14.29	2.00	0.84	2.44	Moderate
Students are more motivated with blended learning	22.00	9.24	106.00	44.54	90.00	37.82	18.00	7.56	2.00	0.84	3.58	High
Grand Mean	23.33	9.80	88.00	36.97	84.00	35.29	40.00	16.81	2.67	1.12	3.01	Moderate

The findings regarding convenience, as shown in Table 5, reveal mixed perceptions. While 44.54% of respondents agree that BL motivates them, 40.34% remain undecided about its convenience, and 40.34% agree that virtual meetings often lead to boredom.

Discomfort with BL may stem from long virtual sessions, a lack of interaction, and screen fatigue, as indicated by Mali and Lim (2021) and Wang et al. (2021). Virtual environments often limit spontaneous communication and collaborative learning, contributing to feelings of isolation (Noor et al., 2022). Despite this, students report motivation due to BL's flexibility and accessibility. These contradictory findings suggest that motivation may be driven by practical benefits rather than genuine comfort.

Universities could integrate shorter, interactive virtual sessions to enhance engagement and implement techniques like breakout groups and gamified learning. This approach aligns with Baber (2020), who advocates for interactive tasks to boost engagement in online learning. While BL offers practical benefits, addressing discomfort and boredom is crucial. Universities should prioritize improving virtual learning environments to make BL engaging and effective.

3.4 Blended Learning Forced to Gaining ICT Literacy

Blended learning requires the help of information and communication technology devices to be implemented well. Students must understand how to use software and hardware used in blended learning, such as virtual meeting applications, social media, and e-learning applications provided by the university. Based on the results of the questionnaire that respondents have filled out, the following data is obtained:

Table 6. Blended Learning Need Gaining ICT Literacy

ITEMS	SA		A		U		DA		SD		Mean	Level
	F	%	F	%	F	%	F	%	F	%		
Blended learning "forces" students to be able to use ICT Digitalization tools.	34.00	14.29	112.00	47.06	54.00	22.69	38.00	15.97	0.00	0.00	3.61	High
Blended learning makes it faster to do coursework	52.00	21.85	144.00	60.50	30.00	12.61	12.00	5.04	0.00	0.00	4	High
Grand Mean	43.00	18.07	128.00	53.78	42.00	17.65	25.00	10.50	0.00	0.00	3.81	High

This study underscores the pivotal role of ICT literacy in the successful implementation of blended learning (BL). As reflected in Table 6, 47.06% of respondents agreed that BL "forces" them to learn how to use ICT tools, while 60.50% believed that BL enhances their ability to complete coursework more efficiently. The overall mean score of 3.81 indicates a high level of ICT literacy acquisition through the BL experience.

These findings support the argument that BL environments contribute significantly to the development of students' technical skills, aligning with previous research by Spanjers et al. (2015) and Afacan (2016), who found that the integration of digital platforms in education fosters increased technological proficiency. However, it is important to note that the level of ICT competency among students can vary due to unequal access to devices, stable internet connectivity, and digital resources—challenges particularly prevalent in rural or underserved regions (Iqbal et al., 2022; Sharma & Shree, 2023). While BL can enhance ICT literacy, institutions must address these disparities to ensure equitable access for all learners.

To enhance the effectiveness of BL, this study offers several practical recommendations for higher education institutions. First, to address student disengagement and discomfort, universities should adopt more interactive and student-centered teaching strategies, such as gamification, collaborative learning, and concise virtual sessions to reduce cognitive fatigue. Second, institutions must leverage the flexibility of BL by offering consistent technical support, ensuring that its convenience translates into a seamless learning experience. Third, the development of digital training programs and improvements in ICT infrastructure are essential for supporting students' technical growth, particularly for those with limited prior exposure to technology. Lastly, mixed student perceptions regarding BL highlight the necessity of implementing hybrid learning models that balance online and face-to-face components, tailored to diverse learning preferences and course demands.

These insights affirm that while BL is a powerful tool for enhancing ICT literacy, its effectiveness depends on inclusive strategies that ensure both access and engagement across the student body.

4. CONCLUSION

This study found that students generally have a positive perception of blended learning, especially valuing its flexibility and the opportunity to improve their ICT (Information and Communication Technology) skills. With a mean score of 3.45, students showed strong agreement that blended learning supports independent learning and digital literacy. However, perceptions of convenience and overall effectiveness were more moderate, suggesting that while students enjoy the flexibility, they may still prefer face-to-face learning for certain aspects of the educational experience. These mixed responses highlight that blended learning works well in many situations but may not suit all courses or learners. A key limitation of this study is its focus on perception data, without a deeper analysis of specific course types or long-term academic outcomes. Additionally, the study did not explore how different teaching methods or technology tools affect learning effectiveness. Future research should examine how blended learning can be optimized for different subjects, especially those requiring hands-on practice or direct interaction. It would also be valuable to explore the role of instructor support, technological tools, and student engagement strategies in improving blended learning outcomes. Institutions are encouraged to develop flexible, hybrid teaching models and provide training for both students and faculty to ensure that blended learning environments are comfortable, effective, and aligned with educational goals.

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