

Bridging Traditional and Digital Pedagogies: Utilization, Effectiveness, and Implementation Barriers of Blended Learning in a Philippine Community College

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ABSTRACT

This study examined how blended learning models bridge traditional and digital education in a Philippine community college by assessing tool utilization, instructional gaps, perceived effectiveness, implementation challenges, and preferred models. A quantitative descriptive-survey design was employed with 198 purposively selected respondents, comprising 117 college students from the Bachelor of Elementary Education and Bachelor of Science in Information Technology programs and 81 teachers at Binalatongan Community College during Academic Year 2024–2025. Data were gathered through an adopted questionnaire and analyzed using the average weighted mean, percentage distribution, and the z-test. Findings showed that commonly used tools included video conferencing platforms, group chats, Blackboard, Google Classroom, video lectures, and online quizzes, whereas virtual/augmented reality, Schoology, e-books, and gamification platforms were less utilized. Respondents identified very big gaps in personal interaction, teaching style, assessment methods, access to technology, technical issues, motivation, and teacher training. Blended learning was perceived as effective in promoting engagement, academic motivation, performance, flexibility, self-directed learning, and overall learning experience. No significant difference was found between teacher and student perceptions. Major challenges involved connectivity, infrastructure, support, assessment, access, digital literacy, and time management. A balanced 50% online and 50% face-to-face model is recommended for the inclusive, resilient, and pedagogically coherent implementation of blended instruction.

Keywords: *Blended learning; digital education, traditional pedagogy, student engagement, learning management systems, digital divide, community college, flexible learning*

Introduction

The rapid expansion of digital technologies has transformed the delivery of education across all levels. Higher education institutions increasingly combine face-to-face instruction with online platforms, digital resources, multimedia tools, and technology-mediated assessment. This integration has produced blended learning, a pedagogical approach that combines the social and instructional strengths of traditional classroom teaching with the flexibility and resource-rich affordances of digital education.

Blended learning is widely recognized as a promising model for improving access, flexibility, student engagement, and academic performance. Hrastinski (2019) emphasized that blended learning has become an umbrella concept for educational arrangements that combine face-to-face and online components. Garrison and Kanuka (2004) argued that blended learning can transform higher education by encouraging institutions to rethink learning design, interaction, and instructional delivery. Meta-analytic evidence further suggests that online and blended modalities can support learning outcomes, particularly when digital components are intentionally designed rather than merely added to conventional instruction (Bernard et al., 2014; Means et al., 2013).

Despite its promise, blended learning is not automatically effective. Its success depends on the quality of instructional design, student readiness, teacher competence, institutional support, digital access, and technological infrastructure. Boelens et al. (2017) identified four major design challenges in blended learning: incorporating flexibility, stimulating interaction, facilitating learning processes, and fostering an affective learning climate. Rasheed et al. (2020) similarly found that students often experience self-regulation and technology-use challenges, while teachers encounter difficulties in using online teaching technologies and designing appropriate digital pedagogy.

In the Philippine context, blended learning has become highly relevant because educational institutions must respond to changing learner needs, post-pandemic instructional adjustments, and persistent inequalities in internet access and digital literacy. Community colleges, in particular, need evidence-based blended learning models that are practical, inclusive, affordable, and responsive to student and teacher experiences.

This study investigated blended learning models as a bridge between traditional and digital education at Binalatongan Community College. Specifically, it determined the tools utilized in blended learning, the gaps between traditional and digital teaching practices, the perceived effectiveness of blended learning on student engagement, performance, and overall learning experience, the difference between teacher and student perceptions, the challenges encountered, and the blended learning models that may improve implementation and performance.

Methodology

This study employed a quantitative descriptive-survey research design. The design was appropriate because the study sought to describe the extent of utilization of blended learning tools, identify gaps between traditional and digital teaching practices, assess perceived effectiveness, examine implementation challenges, and propose blended learning models based on empirical findings.

The study was conducted at Binalatongan Community College during Academic Year 2024–2025. The respondents were 198 purposively selected participants, comprising 117 college students and 81 teachers. The student respondents included 51 Bachelor of Elementary Education students and 66 Bachelor of Science in Information Technology students. The teacher respondents comprised 58 from the BEEd program and 23 from the BSIT program.

