



HYFLEX LEARNING IMPLEMENTATION AND EDUCATIONAL OUTCOMES IN ARCHITECTURE EDUCATION IN METRO MANILA

DR. MARIBEL C. TUBERA, PhD

De La Salle College of Saint Benilde
<https://orcid.org/0009-0002-6212-7245>
maribel.tubera@benilde.edu.ph

ABSTRACT

In the context of architecture education, this study investigated the relationships between the effectiveness of Learning Management Systems (LMS), collaborative teaching practices, HyFlex learning implementation, and critical learning outcomes, including student engagement, perceived learning quality, and learning sustainability. Data were collected from 159 architecture students using a validated structured questionnaire with a five-point Likert scale, and a descriptive–correlational research design was employed. The hypotheses were tested using descriptive statistics, Spearman rank-order correlation, and regression analyses.

The results indicated that the deployment of HyFlex learning was assessed poorly and exhibited no significant correlation with the effectiveness of the LMS or collaborative teaching approaches. Moreover, the HyFlex learning implementation did not significantly predict student engagement, perceived learning quality, or the sustainability of learning. Multiple regression analysis showed that LMS effectiveness and collaborative teaching techniques were associated with student engagement, however HyFlex learning implementation was non-significant when controlling for these factors. The findings suggest that student engagement in architectural education is more closely linked to good technical support and collaborative teaching methods than to HyFlex delivery alone.

The study emphasizes the context-dependent aspect of HyFlex learning in studio-based disciplines, as well as the importance of intentional pedagogical integration, faculty

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



development, and curriculum revision in aligning flexible learning approaches with architectural education's experiential demands. The findings give empirical evidence that can help higher education institutions build data-driven initiatives to improve student engagement and promote quality and sustainable learning outcomes.

Keywords: *HyFlex learning, learning management system effectiveness, collaborative teaching practices, student engagement, architecture education, flexible learning*

INTRODUCTION

Higher education has entered a phase where the continuity of learning, diversity, and sustainability are imperative institutional responsibilities. Universities and colleges are now required to guarantee continuous access to education across diverse settings, utilizing flexible learning modalities, robust academic systems, and adaptive curricula that address global disruptions and swift technological advancements. The continuity of learning underscores the obligation of institutions to assist students irrespective of their circumstances, so strengthening education as a reliable and essential public good (Nyakoty & Pedzisai Goronga, 2024).

Learning management systems (LMS) were transformed from basic repositories to essential infrastructures for instruction, evaluation, and student interaction as a result of the rapid transition to flexible modalities during the current COVID-19 epidemic. The Hybrid-Flexible (HyFlex) architecture emerged as a significant approach as institutions transitioned from emergency remote teaching to sustainable flexible models. This architecture enables students to engage with courses through in-person, synchronous online, or asynchronous online modalities without compromising course completion. HyFlex fundamentally addresses a variety of learner circumstances by enhancing accessibility, providing significant options, and augmenting institutional resilience (Detyna et al., 2022).

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



According to Nur Hidayati et al., (2025), international and local research highlights that the success of HyFlex models relies on faculty preparedness, a robust digital infrastructure, effective pedagogical alignment, and ongoing feedback systems. In the absence of these elements, HyFlex may devolve into an inconsistent paradigm, wherein in-person learners enjoy enhanced connection, while online or asynchronous students confront diminished participation, poorer feedback mechanisms, and a reduced sense of learning present.

LMS implementation is not without hurdles. Picciano (2017) emphasizes the favorable impact of LMS use on educational accessibility, citing its ability to promote learning across time and place. However, successful implementation frequently faces obstacles that limit its efficacy. According to Conrad and Donaldson (2011), user resistance, technological obstacles, and data security concerns are recurrent issues that hamper LMS incorporation within institutions. Furthermore, scalability and adaptability remain significant problems, particularly in various learning environments.

Infrastructure constraints and educational deficiencies may potentially undermine LMS utilization. Abbasi-Kasani et al. (2020) identify persistent challenges including insufficient technological resources, limited utilization of formative assessment tools, inadequate feedback systems, difficulties in verifying student authenticity, and deficiencies in managing presentations, exercises, projects, online assessments, and discussions. When properly executed, LMSs provide quantifiable efficiencies; Norton (2022) indicates that firms can reduce the time usually allocated to conventional classroom administration by as much as 45% with LMS-facilitated instruction.

Hybrid classrooms provide a sustainable and progressive educational model by combining in-person instruction with online learning methods (Xing & Saghaian, 2022). This concept facilitates simultaneous engagement between instructors and students in both real and virtual environments, minimizing dependence on various venues, optimizing institutional resources, and promoting ecologically sustainable behaviors. In response to rapid global changes, higher education institutions (HEIs) and their associated corporations have

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza

INSTABRIGHT e-GAZETTE

ISSN: 2704-3010

Volume VII, Issue III

February 2026

Available online at <https://www.instabrightgazette.com>



prioritized digital transformation to equip graduates for the evolving industrial landscape and to tackle intricate societal challenges of the twenty-first century. Griffin et al. (2022) define digital transformation in higher education institutions as a comprehensive process that reconfigures administration, pedagogy, governance, infrastructure, research, and curriculum. It encompasses the implementation of educational apps and databases, intelligent technologies, data analytics, virtual learning platforms, student information systems, chatbots, and digitized procurement and payment systems.

