



Blended Learning Adoption and Student's Satisfaction: Evidence from Rajarata University of Sri Lanka

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Abstract

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This study investigates the adoption of blended learning (BL) and its influence on undergraduate satisfaction with evidence from Rajarata University of Sri Lanka. Blended learning, an educational approach that integrates traditional face-to-face instruction with online learning components, has become increasingly prevalent in higher education due to its flexibility and potential to enhance learning outcomes. Despite its growing global acceptance, many undergraduates in state universities show resistance towards adopting this method, creating challenges for effective implementation. The research focuses on evaluating the impact of four key factors (i.e. Personalized Learning Climate, Perceived Quality, Prior Learning Experience, and Perceived Value) on student satisfaction in a blended learning environment. A quantitative research methodology was employed, and data were collected using a structured questionnaire from a sample of 366 undergraduates using cluster sampling technique. Descriptive statistics, correlation analysis, and regression analysis were performed using SPSS to identify relationships between variables. The results reveal that all four factors significantly influence student satisfaction, with Personalized Learning Climate and Perceived Quality showing the most substantial positive impact. The findings underscore the need for improving digital infrastructure, enhancing learning environments, and increasing awareness of the benefits of blended learning in state universities. This study provides valuable insights into the factors affecting student satisfaction in blended learning environments, offering practical recommendations for higher education institutions and laying a foundation for future research in this field.

Keywords: *Blended Learning, Student Satisfaction, Higher Education, Learning Environment.*

1. Introduction

Blended learning, an educational approach that integrates traditional face-to-face instruction with online learning components, has become a widely adopted model in higher

education globally. The increasing integration of digital technologies into education systems has driven the adoption of blended learning, offering a hybrid solution that combines the benefits of in-person interaction and the flexibility of online resources. This model enhances student engagement, facilitates personalised learning, and enables students to access course content at their convenience, making it particularly appealing to modern learners (Adedoyin & Soykan, 2020). Despite its potential, the successful implementation of blended learning requires addressing several key factors, including student satisfaction, technological readiness, and faculty preparedness (Bervell & Umar, 2020).

The adoption of blended learning in state universities in Sri Lanka has accelerated in recent years, particularly following the challenges posed by the COVID-19 pandemic. While the shift to online and hybrid models provided continuity of education during lockdowns, it also exposed significant infrastructural and pedagogical gaps. Many students reported difficulties in adapting to online learning due to limited digital literacy, unreliable internet connectivity, and inadequate access to devices (Barrett *et al.*, 2021). These challenges highlighted the need for a more robust and well-supported blended learning framework tailored to the local context. To better understand the current perception and satisfaction of undergraduates regarding blended learning, a pilot study was conducted with 37 undergraduates. This pilot study involved asking six key questions to assess their preferences and satisfaction levels with blended learning. One of the critical questions asked students whether they liked or disliked blended learning. Notably, 30 students (81.1%) expressed a dislike for blended learning, while only 7 students (18.9%) indicated a preference for it. Figure 1 illustrates these preferences, providing a snapshot of undergraduates' initial reactions to blended learning adoption.

Student satisfaction plays a crucial role in determining the effectiveness of blended learning initiatives. High levels of satisfaction are associated with better learning outcomes, increased engagement, and greater acceptance of the blended learning model (Castro & Tumibay, 2021). Understanding the factors that influence student satisfaction is therefore essential for improving the design and delivery of blended learning. Key factors identified in the literature include the quality of course content, the level of interaction between students and academics, the usability of learning platforms, and students' prior experience with digital learning environments (Gülbahar *et al.*, 2021).

To explore the factors influencing student satisfaction, this study focuses on four main constructs: personalised learning climate, perceived quality, prior learning experience, and perceived value. Personalised learning climate refers to the extent to which the learning environment accommodates individual student needs and preferences. A supportive and adaptable learning environment can enhance student satisfaction by fostering a sense of ownership and engagement in the learning process (Kim & Thayne, 2021). Perceived quality encompasses students' evaluation of the overall excellence of the blended learning experience, including the clarity and relevance of course materials, the effectiveness of instructional methods, and the reliability of technological platforms (Hew *et al.*, 2020). Prior learning experience is another critical factor, as students with previous exposure to blended or online learning are more likely to adapt easily and express higher levels of satisfaction. Conversely, students with limited or negative prior experiences may struggle with the transition, affecting their perception of the blended learning model (Kintu *et al.*, 2020). Perceived value relates to students' assessment of the benefits and worth of the blended learning experience relative to

traditional learning methods. When students perceive high value in blended learning, they are more likely to be satisfied and engaged (Pinto-Llorente *et al.*, 2020).