The main data-gathering instrument was an adopted questionnaire from related studies on blended learning. The questionnaire covered six major areas: blended learning tools utilized, gaps between traditional and digital teaching practices, perceived effectiveness of blended learning, significant differences between teacher and student perceptions, challenges encountered by teachers and students, and proposed blended learning models.

Before data collection, permission was secured from the College President and the concerned respondents. The researcher personally administered and retrieved the questionnaires. The data were tallied, tabulated, and analyzed.

The average weighted mean was used to determine the extent of tool utilization, gaps, perceived effectiveness, and the seriousness of challenges. Percentage distribution was used to summarize selected descriptive results. A z-test was used to determine whether a significant difference existed between teacher and student perceptions of blended learning effectiveness. Ethical standards were observed through informed consent, voluntary participation, confidentiality, and protection of respondents' identities.

Results and Discussion

Blended Learning Tools Utilized

Results showed that several digital tools were already integrated into teaching and learning. Blackboard and group chats both obtained an average weighted mean of 4.21 and were interpreted as fully utilized. Google Classroom, video lectures, video conferencing, and online quizzes obtained ratings of 4.20 and were interpreted as utilized. Canvas, podcasts, interactive simulations, discussion forums, automated grading, and peer review were also utilized, with ratings of 3.41.

However, some tools were not maximized. Moodle and e-books/digital textbooks obtained ratings of 2.61 and were only moderately utilized. Edmodo obtained 3.40, also moderately utilized.

Schoology and virtual/augmented reality tools obtained a score of 2.60 and were interpreted as fairly utilized.

These findings suggest that the institution uses common and accessible digital tools, particularly synchronous communication platforms and basic learning management systems. However, more advanced or resource-intensive tools remain underutilized. This supports Alammery et al. (2014), who noted that designing blended learning requires choosing appropriate approaches and technologies based on institutional capacity, teacher readiness, and learner needs. The underutilization of advanced tools may reflect infrastructure limitations, insufficient training, or limited device availability.

Gaps Between Traditional and Digital Teaching Practices

The respondents identified several very big gaps between traditional and digital teaching practices. Personal interaction received the highest rating, 4.65, indicating that face-to-face communication remains difficult to replicate in digital settings. Teaching style obtained a score of 4.50, indicating that digital teaching requires more interactive and adaptive strategies than traditional lecture-based instruction. The assessment methods obtained a score of 4.45, suggesting that the transition from written examinations to digital assessments remains a major adjustment.

Technological gaps were also evident. Access to technology obtained 4.35, while technical issues obtained 4.40. These results show that unequal access to devices, unstable internet connectivity, and platform problems continue to affect the effectiveness of blended learning. Teacher training and development received a score of 4.50, indicating that faculty preparation is a critical concern.

These findings are consistent with Boelens et al. (2017), who emphasized that blended learning design must address interaction, flexibility, learning support, and affective engagement. They also support Rasheed et al. (2020), who reported that technology-related challenges affect students, teachers, and institutions in blended learning environments. Without adequate infrastructure and pedagogical support, blended learning may reproduce rather than reduce educational inequities.

Perceived Effectiveness of Blended Learning

Teachers and students generally perceived blended learning as effective. Indicators of student engagement, motivation, performance, flexibility, self-directed learning, and overall learning experience were rated as effective. Respondents agreed that blended learning increased motivation and participation, improved academic motivation, encouraged interactive and self-directed learning, supported academic achievement, enhanced critical thinking and problem-solving, and allowed students to revisit online materials.

The finding that blended learning was perceived as effective aligns with Means et al. (2013), who reported significant advantages of blended learning over purely face-to-face instruction in several empirical studies. Bernard et al. (2014) likewise reported positive effects of blended learning and technology use in higher education. However, the results should be interpreted with caution because effectiveness depends on how online and face-to-face components are structured. A weakly designed blended model may simply duplicate content across modalities, while a strong model assigns complementary functions to online and classroom activities.