Within the Philippine higher education context, particularly in Metro Manila, disparities in digital access, variations in faculty readiness, and uneven institutional support structures continue to shape the implementation of HyFlex learning. These challenges are especially salient in architecture programs, which demand high levels of interaction, design thinking, and studio engagement (Kunjiapu et al., 2025). Despite the growing adoption of HyFlex modalities, empirical research examining the structural relationships among LMS effectiveness, collaborative teaching, and student engagement remains limited. Moreover, existing studies have largely relied on qualitative or descriptive approaches, leaving a gap in theory-driven, model-based analyses capable of explaining how these factors jointly contribute to sustainable HyFlex learning.

Despite the increasing adoption of HyFlex learning in higher education, empirical evidence remains limited regarding its effectiveness in studio-based disciplines such as architecture, where learning is strongly grounded in experiential design processes, critique-based instruction, and face-to-face studio interaction. While Learning Management Systems (LMS) and collaborative teaching practices are widely recognized as essential components of flexible learning environments, it remains unclear whether these factors support meaningful HyFlex learning implementation and whether HyFlex learning contributes to improved student engagement, perceived learning quality, and sustainability of learning in architectural education.

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



This study examined the relationships among Learning Management System (LMS) effectiveness, collaborative teaching practices, HyFlex learning implementation, and selected learning outcomes in architecture education. Specifically, it sought to determine whether LMS effectiveness and collaborative teaching practices are significantly related to HyFlex learning implementation, and whether HyFlex learning implementation significantly predicts student engagement, perceived learning quality, and sustainability of learning. In addition, the study investigated whether LMS effectiveness and collaborative teaching practices significantly predict student engagement among architecture students.

Hypothesis

H₀₁ There is no significant relationship between LMS effectiveness and HyFlex learning implementation among architecture students.

H₀₂ There is no significant relationship between collaborative teaching practices and HyFlex learning implementation among architecture students.

H₀₃ HyFlex learning implementation does not significantly predict student engagement among architecture students.

H₀₄ HyFlex learning implementation does not significantly predict perceived learning quality among architecture students.

H₀₅ HyFlex learning implementation does not significantly predict sustainability of learning among architecture students.

H₀₆ LMS effectiveness does not significantly predict student engagement among architecture students.

H₀₇ Collaborative teaching practices do not significantly predict student engagement among architecture students.

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



Conceptual Framework

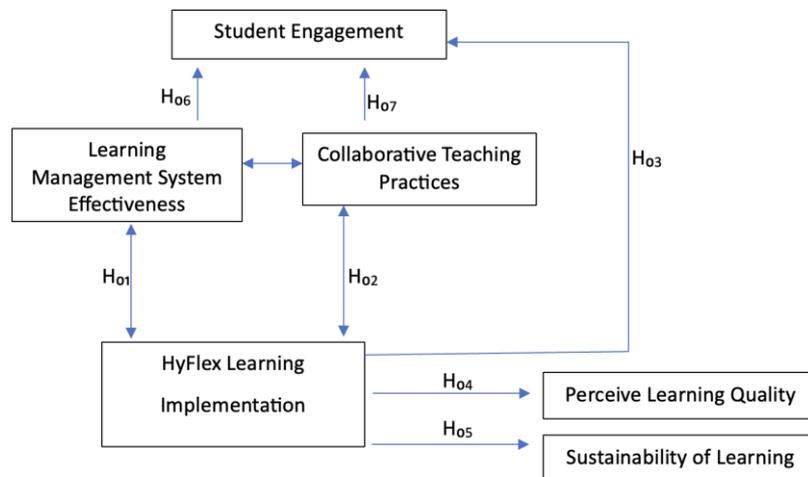


Figure 1. Conceptual Framework of the Study

Figure 1 presents the conceptual framework of the study, illustrating the proposed relationships among Learning Management System (LMS) effectiveness, collaborative teaching practices, HyFlex learning implementation, and key learning outcomes in architecture education, namely student engagement, perceived learning quality, and sustainability of learning. Grounded in flexible learning perspectives, the framework conceptualizes HyFlex learning as an instructional model that integrates face-to-face, synchronous online, and asynchronous learning modalities to provide students with flexible yet coherent learning experiences.

Within the framework, LMS effectiveness represents the technological foundation that supports access to learning resources, communication, and continuity of instruction across learning modalities. Collaborative teaching practices represent the pedagogical dimension of flexible learning, emphasizing instructional coordination, shared feedback processes, and alignment of learning activities across modes of participation. Consistent with prior literature, both LMS effectiveness and collaborative teaching practices are proposed to be associated

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez, Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas, Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



with the level of HyFlex learning implementation, as effective digital systems and coordinated teaching practices may support the delivery of learning experiences across modalities.

The framework further posits that HyFlex learning implementation is associated with student engagement, perceived learning quality, and sustainability of learning. These relationships reflect the expectation that flexible learning environments may promote participation, interaction, and perceived learning value when learning experiences are designed to be equivalent across modalities. In addition, LMS effectiveness and collaborative teaching practices are proposed to have direct relationships with student engagement, reflecting the role of technological usability and instructional coherence in supporting learner involvement in digitally mediated and hybrid learning environments. Collectively, the conceptual framework provides a structured basis for examining how technological support, collaborative pedagogy, and HyFlex learning implementation relate to student engagement and perceived learning outcomes in the studio-based context of architecture education.

Literature Review

HyFlex learning has developed as a versatile educational framework aimed at addressing varied learner requirements by enabling students to engage through in-person, synchronous online, or asynchronous online formats. The concept seeks to offer comparable educational opportunities across many formats while maintaining academic standards and inclusivity (Leal Filho, 2019). As higher education institutions broaden their digital offerings, HyFlex learning has garnered interest for its capacity to enhance accessibility, ensure continuity of learning, and promote student autonomy. Ortanez (2023) asserts that HyFlex should not be perceived solely as a distribution method but as a whole institutional strategy that enhances educational options and facilitates flexible engagement. HyFlex learning is best characterized as a systematic teaching framework necessitating institutional dedication rather than merely a modality choice.