Despite its potential benefits, blended learning adoption in state universities faces several challenges. Technological infrastructure, including reliable internet access and appropriate learning management systems, remains a significant barrier in many developing countries (Castro & Tumibay, 2021). Additionally, faculty resistance to adopting new teaching methods and students' lack of digital literacy further complicate the implementation process (Bervell & Umar, 2020). Addressing these challenges requires a comprehensive approach that involves capacity building, investment in infrastructure, and ongoing support for both students and faculty.

The primary objective of this study is to investigate the impact of personalized learning climate, perceived quality, prior learning experience, and perceived value on student satisfaction in blended learning environments in state universities in Sri Lanka. By employing a quantitative research approach and analyzing data collected from undergraduates, the study aims to identify the key factors that drive student satisfaction and provide actionable insights for improving blended learning practices.

Understanding the factors that influence student satisfaction in blended learning is essential for policymakers, educators, and administrators seeking to enhance the quality of higher education. The findings of this study will contribute to the existing body of knowledge on blended learning by providing empirical evidence on the determinants of student satisfaction in a developing country context. Moreover, the study offers practical recommendations for designing and implementing effective blended learning models that can improve student engagement, retention, and academic performance.

2. Literature Review

2.1 Learning, Online Learning, and Blended Learning

Learning is a fundamental process of acquiring knowledge, skills, and competencies through various experiences, instructional methods, and self-directed efforts. Over time, advancements in technology have significantly transformed traditional learning paradigms. Online learning, in particular, emerged as a revolutionary model by enabling students to access educational materials remotely. Online learning encompasses various forms, including asynchronous courses, synchronous virtual classrooms, and interactive e-learning platforms, which collectively provide flexibility and convenience (Adedoyin & Soykan, 2020). Despite its benefits, online learning often lacks the interpersonal engagement and hands-on interaction inherent in traditional face-to-face education, which has led to the development of a hybrid model known as blended learning.

Blended learning integrates online and face-to-face instruction, offering the best of both worlds. It allows students to benefit from digital resources while maintaining personal interactions with academic staff and peers. Graham (2006) defines blended learning as a pedagogical approach that combines the strengths of online delivery with in-person sessions to enhance student engagement and learning outcomes. By leveraging digital tools, blended learning enables personalized instruction, greater access to content, and a more flexible learning environment.

2.2. Student Satisfaction

Student satisfaction is a key indicator of the effectiveness of educational models, including blended learning. It reflects students' overall perception of their educational experience and influences their engagement, retention, and academic performance. Various studies have highlighted that student satisfaction is affected by factors such as the quality of instruction, availability of learning resources, technological infrastructure, and the level of interaction between students and academic staff (Castro & Tumibay, 2021).

In the context of blended learning, student satisfaction becomes even more critical due to the dual nature of the learning environment. Students' ability to navigate digital platforms, access relevant content, and maintain meaningful interactions during in-person sessions directly impacts their satisfaction levels. Studies have shown that satisfied students are more likely to be motivated, engaged, and successful in their academic pursuits (Bervell & Umar, 2020). Consequently, understanding and enhancing the factors that contribute to student satisfaction is essential for the successful implementation of blended learning in state universities.

2.3. Adaptations of Blended Learning and State University Students' Satisfaction

State universities, particularly in developing countries, face unique challenges in adopting blended learning. Limited access to reliable internet, inadequate digital infrastructure, and varying levels of technological proficiency among students and faculty are significant barriers. Despite these challenges, the adoption of blended learning in state universities is seen as a necessary step toward modernizing education and expanding access to quality learning opportunities (Sari & Nayir, 2020).

Empirical studies have demonstrated that students' satisfaction with blended learning in state universities is influenced by their adaptability to new learning environments, the quality of digital resources, and the effectiveness of institutional support. In Sri Lanka, state universities have initiated several blended learning programs to address the growing demand for flexible education. However, understanding the specific factors that affect students' satisfaction is crucial for improving the adoption and success of these programs (Barrett et al., 2021).