Difference Between Teacher and Student Perceptions

The study found no statistically significant difference between teachers' and students' perceptions of the effectiveness of blended learning. Both groups rated blended learning as effective for engagement, academic performance, and the overall learning experience. This convergence suggests that teachers and students share a generally positive view of blended learning as a bridge between traditional and digital instruction.

However, the findings also indicate differences in emphasis. Students appeared to focus more on flexibility, access to materials, motivation, and the convenience of learning. Teachers, on the other hand, were more concerned with implementation realities such as technical issues, content preparation, assessment adjustment, digital literacy, and institutional support. This distinction is important because successful blended learning requires not only student acceptance but also teacher readiness and institutional capacity.

The Community of Inquiry framework is relevant to this finding because effective blended learning requires the interaction of teaching presence, social presence, and cognitive presence (Garrison et al., 2000). Students may value access and flexibility, but teachers must design, facilitate, and sustain meaningful learning experiences across both digital and face-to-face environments.

Challenges Faced by Teachers and Students

Teachers reported technical issues as very serious, with an average weighted mean of 4.40. Training and support, and time management both obtained 4.30 and were also interpreted as very serious. Content creation obtained 4.05, while assessment and feedback obtained 4.20; both were interpreted as serious. These findings reveal that teachers need continuous professional development, technical assistance, time, and support for designing digital learning materials.

Students also experienced serious challenges. Technical issues obtained a score of 4.40 and were interpreted as very serious. Self-motivation, communication, access to technology, and digital literacy were rated as serious. These results show that blended learning requires learner autonomy, access to technology, and digital competence. Students who lack devices, stable internet access, or self-regulation skills may struggle despite the model's flexibility.

Common challenges included support, evaluation, and assessment, and technical issues, each rated 4.45 and interpreted as very serious. Equity and access and technical infrastructure obtained 4.35, while pedagogical shift, training, and support obtained 4.30. These results demonstrate that the implementation of blended learning is not merely a technological concern. It is also a pedagogical, administrative, and equity issue.

Proposed Blended Learning Models

Based on the findings, several models may be considered to improve implementation and performance. The rotation model may be used when students alternate between online and face-to-face learning stations. The flex model may be appropriate when learners need greater control over schedule and pacing. The self-blend model may support students who want to take additional online courses alongside traditional classes. The enriched virtual model may be used when most instruction occurs online, with periodic face-to-face activities. The flipped classroom model may be particularly useful because students study digital content before class, while classroom time is devoted to discussion, application, problem-solving, and feedback.

Given the respondents' preference for a balanced learning arrangement, a 50% online and 50% face-to-face model appears most appropriate for the institution. This model preserves interpersonal interaction while maximizing the flexibility of digital learning. It also addresses the reported challenges by avoiding overreliance on online access while still building digital competence.

Conclusion

The study concludes that blended learning is an effective bridge between traditional and digital education in a Philippine community college. The findings show that commonly accessible tools such as video conferencing, group chats, Google Classroom, Blackboard, video lectures, and online quizzes are widely used. However, more advanced tools such as virtual reality, augmented reality, gamification platforms, and some learning management systems remain underutilized.

The study also found substantial gaps between traditional and digital teaching practices, particularly in personal interaction, teaching style, assessment, access to technology, technical issues,

motivation, and teacher training. Both teachers and students perceived blended learning as effective in improving engagement, motivation, performance, flexibility, self-directed learning, and overall learning experience. No significant difference was found between teacher and student perceptions, indicating shared acceptance of blended learning as an instructional model.

Nevertheless, serious challenges remain. These include unstable internet connectivity, limited access to devices, digital literacy needs, technical issues, teacher workload, content creation demands, assessment adjustments, and the need for stronger institutional support. Therefore, blended learning should not be implemented as a simple mixture of online and face-to-face instruction. It must be intentionally designed, adequately supported, and continuously evaluated.

The study recommends adopting a balanced 50% online and 50% face-to-face blended learning model, supported by teacher training, infrastructure improvements, student digital literacy programs, technical assistance, and flexible instructional design. Future studies may employ experimental or mixed-method designs to measure the impact of specific blended learning models on academic performance, engagement, retention, and digital competence.

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