Despite its growing popularity, HyFlex learning involves complex implementation prerequisites. Pedagogical reform often follows technical advancement, highlighting the

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza

INSTABRIGHT e-GAZETTE

ISSN: 2704-3010

Volume VII, Issue III

February 2026

Available online at <https://www.instabrightgazette.com>



importance of evaluating the successful incorporation of emerging instructional technology into educational practices (Okoye et al., 2023). Faculty readiness is essential, as educators may have little understanding of HyFlex course design and may require substantial institutional support for its implementation (Romero-Hall & Ripine, 2021). These insights suggest that HyFlex learning is not intrinsically effective; rather, its success depends on the alignment of pedagogy, technology, and institutional capability. Thus, the quality of HyFlex implementation may depend less on its availability and more on the readiness of systems and teaching practices that support it.

Although HyFlex learning has become popular in higher education, its application in studio-based fields like architecture poses unique obstacles. Architectural education is fundamentally rooted in experiential learning, iterative design methodologies, critique-oriented engagement, and mentorship. These elements are conventionally cultivated through in-person studio interaction, wherein students acquire knowledge via immediate feedback, peer collaboration, and practical design activities. Munasinghe (2008) asserts that architectural learning is significantly influenced by studio culture, potentially constraining the degree to which flexible delivery methods can independently improve engagement and learning results. Accordingly, the effectiveness of HyFlex learning in architecture may be context-dependent and shaped by how well studio-based pedagogy is translated across learning modalities. Thus, the adoption of HyFlex in architecture may not inherently result in enhanced engagement, perceived quality, or sustained learning results.

Current studies indicate inconsistent results regarding HyFlex learning and student engagement. Research shows no substantial disparities in student engagement among traditional face-to-face, synchronous virtual, and asynchronous virtual participation within HyFlex settings. Bockorny et al. (2023) similarly emphasize that empirical evidence about the usefulness of HyFlex models for student engagement remains limited, notwithstanding the growing prevalence of HyFlex approaches in higher education. While HyFlex learning may provide advantages such as reduced stress, flexibility, and increased learner autonomy, its

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



value in architecture education may depend on the meaningful integration of studio-based learning practices—such as critique sessions, peer interaction, and collaborative design activities—across various modalities. Therefore, engagement outcomes in HyFlex environments may not emerge automatically and may instead depend on how interaction and critique are sustained within the learning design.

Research suggests that HyFlex learning offers advantages in flexibility and accessibility; however, its effectiveness is contingent upon institutional preparedness, instructional design, and discipline-specific pedagogical requirements. In this context, Learning Management System (LMS) effectiveness and collaborative teaching practices are widely recognized as essential for successful digital and hybrid learning environments, yet empirical evidence linking these factors to HyFlex implementation and outcomes in studio-based disciplines remains scarce. Specifically, there is a lack of studies examining whether HyFlex learning implementation predicts student engagement, perceived learning quality, and sustainability of learning in architectural education, and whether LMS effectiveness and collaborative teaching practices significantly predict engagement in this setting. This gap highlights the need for empirical inquiry into how technological and pedagogical supports relate to HyFlex implementation and learning outcomes within architecture programs.

This study examines the relationships among LMS effectiveness, collaborative teaching practices, HyFlex learning implementation, and key educational outcomes in architectural education. Guided by the literature, the study tests hypotheses that assess (1) the relationships between LMS effectiveness and collaborative teaching practices with HyFlex learning implementation, (2) the predictive role of HyFlex learning implementation in student engagement, perceived learning quality, and sustainability, and (3) the extent to which LMS effectiveness and collaborative teaching practices predict student engagement when controlling for HyFlex learning implementation. These hypotheses provide a structured foundation for the conceptual framework presented in Figure 1, which reflects the proposed relationships examined in the study.

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



METHODOLOGY

This research utilized a quantitative descriptive–correlational design to investigate the relationships and predictive influences among the implementation of HyFlex learning, the effectiveness of Learning Management Systems (LMS), collaborative teaching practices, student engagement, and perceived learning quality and sustainability in architecture education (Bhat, 2023). The descriptive aspect of the design assessed the perceived levels of each study variable among respondents, while the correlational and predictive aspects tested the hypothesized relationships and evaluated the degree to which selected variables significantly affect student engagement and perceived learning outcomes. This design is suitable for examining naturally existing correlations among variables without manipulation and for addressing hypotheses that encompass both association and prediction.

Participants and Research Locale

The study's respondents were architecture students from certain Higher Education Institutions (HEIs) in Metro Manila that had used flexible, blended, or HyFlex learning modalities. Architecture students were selected as the primary unit of analysis due to their direct engagement with HyFlex instructional delivery, LMS-supported learning, and collaborative teaching methodologies. The inclusion criteria mandated that participants possess previous experience with LMS-supported instruction and have engaged in at least one HyFlex, hybrid, or online learning.

Sampling Technique

The study employed a purposive sampling methodology to deliberately select participants who were deemed most relevant to the objectives of the research. This approach ensured that respondents possessed the necessary knowledge, exposure, and experience related to HyFlex learning and architectural education, thereby enabling them to provide informed, meaningful, and reliable responses to the survey instrument. By targeting individuals with direct involvement in the learning environment under investigation, purposive

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



sampling enhanced the validity of the data collected and strengthened the overall credibility of the research findings (Memon et al., 2025).