2.4. Factors Associated with the Adaptation of Blended Learning

2.4.1. Personalized Learning Climate

Personalized learning climate refers to the degree to which the learning environment is tailored to meet individual student needs, preferences, and learning styles. In a blended learning setting, personalisation can be achieved through adaptive learning technologies, customized feedback, and flexible course structures. Research indicates that a supportive personalized learning climate enhances student engagement, motivation, and satisfaction. Adaptive learning tools, which adjust content delivery based on students' performance, play a crucial role in fostering personalization (Johnson & Sampson, 2021). Individualized feedback provided in a timely and specific manner further aids in personalising the learning experience (Shute, 2020). Additionally, offering flexible learning paths allows students to choose learning modules or topics according to their interests, thereby improving satisfaction levels (Wang & Zhu, 2020; Kim & Thayne, 2021).

2.4.2. *Perceived Quality*

Perceived quality encompasses students' evaluation of the overall excellence of the blended learning experience, including course content, instructional methods, and technological platforms. High perceived quality is associated with increased trust in the learning process and higher satisfaction levels. Content quality, including the relevance, clarity, and comprehensiveness of course materials, directly influences students' perceptions (Chen *et al.*, 2019). Academic staff effectiveness, which refers to the competence and ability of academic staff to deliver both online and in-person sessions effectively, also plays a significant role (Kuo *et al.*, 2021). Furthermore, platform reliability, referring to the stability and usability of the learning management system (LMS), is critical in maintaining a seamless learning experience (Martinez & Nguyen, 2021; Hew *et al.*, 2020).

2.4.3. *Prior Learning Experience*

Prior learning experience refers to students' previous exposure to digital or blended learning environments. Students with positive prior experiences are more likely to adapt to blended learning and express higher levels of satisfaction, while those with negative experiences may encounter difficulties. Familiarity with digital tools, which involves prior usage of learning platforms and e-learning tools, is an important aspect of prior learning experience (Singh & Thurman, 2021). Previous academic performance in courses delivered in a blended or online format also serves as an indicator of readiness (Clark *et al.*, 2020). Moreover, comfort with technology, which reflects students' confidence in using digital devices and navigating online environments, is crucial for smooth adaptation (Rahman & Singh, 2021; Gülbahar *et al.*, 2021).

2.4.4. *Perceived Value*

Perceived value pertains to students' assessment of the benefits and worth of the blended learning experience relative to their expectations and investments. When students perceive high value, they are more likely to be satisfied and engaged. The cost-benefit ratio, which involves comparing the costs (time, effort) with the perceived benefits (learning outcomes, flexibility), is a key determinant of perceived value (Wang *et al.*, 2020). Convenience, referring to the extent to which blended learning accommodates students' schedules and personal commitments, further enhances perceived value (Nguyen & Clark, 2021). Additionally, the relevance of course content to students' career goals significantly influences their perception of the overall value of the blended learning experience (Pinto-Llorente *et al.*, 2020).

The adoption of blended learning in higher education has been widely recognized as a transformative approach that enhances accessibility, flexibility, and engagement. However, its success hinges on various critical factors, including personalized learning climate, perceived quality, prior learning experience, and perceived value. The literature highlights that these factors significantly influence student satisfaction, which in turn impacts the effectiveness and sustainability of blended learning programs. By addressing infrastructural challenges, ensuring quality content delivery, and fostering a supportive learning environment, state universities can improve the adaptation and acceptance of blended learning. Ultimately, a deeper understanding of these factors will enable educators and policymakers to develop more student-centric, resilient, and effective blended learning frameworks.

3. Methodology

3.1. Conceptual Framework

A conceptual framework outlines the key concepts, variables, and relationships in a study, providing a structured foundation for research. It helps define the scope, formulate research questions, and guide hypotheses, linking theoretical knowledge with empirical investigation (Imenda, 2014; Ravitch & Riggan, 2016). The conceptual framework of this study is developed based on insights from prior literature (see Figure 2). one dependent variable. Personalized Learning Climate, Perceived Quality, Prior Learning Experience, and Perceived Value are considered independent variables, while Student Satisfaction serves as the dependent variable. This framework aims to explain how variations in these independent variables influence the dependent variable.

