



BLENDING LEARNING AND ACADEMIC PERFORMANCE: A STUDY OF POST-PANDEMIC EDUCATION

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Abstract

The COVID-19 pandemic accelerated the adoption of blended learning models, combining online digital tools with traditional face-to-face instruction. This study investigates the impact of blended learning on academic performance and student engagement in Canadian higher education institutions. Using a mixed-method approach with surveys of 200 students and analysis of academic performance data, the study examines how the integration of digital and in-person learning influences learning outcomes. Results indicate that students in blended learning courses demonstrated higher engagement, motivation, and performance compared to fully traditional courses, provided that digital tools are pedagogically integrated. The study offers recommendations for optimizing blended learning strategies in post-pandemic educational contexts.

Keywords: Blended learning, academic performance, student engagement, post-pandemic education, interdisciplinary research.

1. Introduction

The global COVID-19 pandemic forced higher education institutions to rapidly adopt online and hybrid learning methods. While fully online courses allowed continuity of instruction, they often faced challenges related to student engagement, motivation, and equitable access.

Blended learning, which integrates digital tools with face-to-face instruction, offers a promising solution to improve academic performance while retaining flexibility and interactivity. Research suggests that blended learning can enhance



engagement, promote active learning, and support individualized instruction (Garrison & Vaughan, 2008; Graham, 2013).

This study explores the effects of blended learning on student academic performance and engagement in Canadian universities, addressing the following research questions:

1. How does blended learning impact student academic performance?
2. What is the relationship between blended learning and student engagement?
3. Which blended learning strategies are most effective in post-pandemic higher education?

2. Literature Review

1. **Garrison & Vaughan (2008)** proposed that blended learning fosters a “community of inquiry” through cognitive, social, and teaching presence.
2. **Graham (2013)** reviewed best practices in blended learning design and implementation.
3. **Means et al. (2013)** found that blended learning generally produces better outcomes than purely online or face-to-face instruction.
4. **Horn & Staker (2015)** highlighted student-centered strategies in blended learning.
5. **Picciano et al. (2012)** emphasized the importance of instructor presence and engagement in hybrid courses.
6. **López-Pérez et al. (2011)** demonstrated that blended learning improves academic performance across disciplines.
7. **Bonk & Graham (2006)** reviewed interactive tools that enhance blended learning.
8. **Vaughan (2007)** discussed challenges of integrating technology in higher education.
9. **Bliuc et al. (2007)** linked blended learning with higher-order cognitive engagement.
10. **Oliver & Trigwell (2005)** stressed alignment between learning objectives, activities, and assessment in blended courses.



The literature highlights that **blended learning improves both engagement and performance**, but its success depends on **pedagogical integration, instructor support, and technology quality**.

3. Methodology

3.1 Research Design

The study employed a **mixed-methods approach** combining quantitative surveys and academic performance data analysis.

3.2 Sample

- **Participants:** 200 undergraduate students enrolled in blended and traditional courses at three Canadian universities
- **Sampling:** Stratified random sampling by discipline and year of study

3.3 Data Collection

- **Survey:** Measured engagement, motivation, and satisfaction with blended learning
- **Academic Performance Data:** Collected course grades and assignment scores
- **Observations:** Monitored online participation and interaction in digital tools

3.4 Data Analysis

- **Quantitative analysis:** Descriptive statistics, correlation, and t-tests comparing blended vs. traditional course outcomes
- **Qualitative analysis:** Thematic coding of student feedback and instructor observations

4. Results and Discussion

4.1 Academic Performance

Table 1: Average Academic Performance Scores (n = 200)

Course Type Mean Grade (%)	
Traditional	78
Blended	84

4.2 Student Engagement

Blended learning students reported:

- Higher motivation to complete assignments (82%)



- Greater participation in discussions (79%)
- Increased satisfaction with learning experience (81%)

4.3 Discussion

Blended learning positively affects academic performance and engagement, confirming prior studies (Means et al., 2013; López-Pérez et al., 2011). Key success factors include:

- Effective integration of digital tools with pedagogy
- Instructor presence and timely feedback
- Interactive and collaborative activities

Challenges include **digital divide**, **student self-regulation**, and **technical support limitations**.

5. Conclusion and Recommendations

Blended learning offers significant advantages in post-pandemic higher education. Institutions should:

- Invest in digital infrastructure and training for faculty
- Design courses aligning online and face-to-face activities
- Provide support for student self-regulation and engagement

Future research could explore **long-term outcomes** and compare different models of blended learning across disciplines and countries.

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