Research Instrument

Data were gathered using a structured survey questionnaire adapted from previously validated instruments related to HyFlex learning, Learning Management System (LMS) effectiveness, collaborative teaching practices, student engagement, learning quality, and sustainability in higher education (Elangovan & Sundaravel, 2021). The questionnaire consisted of multiple indicators for each construct and employed a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) (Joshi et al., 2015).

The instrument was subjected to validation procedures to ensure its appropriateness for the present study (Marar et al., 2023). HyFlex learning implementation was measured through items reflecting flexibility, consistency, and equivalency of learning experiences across instructional modalities. LMS effectiveness was assessed using indicators related to system usability, accessibility, communication support, and facilitation of learning activities. Collaborative teaching practices were measured through items capturing instructional coordination, feedback quality and timeliness, and opportunities for peer and faculty collaboration. Student engagement, perceived learning quality, and sustainability were measured through indicators of participation, motivation, interaction, and perceived long-term learning value.

Prior to data analysis, the internal consistency reliability of the instrument was tested using Cronbach's alpha. The results indicated acceptable reliability coefficients for all constructs, confirming that the instrument was valid and reliable for use in the current research (Adamson & Prion, 2023).

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



Data Collection Procedure

The survey questionnaire was administered electronically to the selected respondents with the permission of participating institutions. Participation was voluntary, and respondents were informed of the purpose of the study, the confidentiality of their responses, and their right to withdraw at any time. Collected responses were screened for completeness and accuracy prior to statistical analysis (American Psychological Association, 2017).

Data Analysis

Data analysis was conducted using appropriate statistical software. Descriptive statistics, including frequencies, means, and standard deviations, were computed to describe the levels of HyFlex learning implementation, Learning Management System (LMS) effectiveness, collaborative teaching practices, student engagement, perceived learning quality, and sustainability of learning among architecture students.

To test Hypotheses 1 and 2, Spearman rank-order correlation analysis was employed to determine the strength and direction of the relationships between LMS effectiveness and HyFlex learning implementation, and between collaborative teaching practices and HyFlex learning implementation. Spearman correlation was deemed appropriate due to the non-normal distribution of the HyFlex learning implementation scores.

To test Hypotheses 3, 4, and 5, simple linear regression analyses were conducted. Specifically, Hypothesis 3 examined whether HyFlex learning implementation significantly predicted student engagement, Hypothesis 4 tested whether HyFlex learning implementation significantly predicted perceived learning quality, and Hypothesis 5 assessed whether HyFlex learning implementation significantly predicted sustainability of learning. In each model, HyFlex learning implementation was entered as the independent variable, while the respective outcome variable served as the dependent variable.

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



To test Hypotheses 6 and 7, a multiple linear regression analysis was performed with student engagement as the dependent variable and LMS effectiveness, collaborative teaching practices, and HyFlex learning implementation entered simultaneously as predictor variables. This analysis allowed for the assessment of the unique predictive contribution of LMS effectiveness and collaborative teaching practices to student engagement while controlling for HyFlex learning implementation. Statistical significance was evaluated at an acceptable alpha level, and the assumptions of regression analysis were examined prior to hypothesis testing to ensure the validity of the analyses (Mweshi & Muhyila, 2024).

RESULTS AND DISCUSSIONS

Descriptive	Hyflex Score	LMS Score	Collaborative Teaching	Student Engagement	Learning Quality	Sustainability
N	159	159	159	159	159	159
Missing	0	0	0	0	0	0
Mean	2.06	3.46	3.86	3.88	2.89	2.87
Median	1	4	4	4	3	3
Standard deviation	1.74	1.23	0.762	0.814	1.41	1.46
Minimum	1	1	2	2	1	1
Maximum	5	5	5	5	5	5

Table 1. Descriptive Analysis of the Study

Descriptive analysis of the study variables revealed that HyFlex learning implementation received the lowest mean score ($M = 2.06$, $SD = 1.74$), indicating limited and uneven implementation across the architecture program. In contrast, LMS effectiveness ($M = 3.46$, $SD = 1.23$) and collaborative teaching practices ($M = 3.86$, $SD = 0.76$) were rated highly by respondents. Student engagement also obtained a high mean score ($M = 3.88$, $SD = 0.81$), suggesting strong involvement despite instructional delivery constraints. Perceived learning

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez, Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas, Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



quality (M = 2.89, SD = 1.41) and sustainability of learning (M = 2.87, SD = 1.46) were rated at moderate levels, reflecting varied learning experiences and access to long-term professional development opportunities.

H₀₁ There is no significant relationship between LMS effectiveness and HyFlex learning implementation among architecture students.

Correlation Matrix

		Hyflex Score	LMS Score
Hyflex Score	Spearman's rho	—	—
	df	—	—
	p-value	—	—
LMS Score	Spearman's rho	0.029	—
	df	157	—
	p-value	0.713	—

Note. * p < .05, ** p < .01, *** p < .001

A Spearman rank-order correlation was conducted to examine the relationship between Learning Management System (LMS) effectiveness and HyFlex learning implementation among architecture students. The analysis revealed no significant relationship between LMS effectiveness and HyFlex learning implementation, $\rho = 0.029$, $p = 0.713$. The magnitude of the correlation indicates a negligible association between the two variables.

These results suggest that higher perceived LMS effectiveness does not correspond to increased implementation of HyFlex learning modalities within the architecture program. Therefore, the null hypothesis stating that there is no significant relationship between LMS effectiveness and HyFlex learning implementation is not rejected.

H₀₂ There is no significant relationship between collaborative teaching practices and HyFlex learning implementation among architecture students.