Independent Variables

Dependent Variable

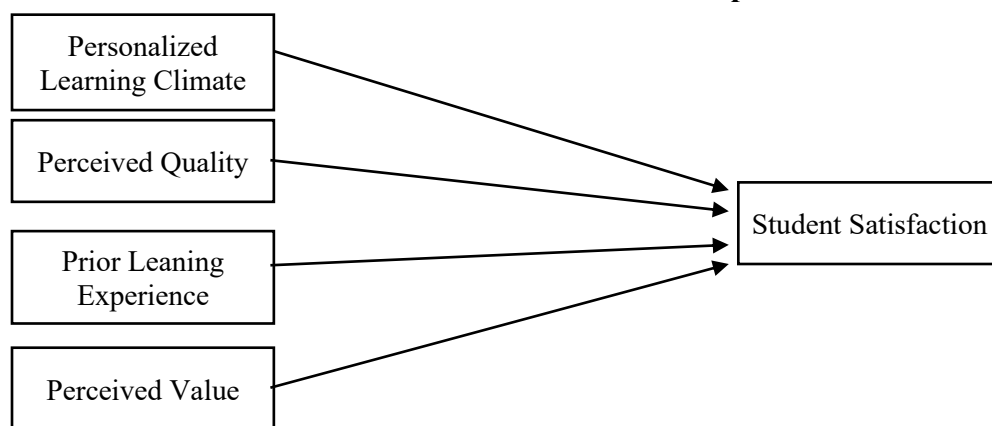


Figure 01. Conceptual Framework of the Study

It illustrates the relationships between key variables, comprising four independent variables, and based on the conceptual framework and literature review, the following hypotheses were developed to examine the influence of the identified independent variables on student satisfaction in blended learning environments:

H1: There is an impact from Personalized Learning Climate on the Students Satisfaction on undergraduates in Rajarata University of Sri Lanka.

H2: There is an impact from Perceived Quality on the Students Satisfaction on undergraduates in Rajarata University of Sri Lanka.

H3: There is an impact from Prior Learning Experience on the Student Satisfaction on undergraduates in Rajarata University of Sri Lanka.

H4: There is an impact from Perceived Value on the Students Satisfaction on undergraduates in Rajarata University of Sri Lanka.

These hypotheses are tested using multiple regression analysis to determine the strength and significance of each factor in predicting student satisfaction.

This study employs a deductive research approach, beginning with established theories and existing literature to formulate hypotheses, which are tested through empirical analysis. The research adopts an explanatory design to explore the relationships between key variables and assess how Personalized Learning Climate, Perceived Quality, Prior Learning Experience, and Perceived Value influence Student Satisfaction.

A quantitative research strategy was utilized, employing a self-administered questionnaire as the primary data collection instrument. The survey was conducted cross-sectionally, capturing responses at a specific point in time. The population for this study comprised undergraduates from Rajarata University of Sri Lanka. To determine the appropriate sample size, the researchers used a standard sample size calculation formula for finite populations.

Based on the total undergraduate population of 8,291 students, a 95% confidence level ($Z = 1.96$), and a 5% margin of error ($e = 0.05$), the required sample size was calculated using the formula:

$$n = \frac{N \cdot Z^2 \cdot p(1 - p)}{(e^2 \cdot (N - 1)) + (Z^2 \cdot p(1 - p))}$$

where $N=8291$, $p=0.5$, and $e=0.05$. Substituting the values, the resulting sample size was approximately 366 respondents. This sample size was considered sufficient to ensure representativeness and statistical reliability. The cluster sampling method was adopted to ensure proportional representation from all six faculties. To ensure proportional representation, the number of students selected from each faculty is presented in Table 01.

The survey instrument was a structured, self-administered questionnaire developed based on validated scales from prior research. The questionnaire was divided into three sections: demographic information, items measuring the four independent variables (Personalized Learning Climate, Perceived Quality, Prior Learning Experience, and Perceived Value), and items measuring the dependent variable (Student Satisfaction). A five-point Likert scale (ranging from strongly disagree to strongly agree) was used for all scale items to measure agreement with statements.

Table 01. Proportional Representation of Sample

Faculty	Total Number of Students	Total Student (%)	Number of Student of Sample
Faculty of Agriculture	552	6.6	28
Faculty of Applied Sciences	1508	18.1	55
Faculty of Management Studies	2009	24.3	99
Faculty of Medicine and Allied Sciences	982	11.8	40
Faculty of Social Sciences & Humanities	1919	23.2	80
Faculty of Technology	1321	15.9	64
Total	8291	100	366

Prior to the main study, the questionnaire was pre-tested with a pilot group of 37 undergraduates to ensure clarity and relevance. Necessary adjustments were made based on the feedback. Data collection was conducted digitally via Google Forms, which were distributed through email and faculty-specific social media groups. Participants were informed about the purpose of the study and assured of anonymity and confidentiality. The response rate was approximately 92%, with 366 valid responses received out of 400 distributed questionnaires. This high response rate can be attributed to the use of targeted digital distribution channels and follow-up reminders.

Data analysis was conducted using SPSS version 26. Descriptive statistics, including measures of central tendency and dispersion, were calculated to summarise the data. Reliability analysis, using Cronbach's alpha, confirmed the internal consistency of the variables. Pearson correlation analysis was performed to examine the relationships between variables, while multiple regression analysis was employed to determine the impact of the independent variables on Student Satisfaction. These methods facilitated hypothesis testing and provided insights into the key factors influencing student satisfaction in blended learning environments.

4. Results and Discussion

4.1. Reliability

The reliability of the survey questionnaire was assessed using Cronbach's alpha, a widely used measure of internal consistency that evaluates how well a set of items collectively measures a single latent construct. In social science research, a Cronbach's alpha value of 0.6 or greater is generally considered acceptable for indicating reliable measurement. The analysis revealed that (see Table 02) the Cronbach's alpha value for Personalized Learning Climate was 0.759, indicating good internal consistency. Similarly, the reliability coefficient for Perceived Quality was 0.654, reflecting acceptable reliability. For Prior Learning Experience, the Cronbach's alpha value was 0.795, demonstrating strong internal consistency. The Perceived Value variable yielded a Cronbach's alpha value of 0.728, which also indicates good reliability. Lastly, the Student Satisfaction variable recorded a Cronbach's alpha value of 0.679, confirming acceptable reliability.

Table 02. Reliability Analysis Results

Variables	Cronbach's Alpha Value	No. of Items
Personalized Learning Climate	0.759	05
Perceived Quality	0.654	03
Prior Learning Experience	0.795	04
Perceived Value	0.728	03
Students Satisfaction	0.679	10

These results suggest that the questionnaire items used to measure the independent and dependent variables possess satisfactory internal consistency, ensuring the reliability of the collected data for subsequent statistical analyses. Therefore, the measurement instruments

employed in this study can be considered appropriate for assessing the hypothesised relationships between Personalized Learning Climate, Perceived Quality, Prior Learning Experience, Perceived Value, and Student Satisfaction in the context of blended learning.

4.2. Validity Test

The findings from Bartlett's Test of Sphericity, the Total Variance Explained, and the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy provide strong evidence supporting the validity of the independent variables in this research study. The validity test involved key statistical analyses to assess the suitability of the data for factor analysis and the constructs' overall validity.

Table 03 presents the results of the validity test, including KMO values and Bartlett's Sphericity test for the various variables. The KMO values for independent and dependent variables were ranged from 0.596 to 0.747 (see Table 03) exceeding the minimum acceptable threshold of 0.5, which indicates good sampling adequacy. These values confirm that the sample size is sufficient for reliable factor analysis. Further to that, the Bartlett's Sphericity test yielded significant results ($p < 0.05$) for all variables, with a significance value of 0.000, indicating that there are significant relationships between the variables. The results of the validity test confirm that the dataset is well-suited for factor analysis. The high KMO values and significant Bartlett's test results indicate that the measured constructs are both reliable and valid for this research. These findings provide robust evidence for the validity of the data, ensuring the credibility of subsequent analyses.