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



Correlation Matrix

		Hyflex Score	Collaborative Teaching
Hyflex Score	Spearman's rho	—	
	df	—	
	p-value	—	
Collaborative Teaching	Spearman's rho	-0.043	—
	df	157	—
	p-value	0.587	—

Note. * p < .05, ** p < .01, *** p < .001

A Spearman rank-order correlation was conducted to determine the relationship between collaborative teaching practices and HyFlex learning implementation among architecture students. The results revealed no significant relationship between collaborative teaching practices and HyFlex learning implementation, $\rho = -0.043$, $p = 0.587$. The correlation coefficient indicates a negligible and weak negative association between the two variables.

Accordingly, the null hypothesis stating that there is no significant relationship between collaborative teaching practices and HyFlex learning implementation is not rejected.

H₀₃ HyFlex learning implementation does not significantly predict student engagement among architecture students.

Model Fit Measures

Model	R	R ²
1	0.0355	0.00126

Note. Models estimated using sample size of N=159

Model Coefficients - Student Engagement

Predictor	Estimate	SE	95% Confidence Interval		t	p	Stand. Estimate	95% Confidence Interval	
			Lower	Upper				Lower	Upper
Intercept	3.9147	0.1005	3.7162	4.1132	38.945	<.001			
Hyflex Score	-0.0166	0.0374	-0.0905	0.0572	-0.445	0.657	-0.0355	-0.193	0.122

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez, Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas, Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



A simple linear regression analysis was conducted to examine whether HyFlex learning implementation significantly predicts student engagement among architecture students. The results indicated that HyFlex learning implementation did not significantly predict student engagement, $\beta = -0.036$, $p = 0.657$. The model explained only 0.13% of the variance in student engagement ($R^2 = 0.001$), indicating a negligible effect size.

Thus, the null hypothesis stating that HyFlex learning implementation does not significantly influence student engagement is not rejected.

H₀₄ HyFlex learning implementation does not significantly predict perceived learning quality among architecture students.

Model Fit Measures

Model	R	R ²
1	0.0543	0.00295

Note. Models estimated using sample size of N=159

Model Coefficients - Learning Quality

Predictor	Estimate	SE	95% Confidence Interval		t	p	Stand. Estimate	95% Confidence Interval	
			Lower	Upper				Lower	Upper
Intercept	2.7961	0.1739	2.4526	3.140	16.079	<.001			
Hyflex Score	0.0441	0.0647	-0.0837	0.172	0.682	0.496	0.0543	-0.103	0.212

A simple linear regression analysis was conducted to determine whether HyFlex learning implementation significantly predicts perceived learning quality among architecture students. The results showed that HyFlex learning implementation did not significantly predict perceived learning quality, $\beta = 0.054$, $p = 0.496$. The regression model explained only 0.30% of the variance in perceived learning quality ($R^2 = 0.003$), indicating a negligible effect size.

Accordingly, the null hypothesis stating that HyFlex learning implementation does not significantly influence perceived learning quality is not rejected.

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



H₀₅ HyFlex learning implementation does not significantly predict sustainability of learning among architecture students.

Model Fit Measures

Model	R	R ²
1	0.0403	0.00163

Note. Models estimated using sample size of N=159

Model Coefficients - Sustainability

Predictor	Estimate	SE	95% Confidence Interval		t	p	Stand. Estimate	95% Confidence Interval	
			Lower	Upper				Lower	Upper
Intercept	2.8046	0.1799	2.4493	3.160	15.592	<.001			
Hyflex Score	0.0339	0.0669	-0.0983	0.166	0.506	0.614	0.0403	-0.117	0.198

A simple linear regression analysis was conducted to determine whether HyFlex learning implementation significantly predicts the sustainability of learning among architecture students. The findings revealed that HyFlex learning implementation did not significantly predict sustainability of learning, $\beta = 0.040$, $p = 0.614$. The regression model explained only 0.16% of the variance in sustainability ($R^2 = 0.002$), indicating a negligible effect size.

Accordingly, the null hypothesis stating that HyFlex learning implementation does not significantly influence the sustainability of learning is not rejected.

H₀₆ LMS effectiveness does not significantly predict student engagement among architecture students.

To test H₀₆, a multiple linear regression analysis was conducted with student engagement as the dependent variable and LMS effectiveness, collaborative teaching practices, and HyFlex learning implementation entered simultaneously as predictor variables. Results indicated that LMS effectiveness significantly predicted student engagement among architecture students ($b = 0.1721$, $SE = 0.0493$, $t = 3.489$, $p < .001$, $\beta = 0.259$). The 95% confidence interval for LMS effectiveness did not include zero (95% CI [0.0747, 0.2696]), confirming the stability of the effect. Therefore, the null hypothesis was rejected, indicating that LMS effectiveness is a significant positive predictor of student engagement in architecture education.