Table 03. Validity test results

Variable	KMO Values	Bartlett's test of sphericity significant value
Personalized Learning Climate	0.727	0.000
Perceived Quality	0.667	0.000
Prior Learning Experience	0.596	0.000
Perceived Value	0.624	0.000
Students Satisfaction	0.747	0.000

4.3. Descriptive Analysis

Descriptive analysis is a vital aspect of this study, offering a comprehensive summary of the dataset to facilitate understanding and interpretation. In this research, the independent variables are Personalized Learning Climate, Perceived Quality, Prior Learning Experience, and Perceived Value, while the dependent variable is Student Satisfaction. All variables were measured using a five-point Likert scale, and descriptive statistics were calculated to evaluate their central tendencies and dispersions. As depicted in Table 04, the mean value of Personalized Learning Climate is 2.10, with a standard deviation of 0.76. The positive skewness value of 0.77 indicates a slight right skew, suggesting that a majority of respondents rated this variable towards the lower end of the scale. For Perceived Quality, the mean is 2.13, with a standard deviation of 0.65. The skewness value of 0.98 indicates a moderately right-skewed distribution, reflecting that most respondents perceived quality at a lower to moderate

level. Prior Learning Experience shows a mean of 2.62 and a standard deviation of 0.80. The skewness value of 0.05 suggests a nearly symmetrical distribution, indicating balanced responses from the participants. Perceived Value recorded a mean of 2.37 with a standard deviation of 0.73, and a skewness value of 0.42. This positive skewness indicates that more respondents perceived value at the lower end. Lastly, the dependent variable, Student Satisfaction, has a mean value of 2.15 and a standard deviation of 0.59. The skewness value of 0.25 suggests a slight positive skew, indicating that satisfaction levels are relatively low among the respondents.

Table 04. Descriptive Statistics of Variables

Variable	Mean	Standard Deviation	Skewness
Personalized Learning Climate	2.10	0.76	0.77
Perceived Quality	2.13	0.65	0.98
Prior Learning Experience	2.62	0.80	0.05
Perceived Value	2.37	0.73	0.42
Students Satisfaction	2.15	0.59	0.25

4.4. Correlation Analysis

Correlation analysis was conducted to examine the strength and direction of the relationships between the independent variables (Personalized Learning Climate, Perceived Quality, Prior Learning Experience, and Perceived Value) and the dependent variable (Student Satisfaction). Pearson's correlation coefficient (r) was used for the analysis, with significance determined at the 0.01 level (2-tailed).

Table 05 displays the correlation coefficients for the variables. The correlation coefficient between Personalized Learning Climate and Student Satisfaction is 0.397 ($p = 0.000$), indicating a moderate positive correlation. This suggests that improvements in the personalized learning environment are moderately associated with higher student satisfaction. Perceived Quality shows a correlation coefficient of 0.340 ($p = 0.000$) with Student Satisfaction, indicating a weak to moderate positive correlation. This implies that while perceived quality has a positive effect on student satisfaction, the strength of this relationship is relatively lower than that of Personalized Learning Climate.

For Prior Learning Experience, the correlation coefficient with Student Satisfaction is 0.306 ($p = 0.000$), indicating a weak to moderate positive relationship. This result suggests that students with more prior exposure to blended or online learning environments tend to report higher satisfaction. The correlation coefficient between Perceived Value and Student Satisfaction is 0.398 ($p = 0.000$), indicating a moderate positive correlation. This finding highlights that students who perceive greater value in the blended learning approach are more likely to express higher satisfaction.

Additionally, moderate positive correlations were observed among the independent variables themselves. Personalized Learning Climate and Perceived Quality showed a correlation coefficient of 0.523 ($p = 0.000$), while Perceived Quality and Prior Learning Experience had a coefficient of 0.453 ($p = 0.000$). The strongest correlation was found

between Prior Learning Experience and Perceived Value, with a coefficient of 0.545 ($p = 0.000$), indicating a strong positive relationship.

Table 05. Correlation Results

Variable	Personalized Learning Climate	Perceived Quality	Prior Learning Experience	Perceived Value	Student Satisfaction
Personalized Learning Climate	1.000	0.523**	0.416**	0.414**	0.397**
Perceived Quality		1.000	0.453**	0.447**	0.340**
Prior Learning Experience			1.000	0.545**	0.306**
Perceived Value				1.000	0.398**
Student Satisfaction					1.000

**Correlation is significant at the 0.01 level (2-tailed).

The results indicate that all correlations are positive and statistically significant at the 0.01 level. This suggests that improvements in the independent variables (Personalized Learning Climate, Perceived Quality, Prior Learning Experience, and Perceived Value) are likely to enhance student satisfaction. Furthermore, the strongest correlation with Student Satisfaction was observed for Perceived Value ($r = 0.398$), followed closely by Personalized Learning Climate ($r = 0.397$). These findings underscore the importance of fostering a supportive learning environment and delivering high-value educational experiences to improve overall student satisfaction.

4.5. Regression Analysis

The study employed multiple regression analysis to examine the relationship between the dependent variable, Student Satisfaction, and the independent variables, Personalized Learning Climate, Perceived Quality, Prior Learning Experience, and Perceived Value. The analysis was conducted using SPSS software, and the results are presented in Table 06, 07 and 08.

The Model Summary (see table 06) indicates that the regression model explains 23.1% of the variance in Student Satisfaction, as represented by the Adjusted R Square value of 0.231. This suggests that while the independent variables contribute to explaining the variation in student satisfaction, a significant proportion of the variance remains unexplained by the model. The R value of 0.481 indicates a moderate correlation between the predictors and the dependent variable.

Table 06. Regression Analysis – Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.481	0.231	0.222	0.521

The ANOVA results (see table 07) show an F-value of 27.111 with a significance level of 0.000, indicating that the regression model is statistically significant. This means that at least one of the independent variables has a significant relationship with the dependent variable, Student Satisfaction.

Table 07. Regression Analysis – ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	29.395	4	7.349	27.111	0.000
Residual	97.854	361	0.271		
Total	127.249	365			

The Coefficients table (see table 08) provides insights into the individual contributions of each independent variable to the dependent variable. The constant (intercept) has a value of 1.056, which is the predicted value of Student Satisfaction when all independent variables are zero. Among the independent variables, Personalized Learning Climate and Perceived Value have the highest coefficients, indicating that they have the most significant impact on student satisfaction.

Personalized Learning Climate has a coefficient of 0.181 ($p = 0.000$), suggesting a significant positive effect on student satisfaction. For every unit increase in Personalized Learning Climate, student satisfaction is predicted to increase by 0.181 units, holding other variables constant. Perceived Quality shows a coefficient of 0.222 ($p = 0.001$), indicating a statistically significant positive effect. Prior Learning Experience has a coefficient of 0.185 ($p = 0.002$), implying a statistically significant impact on student satisfaction. Perceived Value, with a coefficient of 0.194 ($p = 0.000$), demonstrates the strongest positive influence on student satisfaction among the independent variables.

Table 08. Regression Analysis – Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	t	Sig.
(Constant)	1.056	0.115	9.217	0.000
Personalized Learning Climate	0.181	0.044	4.133	0.000
Perceived Quality	0.222	0.064	3.494	0.001
Prior Learning Experience	0.185	0.041	4.574	0.002
Perceived Value	0.194	0.048	4.042	0.000

The multiple regression analysis indicates that all independent variables have a positive and statistically significant relationship with Student Satisfaction. Among them, Perceived Value and Personalized Learning Climate exhibit the strongest influence, while Prior Learning Experience and Perceived Quality demonstrate comparatively weaker but still significant effects. These findings highlight the importance of enhancing perceived value and creating a supportive learning environment to improve student satisfaction in blended learning settings.

4.6. Hypotheses Testing

Hypotheses testing, combining both correlation and regression analyses, confirmed that all four independent variables have significant positive relationships with Student Satisfaction. The correlation analysis showed moderate positive correlations, with Perceived Value exhibiting the highest correlation ($r = 0.398$, $p = 0.000$), followed closely by Personalized Learning Climate ($r = 0.397$, $p = 0.000$). Perceived Quality ($r = 0.340$, $p = 0.000$) and Prior Learning Experience ($r = 0.306$, $p = 0.000$) also showed statistically significant but comparatively weaker correlations.