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez, Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas, Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



Model Fit Measures

Model	R	R ²	Adjusted R ²
1	0.402	0.162	0.146

Note. Models estimated using sample size of N=159

Omnibus ANOVA Test

	Sum of Squares	df	Mean Square	F	p
Collaborative Teaching	7.564	1	7.564	13.356	<.001
LMS Score	6.894	1	6.894	12.172	<.001
Hyflex Score	0.113	1	0.113	0.199	0.656
Residuals	87.784	155	0.566		

Note. Type 3 sum of squares

[3]

Model Coefficients - Student Engagement

Predictor	Estimate	SE	95% Confidence Interval		t	p	Stand. Estimate	95% Confidence Interval	
			Lower	Upper				Lower	Upper
Intercept	2.1977	0.3431	1.5200	2.8754	6.406	<.001			
Collaborative Teaching	0.2903	0.0794	0.1334	0.4472	3.655	<.001	0.2716	0.125	0.418
LMS Score	0.1721	0.0493	0.0747	0.2696	3.489	<.001	0.2592	0.112	0.406
Hyflex Score	-0.0154	0.0345	-0.0836	0.0528	-0.446	0.656	-0.0328	-0.178	0.113

Assumption Checks

Collinearity Statistics

	VIF	Tolerance
Collaborative Teaching	1.02	0.979
LMS Score	1.02	0.980
Hyflex Score	1.00	0.998

[3]

Normality Test (Shapiro-Wilk)

Statistic	p
0.972	0.002

H₀₇ Collaborative teaching practices do not significantly predict student engagement among architecture students.

To test H₀₇, a multiple linear regression analysis was conducted with student engagement as the dependent variable and collaborative teaching practices, LMS effectiveness, and HyFlex learning implementation entered simultaneously as predictor

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



variables. The results showed that collaborative teaching practices significantly predicted student engagement among architecture students ($b = 0.2903$, $SE = 0.0794$, $t = 3.655$, $p < .001$, $\beta = 0.272$). The 95% confidence interval for collaborative teaching practices did not include zero (95% CI [0.1334, 0.4472]), indicating a stable positive effect. Therefore, the null hypothesis was rejected, suggesting that collaborative teaching practices are a significant positive predictor of student engagement in architecture education.

This study examined the relationships among Learning Management System (LMS) effectiveness, collaborative teaching practices, HyFlex learning implementation, and key learning outcomes—student engagement, perceived learning quality, and sustainability of learning—within the context of architecture education. The findings provide important empirical insights into how technological support and instructional practices relate to student engagement and perceived learning outcomes in a studio-based discipline.

The results revealed that LMS effectiveness was not significantly associated with HyFlex learning implementation. This suggests that the presence of an effective LMS does not necessarily translate into meaningful HyFlex adoption. Although LMS platforms may support instructional continuity and access to learning materials, their function in architecture education may remain primarily administrative, such as facilitating announcements, submissions, and grading, rather than enabling equivalent learning experiences across modalities. This finding reinforces the view that HyFlex learning requires more than technological availability; it requires deliberate pedagogical planning and modality integration.

Similarly, collaborative teaching practices were not significantly related to HyFlex learning implementation. Despite the high descriptive ratings for collaborative teaching, this variable did not correspond with greater HyFlex implementation. This implies that collaboration among instructors may be occurring largely within traditional studio-based settings, such as coordinated critiques, mentoring, and design consultations, rather than being systematically integrated into HyFlex delivery. These results highlight a potential disconnect

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



between strong instructional collaboration and the institutionalization of flexible delivery models.

The regression analyses further indicated that HyFlex learning implementation did not significantly predict student engagement, perceived learning quality, or sustainability of learning. The explanatory power of HyFlex learning across these outcomes was negligible, suggesting that HyFlex implementation, as experienced by the respondents, is not a primary driver of engagement or perceived learning benefits in architecture education. This finding may be attributed to the inherently experiential nature of architectural learning, where engagement and learning quality are shaped more strongly by hands-on studio activities, iterative design development, and critique-based interaction than by delivery modality.

Importantly, the non-significant findings do not indicate that HyFlex learning is inherently ineffective. Rather, they suggest that HyFlex learning may not yet be implemented at a level of pedagogical maturity that is sufficient to generate measurable improvements in engagement, learning quality, or sustainability. The low descriptive mean for HyFlex implementation supports this interpretation and implies that flexible learning structures may be inconsistently applied or limited in practice.

A key contribution of the present study is the finding that both LMS effectiveness and collaborative teaching practices significantly predicted student engagement when entered simultaneously in a multiple regression model. Specifically, collaborative teaching practices emerged as a significant positive predictor of engagement, followed closely by LMS effectiveness. These results suggest that student engagement in architecture education is more strongly associated with instructional coherence, timely feedback, and collaborative pedagogical practices than with HyFlex learning implementation alone. Likewise, an effective LMS appears to contribute meaningfully to engagement by supporting communication, organization of learning activities, and access to instructional resources.

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



Notably, HyFlex learning implementation remained non-significant in the multiple regression model, indicating that its contribution to engagement becomes negligible when LMS effectiveness and collaborative teaching practices are accounted for. This finding underscores the importance of distinguishing between modality flexibility and the quality of instructional and technological support systems. In other words, student engagement may be sustained not by HyFlex structures in isolation, but by the integration of strong teaching practices and functional digital learning systems.

The findings collectively suggest that architecture education may benefit more from strengthening the pedagogical and technological foundations of learning than from focusing solely on the expansion of HyFlex delivery. Since architecture learning is deeply rooted in studio culture, critique, and mentorship, the effectiveness of HyFlex models likely depends on how well these experiential elements are translated into flexible and hybrid learning environments. As such, HyFlex implementation must be approached not merely as a flexible attendance option, but as a comprehensive instructional design model that ensures equivalency of learning experiences across modalities.

Moreover, the significant predictive effects of LMS effectiveness and collaborative teaching practices highlight actionable areas for institutional improvement. Enhancing LMS integration for interactive learning, strengthening faculty coordination, and improving feedback mechanisms may yield more immediate gains in engagement than modality restructuring alone.