The regression analysis supported these results, indicating that Personalized Learning Climate ($B = 0.181$, $p = 0.000$), Perceived Quality ($B = 0.222$, $p = 0.001$), Prior Learning Experience ($B = 0.185$, $p = 0.002$), and Perceived Value ($B = 0.194$, $p = 0.000$) positively influence Student Satisfaction. Among these, Perceived Value and Personalized Learning Climate had the strongest impacts.

Therefore, all four hypotheses were supported and these findings emphasise the need to improve critical factors such as Perceived Value and Personalized Learning Climate to enhance student satisfaction in blended learning environments. The study found that all four factors; Personalized Learning Climate, Perceived Quality, Prior Learning Experience, and Perceived Value positively influence student satisfaction in blended learning environments. These findings are largely consistent with previous research. Perceived Value had the strongest effect, aligning with Pinto-Llorente et al. (2020), who emphasized the importance of perceived benefits in determining satisfaction. Personalized Learning Climate also showed a strong impact, supporting Kim and Thayne (2021), who noted the role of individualised environments in enhancing engagement. Perceived Quality had a moderate influence, consistent with Chen et al. (2019), although in the current context, infrastructural and content delivery limitations may have diluted its effect. Prior Learning Experience showed the weakest influence, partially aligning with Gülbahar et al. (2021). While prior exposure helps, the findings suggest that students adapt well when other factors, particularly value and personalization are addressed.

5. Conclusion and Recommendations

This study investigated the factors influencing student satisfaction in blended learning environments, focusing on four key independent variables: Personalized Learning Climate, Perceived Quality, Prior Learning Experience, and Perceived Value. The findings indicate that all four variables have a significant positive impact on student satisfaction, with Perceived Value and Personalized Learning Climate showing the strongest influence. The results highlight the importance of a well-structured and supportive learning climate tailored to individual needs. Enhancing the personalized learning environment can significantly improve students' experiences and satisfaction with blended learning. Institutions should focus on providing adaptive learning tools, customized feedback, and flexible course designs to accommodate diverse learner preferences.

Perceived Quality also emerged as an important factor, albeit with a relatively weaker influence. This suggests that ensuring high-quality content delivery, effective teaching methods, and reliable technological infrastructure can enhance student satisfaction. Universities must regularly evaluate and update their course content to maintain relevance and improve instructional quality.

Prior Learning Experience, while showing the least influence among the variables, still plays a role in shaping student satisfaction. Providing students with pre-training or introductory modules on using digital tools and platforms could help improve their learning experiences. Familiarity with technology can reduce the initial barriers faced by students and foster a more positive attitude toward blended learning.

Perceived Value was identified as the most significant predictor of student satisfaction. Students are more likely to be satisfied when they perceive that the blended learning approach provides tangible benefits, such as flexibility, convenience, and alignment with their academic and career goals. Universities should emphasise the value proposition of blended learning, highlighting its benefits and addressing any concerns related to its implementation.

Based on these findings, several recommendations can be made. First, institutions should invest in enhancing the technological infrastructure to support seamless blended learning experiences. This includes ensuring reliable internet access, user-friendly learning management systems, and technical support services. Second, faculty development programs should be implemented to train academic staff on effective blended teaching practices. Academic staff play a critical role in shaping the learning climate and ensuring the quality of instruction.

Third, regular feedback mechanisms should be established to gather students' opinions on various aspects of blended learning. This feedback can be used to identify areas for improvement and implement necessary changes. Additionally, promoting a culture of continuous improvement within universities can help sustain high levels of student satisfaction. Finally, it is recommended that further research be conducted to explore additional factors that may influence student satisfaction in blended learning environments. While this study focused on four key variables, other factors such as social support, motivation, and engagement could also play a significant role. Longitudinal studies tracking student satisfaction over time could provide deeper insights into how these factors evolve and influence learning outcomes.

While this study has provided valuable insights into the factors influencing student satisfaction in blended learning environments, future research could explore additional dimensions not covered in this study. For instance, variables such as student motivation, faculty support, digital literacy, and peer collaboration may further explain variations in satisfaction levels. Longitudinal studies tracking student perceptions over time would also help assess how satisfaction evolves with continued exposure to blended learning. Moreover, comparative studies across different universities or disciplines could enhance the generalisability of findings and uncover context-specific factors. Qualitative approaches, such as interviews or focus groups, could also provide deeper insights into students' lived experiences and expectations in blended learning settings.

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