This study contributes to the literature on flexible and HyFlex learning by demonstrating that HyFlex effectiveness is highly context-dependent. While HyFlex models have been associated with improved engagement and learning outcomes in other academic fields, the present findings indicate that such benefits may not automatically extend to studio-based disciplines. The results emphasize the need for discipline-sensitive approaches in educational technology research and suggest that HyFlex implementation in architecture education requires stronger pedagogical integration to produce measurable learning benefits.

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



Although the study provides valuable empirical evidence, it is limited by its cross-sectional design and reliance on self-reported perceptions. Future research may employ longitudinal or mixed-method approaches to examine how HyFlex learning evolves over time and to explore qualitative insights regarding student and faculty experiences. Additionally, future studies may examine mediating variables such as instructional design quality, faculty readiness, and institutional support to better understand the conditions under which HyFlex learning can become effective in studio-based learning environments.

In order to effectively implement HyFlex instruction, faculty members must be adequately prepared, given the ever-changing nature of digital education. By transferring education online, flex learning can enhance identity formation. This allows students to select their own learning materials, study at their own pace, and cultivate specialized knowledge (Bakach, B. 2021).

CONCLUSIONS

This study investigated the correlations between the effectiveness of Learning Management Systems (LMS), collaborative teaching methodologies, the adoption of HyFlex learning, and significant educational outcomes. The focus is on student engagement, perceived learning quality, and the sustainability of learning in architecture education. The results demonstrate that the deployment of HyFlex learning received a low rating and showed no significant correlation with LMS efficacy or collaborative teaching techniques. Furthermore, the implementation of HyFlex learning did not significantly predict student engagement, perceived learning quality, or the sustainability of learning. Despite considerable LMS efficacy, collaborative teaching approaches, and student engagement, HyFlex learning exhibited minimal explanatory power for the outcome variables.

The findings indicate that technology infrastructure and collaborative pedagogy alone are inadequate for achieving meaningful HyFlex adoption, especially in studio-based disciplines that rely heavily on experiential, in-person, and critique-focused practices. Architecture education predominantly depends on practical design work, mentorship, and

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



studio engagement, thus constraining the independent efficacy of flexible learning modes when used inconsistently or lacking robust pedagogical integration (Munasinghe, 2008). The findings do not suggest that HyFlex learning is intrinsically unsuccessful; instead, they underscore the necessity for deliberate curriculum redesign, faculty development, and institutional support to match HyFlex methodologies with the specific requirements of architecture education.

In general, this study makes a valuable contribution to the field of flexible learning by underscoring the context-dependent nature of HyFlex implementation and cautioning against the presumption of its universal efficacy across disciplines. Although previous research has indicated that HyFlex models can improve engagement and learning outcomes in other academic disciplines (Ortanez, 2023), the current findings emphasize that sustainable and impactful architecture education necessitates a strategic integration of LMS capabilities, effective instructional practices, faculty readiness, and discipline-specific pedagogical approaches to guarantee quality, inclusivity, and long-term learning sustainability.

RECOMMENDATIONS

HyFlex learning in architecture education should be intentionally redesigned to align with the experiential and studio-based nature of the discipline. Rather than functioning primarily as a logistical or administrative delivery mode, HyFlex approaches should support meaningful interaction, design critique, and collaborative learning across physical and digital environments. To achieve this, institutions must invest in focused faculty development that equips instructors with HyFlex-specific instructional strategies, particularly in adapting collaborative teaching practices and feedback mechanisms for hybrid and flexible learning contexts. In parallel, learning management systems should be utilized beyond basic administrative functions and leveraged as platforms for interactive learning, peer collaboration, and formative assessment that reinforce pedagogical objectives.

Moreover, architecture programs should continue to emphasize industry engagement, internships, and real-world design experiences, as these elements appear to have a stronger

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza

INSTABRIGHT e-GAZETTE

ISSN: 2704-3010

Volume VII, Issue III

February 2026

Available online at <https://www.instabrightgazette.com>



influence on learning quality and sustainability than instructional modality alone. Future research should extend beyond direct effect testing by examining mediating factors such as instructional design quality, faculty readiness, and institutional support structures. Employing qualitative and longitudinal research designs may provide deeper insights into how HyFlex learning can be effectively integrated into studio-based disciplines and under what conditions it can meaningfully enhance educational outcomes.



Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



References

Abbasi-Kasani, H., Shams Mourkani, G., Seraji, F., & Abedi, H. (2020). Identifying the Weaknesses of Formative Assessment in the e-Learning Management System. *Journal of Medical Education*, 19(2). <https://doi.org/10.5812/jme.108533>

Adamson, K. A., & Prion, S. (2023). Reliability: Measuring Internal Consistency Using Cronbach's α . *Clinical Simulation in Nursing*, 9(5), e179–e180. <https://doi.org/10.1016/j.ecns.2012.12.001>

American Psychological Association. (2017). Ethical principles of psychologists and code of conduct. American Psychological Association. <https://www.apa.org/ethics/code>

Bakach, B. (2021). Investigating the HyFlex Modality: Students' Satisfaction and Impact on Learning (Doctoral dissertation).

Bhat, A. (2023, August 2). Descriptive Research vs Correlational Research | QuestionPro. QuestionPro. <https://www.questionpro.com/blog/descriptive-research-vs-correlational-research/>

Bockorny, K. M., Giannavola, T. M., Mathew, S., & Walters, H. D. (2023). Effective engagement strategies in HyFlex modality based on intrinsic motivation in students. *Active Learning in Higher Education*, 146978742311613. <https://doi.org/10.1177/14697874231161364>

Castro, G. D. R., Fernandez, M. C. G., & Colsa, A. U. (2021). Unleashing the convergence amid digitalization and sustainability towards pursuing the Sustainable Development Goals (SDGs): A holistic review. *Journal of Cleaner Production*, 280, 122204.

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez, Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas, Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



Conrad, R.-M., & J Ana Donaldson. (2011). Engaging the online learner, updated: activities and resources for creative instruction. Jossey-Bass.

Detyna, M., Sanchez-Pizani, R., Giampietro, V., Dommett, E. J., & Dyer, K. (2022). Hybrid flexible (HyFlex) teaching and learning: climbing the mountain of implementation challenges for synchronous online and face-to-face seminars during a pandemic. Learning Environments Research. <https://doi.org/10.1007/s10984-022-09408-y>

Elangovan, N., & Sundaravel, E. (2021). Method of Preparing a Document for Survey Instrument Validation by Experts. *MethodsX*, 8(1), 101326. <https://doi.org/10.1016/j.mex.2021.101326>

Griffin, D., Silvia Elena Gallagher, Vigano, V., Mousa, D., Sanne Van Vugt, Lodder, A. W., & Jake Rowan Byrne. (2022). Best Practices for Sustainable Inter-Institutional Hybrid Learning at CHARM European University. *Education Sciences*, 12(11), 797–797. <https://doi.org/10.3390/educsci12110797>

Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert Scale: Explored and Explained. *British Journal of Applied Science & Technology*, 7(4), 396–403. <https://doi.org/10.9734/BJAST/2015/14975>

Kunjiapu, S., Sinnappan, P., Akmar, F., & Kunasegaran, M. (2025). Challenges and Dilemmas of Digitalization in Philippine Education: A Grassroots Perspective. *Journal of Public Administration and Governance*, 14(2), 232–232. <https://doi.org/10.5296/jpag.v14i2.22325>

Le, H., Janssen, J., & Wubbels, T. (2018). Collaborative learning practices: teacher and student perceived obstacles to effective student collaboration. *Cambridge Journal of*

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez, Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas, Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



Education, 48(1), 103–122. tandfonline.

<https://doi.org/10.1080/0305764X.2016.1259389>.

Leal Filho, W. (Ed.). (2019). Encyclopedia of Sustainability in Higher Education.

<https://doi.org/10.1007/978-3-030-11352-0>

Marar, S. D., Hamza, M. A., Ayyash, M., & Abu-Shaheen, A. (2023). Development and validation of an instrument to assess the knowledge and perceptions of predatory journals. *Heliyon*, 9(11), e22270–e22270.

<https://doi.org/10.1016/j.heliyon.2023.e22270>

Memon, M. A., Thurasamy, R., Ting, H., & Cheah, J.-H. (2025). PURPOSIVE SAMPLING: A REVIEW AND GUIDELINES FOR QUANTITATIVE RESEARCH. *Journal of Applied Structural Equation Modeling*, 9(1), 1–23. https://jasemjournal.com/wp-content/uploads/2024/12/JASEM90101_Memonetal2025.pdf

Munasinghe, H. (2008). ARCHITECTURAL EDUCATION AND DESIGN STUDIO TRADITION: CRITICAL PEDAGOGY AS PRAXIS. *Journal of Research in Architecture & Planning*, 07(1), 29–36. https://doi.org/10.53700/jrap0712008_3

Mweshi, G., & Muhyila, M. (2024). Determining a Statistical Analysis for the Quantitative Study. *ResearchGate*, 07,(04,), 187–231. <https://doi.org/10.14738/assrj.117.17018>

Nur Hidayati, Sindangsari, L. P., & Nisa Mustika. (2025). Optimizing HyFlex Learning: Pedagogical, Technological, and Policy Perspectives. *Sinergi International Journal of Education*, 3(1), 13–25. <https://doi.org/10.61194/education.v3i1.700>

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



Nyakoty, C., & Pedzisi Goronga. (2024). Resilience Strategies for Higher Education Institutions. *Advances in Higher Education and Professional Development Book Series*, 1–18. <https://doi.org/10.4018/979-8-3693-1926-0.ch001>

Okoye, K., Hussein, H., Arrona-Palacios, A., Quintero, H. N., Ortega, L. O. P., Sanchez, A. L., Ortiz, E. A., Escamilla, J., & Hosseini, S. (2022). Impact of digital technologies upon teaching and learning in higher education in Latin America: an outlook on the reach, barriers, and bottlenecks. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-022-11214-1>

Ortanez, D. (2023, March 14). A Qualitative Study on the lens of educators about the educational crisis of the Trifocal education system in the Philippines (B. Limson, Ed.) [Review of A Qualitative Study on the lens of educators about the educational crisis of the Trifocal education system in the Philippines]. Research Gate. https://www.researchgate.net/publication/369362128_A_Qualitative_Study_on_the_lens

Picciano, A. G. (2017). Theories and frameworks for online education: Seeking an integrated model. *Online Learning*, 21(3). <https://doi.org/10.24059/olj.v21i3.1225>

Romero-Hall, E., & Ripine, C. (2021). Hybrid Flexible Instruction: Exploring Faculty Preparedness. *Online Learning*, 25(3). <https://doi.org/10.24059/olj.v25i3.2426>

Xing, X., & Saghaian, S. (2022). Learning Outcomes of a Hybrid Online Virtual Classroom and In-Person Traditional Classroom during the COVID-19 Pandemic. *Sustainability*, 14(9), 5263. <https://doi.org/10.3390/su14095263>

Editorial Team

Editor-in-Chief: Alvin B. Punongbayan

Associate Editor: Andro M. Bautista

Managing Editor: Raymart O. Basco

Web Editor: Nikko C. Panotes

Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez, Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas, Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza
