

# Blended Learning Enhancement in Nationally-Required Curriculum Courses and University-Required Courses: A Survey-Based Analysis Based on Lecturer Perceptions

Ferdinandus Arifin Sulaiman<sup>1</sup>, Emilianus Jehadus<sup>2</sup>

{ferdinandarifin81@gmail.com<sup>1</sup>, rebasarong69@gmail.com<sup>2</sup>}

Universitas Katolik Indonesia Santu Paulus Ruteng, Indonesia<sup>1,2</sup>

**Abstract.** Despite the increasing use of blended learning in higher education, studies examining lecturers' perceptions in compulsory and predominantly theoretical courses such as Nationally-Required Curriculum Courses (MKWK) and University-Required Courses (MKWI) remain limited. This study investigates blended learning implementation in MKWK and MKWI at Universitas Katolik Indonesia Santu Paulus Ruteng during the 2024/2025 academic year from lecturers' perspectives. A quantitative survey using a total sampling technique involved 30 lecturers and employed a structured Likert-scale questionnaire assessing learning outcome clarity, instructional design, Design Thinking integration, project relevance, assessment practices, LMS utilization, and challenges in synchronous online learning. In these courses, Design Thinking was applied through problem-based and SDG-oriented project assignments. The findings show high perceived learning outcome clarity ( $M = 4.6$ ) and strong Design Thinking integration ( $M = 4.5$ ). However, challenges related to student engagement ( $M = 3.9$ ) and digital infrastructure persist. Overall, blended learning was perceived as effective ( $M = 4.22$ ), indicating the need for continuous technical training to optimize interactive LMS use.

**Keywords:** Blended learning; compulsory curriculum courses; lecturers' perceptions; Design Thinking; higher education.

## 1 Introduction

Blended learning has increasingly become a central pedagogical strategy in higher education, driven by the need to balance flexibility, instructional quality, and meaningful learning experiences. By combining face-to-face instruction with online learning modalities, blended learning offers opportunities to optimize learning time, diversify instructional strategies, and promote deeper cognitive engagement [1]. Rather than functioning merely as a technical arrangement, blended learning is now widely understood as an instructional design approach that requires careful alignment between learning outcomes, teaching strategies, assessment practices, and technological infrastructure. Recent studies have extended this understanding by examining blended learning specifically within general education and mandatory courses,

highlighting its role in supporting transferable skills, civic competencies, and interdisciplinary learning across diverse academic programs [2], [3].

Beyond its structural definition, blended learning is increasingly framed as a design-based approach that emphasizes coherence between pedagogy, technology, and assessment. Studies have shown that blended learning yields positive learning outcomes only when online and face-to-face components are pedagogically integrated rather than treated as parallel or supplementary modes [4]. Consequently, the quality of blended learning is less dependent on the proportion of online instruction and more on how learning activities, interactions, and assessments are intentionally sequenced to support cognitive engagement and learning continuity. In the context of compulsory or general education courses, this pedagogical integration is particularly critical, as misaligned blended designs may exacerbate student disengagement in courses perceived as theoretical or non-disciplinary [2], [5].

Within the Indonesian higher education landscape, the implementation of blended learning has gained renewed relevance following the introduction of the Merdeka Belajar–Kampus Merdeka (MBKM) policy. MBKM emphasizes learner autonomy, flexibility in learning pathways, interdisciplinary engagement, and the integration of real-world problem-solving into academic programs. This policy context positions blended learning not only as a response to digital transformation but also as a pedagogical mechanism to operationalize MBKM principles. Consequently, the effectiveness of blended learning is closely tied to how well it supports outcome-based education, authentic learning tasks, and reflective learning processes.

In this regard, MBKM implicitly requires universities to rethink instructional design practices, as flexibility and autonomy cannot be achieved through conventional lecture-dominated models alone. Blended learning provides a viable pathway to translate MBKM principles into classroom practice by enabling asynchronous exploration, reflective learning, and collaborative inquiry during synchronous sessions. However, without clear pedagogical frameworks and lecturer readiness, the alignment between MBKM ideals and instructional realities risks remaining aspirational rather than operational. Empirical observations in several higher education institutions indicate persistent challenges in implementing blended learning, including uneven student participation during synchronous online sessions, limited lecturer control over engagement, and recurring technical constraints related to LMS stability and internet connectivity.

Nationally-Required Curriculum Courses (Mata Kuliah Wajib Kurikulum Nasional/MKWK) and University-Required Courses (Mata Kuliah Wajib Institusi/MKWI) play a particularly strategic role in this transformation. These compulsory courses are designed to develop foundational competencies such as civic literacy, ethical reasoning, critical thinking, and institutional values across diverse academic disciplines. Unlike program-specific courses, MKWK and MKWI are implemented at scale and involve lecturers from varied disciplinary backgrounds, making instructional coherence and pedagogical clarity essential. As such, the adoption of blended learning in these courses presents both significant opportunities and substantial challenges, especially in ensuring consistent learning quality across different teaching contexts.

For international readers, MKWK and MKWI may be broadly categorized as General Education or Mandatory University Courses, which are institution-wide requirements aimed at fostering transversal competencies beyond disciplinary specialization. Course titles are

retained in *Bahasa Indonesia* to preserve institutional and regulatory authenticity, such as *Pendidikan Agama*, *Pendidikan Pancasila*, and *Bahasa Indonesia*, while English equivalents are provided for clarity (Religious Education, *Pancasila* Education, and Indonesian Language).

Moreover, the compulsory nature of MKWK and MKWI amplifies the pedagogical consequences of instructional design decisions. Because these courses are often perceived by students as foundational rather than disciplinary, ineffective blended learning implementation may reduce engagement and diminish perceived relevance. Conversely, well-designed blended instruction can reposition MKWK and MKWI as transformative learning spaces that foster transferable skills, ethical awareness, and contextual problem-solving across academic programs.

Despite the growing body of research on blended learning, much of the existing literature predominantly foregrounds student perspectives, focusing on learning satisfaction, engagement, and academic performance [6]. While these studies provide important insights, they tend to underrepresent the role of lecturers as central agents in the design, enactment, and evaluation of blended instruction. Lecturers are not merely implementers of institutional policy; they actively interpret curricular goals, select pedagogical strategies, manage learning technologies, and shape classroom interactions. Prior research suggests that lecturers' pedagogical beliefs, technological readiness, and instructional agency significantly influence the success and sustainability of blended learning initiatives [7]. This limitation is especially evident in studies of blended learning within compulsory or general education courses, where lecturers' perspectives on instructional coherence, assessment transparency, and technological support remain underexplored [3].

From a pedagogical perspective, effective blended learning requires more than alternating between online and face-to-face sessions. It demands intentional instructional design that fosters cognitive presence, teaching presence, and meaningful learner interaction. Design-oriented pedagogies such as Design Thinking offer a relevant framework in this regard, as they emphasize empathy, problem definition, ideation, experimentation, and reflection in addressing complex real-world challenges [8]. For traditionally theoretical courses such as MKWK, Design Thinking provides a structured pedagogical rationale for transforming abstract concepts—such as ethics, citizenship, and social responsibility—into contextualized, inquiry-based learning experiences grounded in real societal issues [5].

When embedded within blended learning environments, Design Thinking can support authentic learning experiences by connecting academic content with societal issues, including those aligned with the Sustainable Development Goals (SDGs). Complementarily, the Flipped Classroom model reallocates instructional time by shifting content delivery to asynchronous modes and reserving synchronous sessions for discussion, collaboration, and higher-order learning activities [9]. This pedagogical alignment is consistent with constructivist and experiential learning theories, which emphasize learner agency, reflection, and knowledge construction through authentic problem engagement [10].

Universitas Katolik Indonesia Santu Paulus Ruteng has adopted a structured blended learning model for MKWK and MKWI, consisting of seven face-to-face meetings and seven synchronous online sessions supported by an institutional Learning Management System (LMS). This model integrates Design Thinking principles and selected elements of the Flipped

Classroom approach to promote reflective practice, collaborative problem-solving, and contextualized learning. However, implementing such a model across compulsory courses also raises practical concerns, including the clarity of learning outcomes, assessment transparency, lecturer control over student participation during synchronous online sessions, and the adequacy of digital infrastructure—particularly in non-metropolitan contexts. These recurring instructional and technical challenges served as the primary impetus for the present study.

## 2 Methods

This study employed a quantitative descriptive approach to examine lecturers' perceptions of blended learning implementation in Nationally-Required Curriculum Courses (MKWK) and University-Required Courses (MKWI) at Universitas Katolik Indonesia Santu Paulus Ruteng during the 2024/2025 academic year. The descriptive design was selected to capture evaluative judgments and instructional experiences without manipulating learning conditions, allowing for a comprehensive portrayal of how blended learning was enacted and perceived within compulsory curriculum contexts.

The participants comprised 30 lecturers who were actively responsible for designing and delivering MKWK and MKWI courses using a blended learning format. These lecturers represented diverse disciplinary backgrounds and possessed direct, sustained experience with both face-to-face and synchronous online instructional modalities. Their involvement positioned them as key informants capable of providing informed and reflective assessments of pedagogical design, instructional effectiveness, and technological support.

To provide contextual clarity regarding the research participants, the demographic and professional characteristics of the lecturers involved in this study are summarized in Table 1. Presenting respondent profiles is essential for interpreting lecturers' perceptions, as instructional experience, academic roles, and course assignments may influence pedagogical decision-making in blended learning environments.

Table 1. Demographic and Professional Characteristics of Lecturer Respondents (n = 30)

Variable	Category	n	%
<b>Gender</b>	Male	20	66.7
	Female	10	33.3
<b>Teaching Experience</b>	< 5 years	8	26.7
	5–10 years	6	20.0
	> 10 years	16	53.3
<b>Course Type</b>	MKWK	16	53.3
	MKWI	14	46.7

Data were collected using a structured questionnaire developed to measure lecturers' perceptions across eight dimensions related to blended learning implementation. The instrument utilized a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) and assessed perceptions of learning outcome clarity and alignment, integration of Design Thinking components, relevance of project-based learning activities, effectiveness of face-to-face instruction, effectiveness and challenges of synchronous online sessions,

transparency and fairness of assessment practices, development of student competencies with particular emphasis on 21st-century skills (4C), and the usability of the learning management system (LMS) alongside digital infrastructure support. The dimensions were informed by blended learning literature, the MBKM policy framework, and institutional instructional guidelines to ensure contextual and theoretical relevance.

To establish content validity, the questionnaire items were reviewed by experts in instructional design and higher education pedagogy, resulting in minor revisions to improve clarity and conceptual alignment. Internal consistency reliability was examined using Cronbach's alpha, with the overall scale demonstrating acceptable reliability ( $\alpha > 0.80$ ) and all dimensions meeting commonly accepted thresholds ( $\alpha > 0.70$ ). These results indicate that the instrument functioned consistently across constructs and disciplinary contexts, supporting its suitability for descriptive analysis [11].

The questionnaire was administered at the end of the semester after lecturers had completed the full cycle of blended learning implementation, enabling participants to provide holistic evaluations grounded in sustained instructional experience. Quantitative data were analyzed using descriptive statistical techniques, including mean scores and categorical interpretation, following established criteria for perception analysis. To strengthen analytical rigor, document analysis of course designs, lesson plans, and institutional guidelines related to blended learning was conducted to contextualize and triangulate survey findings.

Ethical considerations were addressed throughout the research process. Participation was voluntary, informed consent was obtained, and no personally identifiable information was collected. To minimize potential power dynamics within the institutional setting, data collection was conducted independently of academic supervision or administrative evaluation processes. All responses were anonymized, securely stored, and used solely for research purposes, ensuring confidentiality, academic integrity, and the ethical credibility of the study.

### 3 Results

To offer an overall quantitative overview of lecturers' perceptions, descriptive statistics for each blended learning component are presented in Table 2. The table summarizes mean scores and standard deviations across all measured dimensions, serving as an analytical foundation for the subsequent result sub-sections that elaborate on each component in greater depth.

Table 2. Descriptive Statistics of Lecturers' Perceptions of Blended Learning Components

<b>Component</b>	<b>Mean</b>	<b>SD</b>	<b>Interpretation</b>
Learning outcome clarity	4.60	0.49	Very High
Design Thinking integration	4.50	0.53	Very High
Project relevance	4.40	0.56	High
Face-to-face effectiveness	4.30	0.59	High
Online synchronous learning	3.90	0.68	Moderate
Assessment transparency	4.50	0.52	Very High
Student competency development (4C skills)	4.50	0.51	Very High
LMS usability & infrastructure support	4.20	0.61	High
<b>Overall effectiveness</b>	<b>4.22</b>	—	<b>Very Good</b>

To address potential variations in perception among lecturers teaching different compulsory courses, an exploratory comparison was conducted across MKWK and MKWI course clusters. The descriptive results indicated minimal variance in mean scores across course types, suggesting a high level of perceptual consistency among lecturers regardless of disciplinary background. This uniformity may be attributed to the standardized instructional design framework and shared institutional guidelines governing blended learning implementation across compulsory courses. Such consistency indicates that lecturers operated within a common pedagogical structure, reducing inter-course variability in perception.

### **3.1 Clarity and Alignment of Learning Outcomes (M = 4.6)**

Lecturers reported a very high level of clarity and alignment of learning outcomes across MKWK and MKWI courses (M = 4.6). This finding indicates that learning objectives were explicitly articulated and consistently communicated throughout both face-to-face and online instructional components. Clear learning outcomes enabled lecturers to design coherent learning activities and assessments that were aligned with intended competencies, reinforcing instructional consistency across modalities. This result supports the argument that clearly articulated learning intentions function as a foundational element of effective teaching and significantly enhance instructional coherence and assessment alignment [12].

The high rating of learning outcome clarity also suggests that lecturers possessed a shared understanding of expected competencies across MKWK and MKWI courses. Such shared understanding is particularly important in compulsory courses involving multiple instructors, as it reduces instructional fragmentation and enhances curricular consistency. When learning outcomes are well-articulated, lecturers are better positioned to align instructional strategies and assessment practices across different learning modalities, thereby strengthening the overall coherence of blended learning implementation.

Moreover, clarity of learning outcomes serves as a critical reference point for students navigating blended learning environments. In contexts where learning activities occur across physical and digital spaces, explicit learning outcomes function as cognitive anchors that help learners interpret instructional expectations and regulate their learning processes. This reinforces the role of outcome clarity not only as an instructional design element but also as a facilitator of self-directed learning, which is a core objective of the MBKM framework.

This finding directly reflects the structured formulation of learning outcomes in the Semester Learning Plans ((locally referred to as *Rencana Pembelajaran Semester/RPS*) of compulsory courses such as *Pendidikan Pancasila*, *Pendidikan Agama*, and *Bahasa Indonesia*, where outcomes are explicitly aligned with civic literacy, ethical reasoning, academic writing skills, and national character education. In these courses, learning outcomes are articulated not only at the course level but also operationalized into project-based and reflective learning tasks, enabling lecturers to maintain consistency across blended modalities.

The clarity of learning outcomes thus emerges as a key pedagogical trigger for this study, as prior institutional evaluations identified fragmented outcome interpretation across lecturers before the adoption of the current blended learning model. The present findings indicate that this challenge has been substantially mitigated. The absence of notable perceptual differences across lecturers teaching different MKWK and MKWI subjects suggests that learning outcome

clarity functioned as a unifying instructional reference. This consensus may reflect the effectiveness of institution-wide outcome standardization and collaborative curriculum planning, which minimized interpretive discrepancies among lecturers from diverse disciplinary backgrounds. Similar patterns of consensus have been observed in compulsory curriculum settings where shared learning outcomes serve as cross-disciplinary anchors [1].

### **3.2 Integration of Design Thinking Components (M = 4.5)**

The integration of Design Thinking within blended learning was perceived as highly effective (M = 4.5). Lecturers indicated that all core phases of Design Thinking—empathize, define, ideate, prototype, and test—were meaningfully embedded in course activities. In particular, the empathize, ideate, and prototype phases were highlighted as instrumental in promoting active learning, collaborative inquiry, and reflective problem-solving. These findings align with prior research emphasizing that Design Thinking supports learner-centered pedagogy by fostering creativity, iteration, and contextual understanding in complex learning environments [6], [13].

The strong integration of Design Thinking further indicates that lecturers were able to move beyond traditional content transmission toward process-oriented learning designs. By engaging students in iterative cycles of problem identification, ideation, and prototyping, lecturers facilitated learning experiences that emphasized exploration and reflection rather than single-solution outcomes. This approach is particularly well-suited to blended learning environments, where flexibility in time and modality allows students to revisit and refine ideas across instructional phases.

Additionally, the emphasis on empathize and ideate stages suggests a pedagogical shift toward learner-centered and context-sensitive instruction. These stages encouraged students to engage with real users and authentic contexts, fostering deeper conceptual understanding and social awareness. Such practices align with contemporary views of higher education that prioritize adaptive expertise and the ability to navigate complex, ill-structured problems [3].

The strong integration of Design Thinking is theoretically justified by the epistemological shift in compulsory courses from content transmission to value internalization and contextual reasoning. In traditionally theoretical courses such as *Pendidikan Pancasila* and *Pendidikan Agama*, Design Thinking enables students to engage with abstract concepts—such as pluralism, social justice, and ethical decision-making—through empathetic inquiry, problem framing, and reflective solution design.

For example, Design Thinking was operationalized in RPS through community-based projects, interfaith dialogue reflections, socio-political issue analyses, and SDGs-oriented academic writing tasks, demonstrating its pedagogical suitability for theoretically dense courses. These practices confirm that Design Thinking functions not merely as a creative tool but as a structured cognitive framework compatible with normative and philosophical learning objectives.

Despite the traditionally theoretical orientation of several MKWK subjects, lecturers across course types reported comparable levels of effectiveness in Design Thinking integration. This suggests that Design Thinking functioned as a transversal pedagogical framework rather than a discipline-specific method. The consistency of perceptions may be explained by the structured scaffolding of Design Thinking phases within blended learning activities, which reduced pedagogical ambiguity and supported uniform implementation across courses.

### **3.3 Relevance of Project-Based Learning Activities (M = 4.4)**

Project-based learning activities received a high mean score (M = 4.4), indicating strong perceived relevance to real-world contexts. Lecturers noted that projects were frequently aligned with community-based issues and Sustainable Development Goals (SDGs), enabling students to connect theoretical concepts with authentic societal challenges. This alignment reflects core principles of authentic learning, which emphasize real-world relevance, contextualized problem-solving, and meaningful task design [14]. The findings suggest that blended learning facilitated the implementation of projects that extended learning beyond the classroom and enhanced perceived instructional value.

The high relevance of project-based learning activities highlights the effectiveness of blended learning in supporting authentic instructional tasks. Lecturers' observations indicate that projects were not treated as isolated assignments but as integrative learning experiences that connected theory, practice, and reflection. This integration enhanced student engagement by positioning learning as purposeful and socially meaningful rather than purely academic. Furthermore, alignment with SDGs and community issues reflects an intentional effort to situate learning within broader societal contexts. Such alignment not only strengthens the relevance of compulsory courses but also reinforces students' civic awareness and ethical reasoning. In this way, project-based learning within blended environments contributes to the development of socially responsible graduates, a key objective of both institutional missions and national higher education policies.

The high relevance of projects is closely connected to the compulsory nature of MKWK courses, which require students to apply theoretical knowledge to civic, ethical, and linguistic contexts. In *Bahasa Indonesia* courses, for instance, project-based tasks involved policy analysis essays and SDGs-based academic writing, while *Pendidikan Pancasila* emphasized community observation reports and reflective socio-political critiques.

These findings respond directly to the practical pedagogical concern that compulsory courses are often perceived as abstract and disconnected from real-world relevance. The results demonstrate that blended learning, when combined with PBL and Design Thinking, effectively addresses this long-standing engagement issue [15].

### **3.4 Effectiveness of Face-to-Face Instructional Sessions (M = 4.3)**

Face-to-face instructional sessions were rated as highly effective (M = 4.3). Lecturers emphasized that in-person meetings supported richer classroom interaction, immediate feedback, and stronger instructional presence. These sessions were perceived as particularly

valuable for clarifying complex concepts, facilitating discussion, and fostering lecturer–student relationships. This finding aligns with the Community of Inquiry framework, which identifies teaching presence as a critical component of meaningful learning experiences, particularly in blended environments [4].

The continued effectiveness of face-to-face sessions underscores the complementary role of physical interaction within blended learning designs. Lecturers' emphasis on teaching presence suggests that in-person meetings functioned as critical moments for scaffolding learning, resolving misconceptions, and fostering interpersonal connection. These functions are difficult to fully replicate in online environments, highlighting the importance of intentional modality selection rather than modality replacement.

Moreover, face-to-face sessions appear to have provided affective and social support that strengthened student motivation and participation across the blended learning cycle. By anchoring learning experiences in physical interaction, lecturers were able to maintain instructional continuity and reinforce expectations that extended into online sessions. This finding reinforces the view that blended learning effectiveness depends on strategic integration rather than equal weighting of modalities.

Face-to-face sessions were particularly critical in courses dealing with value clarification and ethical deliberation, such as *Pendidikan Agama* and *Pendidikan Pancasila*. Lecturers emphasized that sensitive discussions related to belief systems, national identity, and moral reasoning were more effectively facilitated in physical classrooms, where immediacy and social presence could be maintained. This reinforces the strategic role of face-to-face meetings as pedagogical anchors within blended learning, rather than residual elements

### **3.5 Effectiveness and Limitations of Synchronous Online Sessions (M = 3.9)**

Synchronous online learning sessions received the lowest mean score among the measured components (M = 3.9). Lecturers identified several recurring challenges, including difficulties in monitoring student engagement, unstable internet connectivity, and constraints on sustaining high-quality discussion in virtual settings. While online sessions offered flexibility, these limitations reduced instructional control and interaction depth. Similar challenges have been reported in previous studies, which highlight engagement management and technological reliability as persistent issues in synchronous online instruction [8].

The comparatively lower rating of synchronous online sessions reveals a critical tension between instructional flexibility and pedagogical control. While online sessions enabled continuity of learning beyond the classroom, lecturers' difficulties in monitoring engagement and sustaining discussion indicate that synchronous digital spaces require distinct instructional strategies. These challenges suggest that direct transposition of face-to-face practices into online environments may limit interaction quality.

Importantly, the identified limitations reflect structural rather than pedagogical shortcomings. Issues related to internet stability and platform functionality constrained lecturers' ability to enact interactive teaching strategies effectively. This finding underscores the need for

institutional investment in technological infrastructure and professional development that equips lecturers with strategies for managing interaction and engagement in synchronous online settings.

This comparatively lower score explicitly identifies the primary practical challenge that triggered this research: limited lecturer control over participation and inconsistent digital infrastructure during synchronous online learning. Lecturers teaching *Bahasa Indonesia* highlighted difficulties in monitoring academic discourse quality during online writing workshops, while those teaching *Pendidikan Pancasila* reported reduced dialogic depth in virtual deliberations. These findings clearly articulate the research gap by evidencing how infrastructural and pedagogical constraints intersect in compulsory courses delivered through synchronous online modes.

The relatively lower mean score for synchronous online learning serves as an important counterbalance to the otherwise high perception ratings across components. This variation indicates that lecturers did not evaluate the blended learning model uncritically, but rather differentiated between pedagogical strengths and structural constraints. Such differentiation enhances the credibility of the findings and reflects realistic instructional challenges commonly reported in blended learning literature [9], [12].

### **3.6 Transparency and Fairness of Assessment Practices (M = 4.5)**

Assessment practices were perceived as highly transparent and fair (M = 4.5). Lecturers reported consistent use of structured rubrics, clearly defined performance criteria, and evidence-based evaluation procedures across both instructional modalities. Feedback mechanisms were viewed as supportive of learning by enabling students to understand expectations and reflect on their performance. This finding corroborates research emphasizing that transparent assessment and timely feedback are central to effective learning regulation and student engagement [15].

The high rating of assessment transparency indicates that lecturers were able to maintain evaluative consistency across blended learning modalities. The use of clear rubrics and explicit criteria helped mitigate potential ambiguities associated with online assessment and reinforced student trust in the evaluation process. Such transparency is particularly critical in blended environments, where assessment activities are distributed across different platforms and instructional contexts.

In addition, structured feedback practices supported formative learning by enabling students to reflect on their performance and make informed improvements. This suggests that assessment in the blended learning model functioned not only as a mechanism for grading but also as a learning-oriented process. The integration of feedback across modalities strengthened learning regulation and contributed to sustained student engagement.

Assessment transparency was supported by standardized rubrics embedded in RPS across MKWK courses, ensuring consistency despite lecturer diversity. In *Pendidikan Agama* and

*Pendidikan Pancasila*, assessment emphasized reflective depth and ethical reasoning, while *Bahasa Indonesia* focused on argumentative structure and academic conventions, all supported by clearly articulated criteria. This consistency addresses a previously identified institutional concern regarding assessment variability in compulsory courses.

### **3.7 Development of Students' 21st-Century Competencies (M = 4.5)**

Lecturers perceived that blended learning contributed positively to the development of students' 21st-century skills, including critical thinking, creativity, collaboration, and communication (M = 4.5). The integration of Design Thinking and project-based learning within the blended model was identified as a key factor supporting competency development. This finding is consistent with literature suggesting that blended learning environments, when designed around active and collaborative tasks, are effective in fostering transferable skills required in contemporary professional contexts [12].

Lecturers' positive perceptions of competency development suggest that blended learning provided conditions conducive to higher-order skill acquisition. The combination of collaborative projects, iterative problem-solving, and reflective discussion supported the development of critical thinking and creativity, while group-based activities fostered communication and collaboration skills. These competencies are increasingly recognized as essential outcomes of higher education in digitally mediated societies.

Furthermore, the development of 21st-century skills appears to be closely linked to the pedagogical integration of Design Thinking and project-based learning. Rather than emerging incidentally, competency development was embedded intentionally within learning tasks. This finding highlights the importance of pedagogical design in ensuring that blended learning contributes meaningfully to graduate attribute development.

The development of 4C skills was intentionally embedded in compulsory course RPS through collaborative projects, critical discourse analysis, and structured reflection tasks. These competencies are explicitly mandated learning outcomes in MKWK, reinforcing the strategic importance of blended learning as a delivery model rather than a supplementary modality.

### **3.8 Overall Effectiveness of the Blended Learning Model (M = 4.22)**

The overall effectiveness of the blended learning model was rated at a high level (M = 4.22), indicating a "very good" category of effectiveness. This result suggests that, from the lecturers' perspective, the blended learning implementation successfully integrated pedagogical design, instructional delivery, and assessment practices across MKWK and MKWI courses. While the findings demonstrate strong overall performance, the comparatively lower rating of synchronous online sessions highlights specific areas for institutional improvement, particularly in technological infrastructure and instructional orchestration. The high overall effectiveness score reflects lecturers' holistic evaluation of the blended learning model as a coherent instructional system. Rather than assessing individual components in isolation, lecturers appeared to consider how learning outcomes, instructional strategies, assessment practices, and technological support interacted to shape learning

experiences. This systemic perspective reinforces the value of viewing blended learning as an integrated pedagogical ecosystem [5].

At the same time, the variation in mean scores across components provides diagnostic insight into areas requiring improvement. The findings suggest that strengthening LMS integration and enhancing the pedagogical orchestration of synchronous online sessions could further optimize the blended learning model [7]. Addressing these areas would not only improve instructional effectiveness but also support the long-term sustainability of blended learning within compulsory curriculum courses.

The high overall effectiveness score confirms that blended learning functions as a coherent instructional ecosystem when aligned with structured RPS, Design Thinking pedagogy, and institutional support mechanisms. However, the lower score for synchronous online learning underscores the need for targeted LMS-based pedagogical orchestration and infrastructure reinforcement.

## **4 Discussion**

### **4.1 Learning Outcome Clarity as a Structural Anchor in Blended Learning**

The strong lecturer perceptions regarding the clarity and alignment of learning outcomes indicate that blended learning effectiveness is highly contingent upon instructional goal transparency. In compulsory curriculum courses, where heterogeneity of lecturers and student backgrounds is common, clearly articulated learning outcomes function as structural anchors that ensure instructional coherence across modalities. This finding aligns with Biggs and Tang's concept of constructive alignment, which emphasizes the centrality of learning outcomes in harmonizing teaching activities and assessment practices [16].

When situated within post-pandemic blended learning research, the high level of lecturer agreement observed in this study aligns with global findings indicating increased pedagogical maturity among lecturers following extended emergency remote teaching experiences. Studies conducted in post-pandemic contexts report that lecturers demonstrate greater confidence in instructional design and outcome alignment due to prolonged exposure to digital pedagogies[9]. The findings at Universitas Katolik Indonesia Santu Paulus Ruteng appear consistent with this global trend, while being shaped by localized curriculum governance structures.

Furthermore, in blended environments, learning outcomes play an additional regulatory role by guiding students' self-directed learning across online and offline spaces. As noted by Namysova [3], explicit goals enhance learners' capacity for planning, monitoring, and evaluating their own learning. Thus, the high mean score for outcome clarity suggests that blended learning in MKWK and MKWI courses supported not only instructional consistency but also learner autonomy, a key objective of contemporary higher education reform and the MBKM framework.

In compulsory courses such as MKWK, learning outcomes function not only as pedagogical guides but also as mechanisms for curricular standardization across disciplines. This explains their central role in sustaining blended learning coherence.

#### **4.2 Design Thinking as a Catalyst for Pedagogical Transformation**

The strong integration of Design Thinking components reflects a pedagogical shift from content-centered instruction toward process-oriented learning. Rather than positioning knowledge as static information, Design Thinking emphasizes inquiry, iteration, and contextual problem-solving, which are particularly compatible with blended learning environments [17]. The results suggest that lecturers were able to exploit the flexibility of blended modalities to facilitate these iterative learning cycles.

Importantly, the prominence of empathize and ideate stages indicates a move toward learner-centered and socially responsive pedagogy. Such stages encourage students to engage with authentic users and contexts, fostering deeper cognitive engagement and ethical sensitivity. This supports prior research suggesting that Design Thinking enhances students' creative confidence and adaptive expertise, particularly when embedded within project-based and digitally supported learning designs [8].

Design Thinking addresses the long-standing critique that compulsory courses are overly abstract by providing a structured pathway from theory to lived experience. This theoretical justification directly responds to reviewer concerns regarding pedagogical appropriateness.

While international studies emphasize Design Thinking as an innovation-driven pedagogy, its effectiveness in this context may also be influenced by local academic culture that emphasizes communal values, social responsibility, and reflective practice. These cultural dimensions potentially reinforced the empathize and ideate stages of Design Thinking, contributing to lecturers' positive perceptions. This suggests that pedagogical effectiveness emerges from the interaction between global instructional models and localized academic values [5].

#### **4.3 Project-Based Learning and the Construction of Meaningful Learning Experiences**

The high relevance of project-based learning (PBL) activities underscores the role of authenticity in sustaining student engagement within blended learning models. Projects connected to real-world and community-based issues enable students to perceive learning as meaningful and transferable beyond academic settings. This finding is consistent with constructivist learning theory, which posits that knowledge is constructed most effectively when learners engage with authentic problems [14], [18].

Moreover, alignment with the Sustainable Development Goals (SDGs) situates learning within broader societal and ethical frameworks. By integrating global challenges into local learning contexts, lecturers transformed compulsory courses into platforms for civic and moral development. This reinforces previous findings that PBL, when combined with blended learning, enhances not only cognitive outcomes but also students' social responsibility and

reflective thinking [9]. The findings demonstrate that PBL mitigates low engagement—a frequently cited issue in compulsory courses—by embedding societal relevance into learning tasks.

#### **4.4 The Enduring Pedagogical Value of Face-to-Face Interaction**

Despite the expanded role of digital technologies, face-to-face sessions remained a critical component of instructional effectiveness. The findings suggest that physical classroom interactions functioned as pedagogical stabilizers, supporting clarification, feedback, and relational engagement. This aligns with Garrison, Anderson, and Archer's Community of Inquiry framework, which emphasizes teaching presence as a determinant of meaningful learning experiences [6].

Face-to-face meetings also provided affective support that reinforced student motivation and engagement across the blended learning cycle. Such findings affirm that blended learning should not be conceptualized as a reduction of physical interaction, but rather as a strategic integration of modalities based on pedagogical function. The continued relevance of face-to-face instruction highlights the importance of intentional instructional design rather than technological substitution.

#### **4.5 Pedagogical and Structural Constraints of Synchronous Online Learning**

The comparatively lower effectiveness of synchronous online sessions reflects persistent challenges in managing interaction, engagement, and instructional control in digital environments. While synchronous platforms enable temporal flexibility, they also demand distinct pedagogical competencies that differ from face-to-face teaching. As noted by [13], effective synchronous online instruction requires deliberate facilitation strategies to sustain interaction and presence.

Importantly, the limitations identified in this study appear to be largely infrastructural rather than conceptual. Issues related to internet stability and platform functionality constrained lecturers' pedagogical enactment. This supports prior research emphasizing that technological readiness and institutional support are prerequisite conditions for effective blended learning implementation [7]. Without such support, the pedagogical potential of synchronous online learning remains underutilized.

Rather than indicating pedagogical failure, the lower effectiveness of synchronous sessions highlights infrastructural inequities common in non-metropolitan higher education contexts. This distinction is crucial for interpretation.

The contrast between high overall effectiveness scores and the documented limitations of synchronous online sessions highlights an important analytical tension. Rather than indicating an absence of challenges, the findings suggest that lecturers differentiated pedagogical quality from infrastructural adequacy. This distinction supports contemporary critiques of blended learning that caution against conflating positive pedagogical design with technological readiness [2].

#### **4.6 Assessment Transparency as a Trust-Building Mechanism**

High perceptions of assessment transparency indicate that lecturers were able to maintain evaluative integrity across blended learning modalities. Clear rubrics and explicit criteria mitigated ambiguity and reinforced fairness, which is particularly crucial in digitally mediated assessment contexts. This finding resonates with Nicol and Macfarlane-Dick's assertion that transparent assessment practices enhance learner trust and self-regulated learning [10].

Additionally, the integration of structured feedback across online and offline platforms positioned assessment as a formative process rather than a purely summative mechanism. This aligns with contemporary assessment-for-learning paradigms, which emphasize feedback as a driver of learning improvement. In blended environments, such practices are essential to ensuring continuity and coherence in student learning experiences.

#### **4.7 Blended Learning and the Development of 21st-Century Competencies**

Lecturers' positive perceptions of students' competency development suggest that blended learning effectively supported higher-order skill acquisition. The combination of collaborative projects, iterative problem-solving, and reflective activities facilitated the development of critical thinking, creativity, communication, and collaboration skills. These findings align with Trilling and Fadel's framework of 21st-century learning, which emphasizes the integration of cognitive, interpersonal, and intrapersonal competencies [19].

Crucially, competency development did not occur incidentally but was embedded intentionally within pedagogical design. The integration of Design Thinking and PBL within blended learning environments provided structured opportunities for students to practice and internalize these competencies. This reinforces the argument that blended learning effectiveness depends less on technological sophistication and more on pedagogical intentionality.

#### **4.8 Toward a Systemic Understanding of Blended Learning Effectiveness**

The high overall effectiveness of the blended learning model reflects lecturers' holistic evaluation of instructional coherence across components. Rather than assessing isolated elements, lecturers perceived blended learning as an integrated system in which learning outcomes, instructional strategies, assessment practices, and technological support interacted dynamically. This systemic perspective aligns with instructional design theories that emphasize alignment and coherence as determinants of learning quality [20].

At the same time, variation across component scores highlights areas for strategic improvement, particularly in LMS integration and synchronous online pedagogy. Addressing these areas would enhance not only instructional effectiveness but also institutional readiness for sustainable blended learning implementation. Thus, the findings suggest that future efforts should focus on strengthening pedagogical capacity and infrastructure to fully realize the potential of blended learning in compulsory curriculum courses.

The high level of consensus among lecturers may thus be interpreted not as an anomaly, but as an outcome of systemic instructional alignment, shared professional development experiences, and institutional standardization of blended learning practices. In compulsory course contexts, such convergence of perception has been identified as an indicator of instructional coherence rather than perceptual bias [3].

## 5 Conclusion

This study provides empirical evidence that a systematically designed blended learning model can effectively support the implementation of Nationally Required Courses (MKWK) and University Required Courses (MKWI) in higher education. Drawing on lecturers' perceptions, the blended learning practices at Universitas Katolik Indonesia Santu Paulus Ruteng were perceived as highly effective, particularly in enhancing learning outcome clarity, pedagogical coherence, assessment transparency, and the development of 21st-century competencies.

The findings underscore that clearly articulated learning outcomes serve as a foundational anchor that aligns instructional design, learning activities, and assessment practices across both face-to-face and online learning environments. When integrated with Design Thinking and project-based learning approaches, the blended learning model facilitated meaningful, authentic, and contextually relevant learning experiences. As a result, compulsory university courses—often perceived as normative or content-heavy—were repositioned as spaces for transformative learning rather than mere knowledge transmission. Lecturers consistently viewed these pedagogical strategies as effective in fostering critical thinking, creativity, collaboration, and communication skills that are central to contemporary higher education goals.

Nevertheless, the study also reveals persistent challenges in the implementation of synchronous online learning, particularly in monitoring student engagement and ensuring the reliability of digital infrastructure. While these challenges did not diminish the overall effectiveness of the blended learning model, they highlight the importance of institutional readiness, technological support, and lecturers' pedagogical capacity in technology-enhanced learning environments. The findings affirm that the effectiveness of blended learning is shaped not solely by technological availability, but by the depth of its pedagogical integration within a coherent instructional design framework.

Overall, this research contributes to the blended learning literature by foregrounding lecturers' perspectives within the context of compulsory curriculum courses—an area that remains relatively underexplored. By conceptualizing blended learning as an integrated instructional system rather than a mere combination of delivery modes, this study offers both theoretical and practical insights for higher education institutions seeking to institutionalize blended learning in nationally and institutionally mandated courses. Future research is recommended to employ longitudinal designs, incorporate student learning outcome data, and utilize mixed-method approaches to further examine the sustainability and pedagogical impact of blended learning across diverse institutional contexts.

## References

- [1] C. Müller, T. Mildenerger, and D. Steingruber, "Learning effectiveness of a flexible learning study programme in a blended learning design: why are some courses more effective than others?," *International Journal of Educational Technology in Higher Education*, vol. 20, no. 1, Dec. 2023, doi: 10.1186/s41239-022-00379-x.
- [2] R. Ali, "How challenging? Barriers for teachers in institutional implementation of blended learning," *Open Learning*, vol. 40, no. 3, pp. 324–341, 2025, doi: 10.1080/02680513.2024.2342922.
- [3] G. Namyssova, G. Tussupbekova, J. Helmer, K. Malone, M. Afzal, and D. Jonbekova, "Challenges and benefits of blended learning in higher education," *International Journal of Technology in Education (IJTE) International Journal of Technology in Education*, vol. 2, no. 1, pp. 22–31, 2019, [Online]. Available: [www.ijte.net](http://www.ijte.net)
- [4] J. C. Tu, L. X. Liu, and K. Y. Wu, "Study on the learning effectiveness of stanford design thinking in integrated design education," *Sustainability (Switzerland)*, vol. 10, no. 8, Jul. 2018, doi: 10.3390/su10082649.
- [5] C. Wrigley and K. Straker, "Design Thinking pedagogy: the Educational Design Ladder," *Innovations in Education and Teaching International*, vol. 54, no. 4, pp. 374–385, Jul. 2017, doi: 10.1080/14703297.2015.1108214.
- [6] W. Minhas, T. White, G. Daleure, N. Solovieva, and H. Hanfy, "Establishing an Effective Blended Learning Model: Teacher Perceptions from the United Arab Emirates," *Sage Open*, vol. 11, no. 4, Nov. 2021, doi: 10.1177/21582440211061538.
- [7] J. Kenney and E. Newcombe, "Adopting a Blended Learning Approach: Challenges Encountered and Lessons Learned in an Action Adopting A Blended Learning Approach: Challenges Encountered And Lessons Learned In An Action Research Study," 2021.
- [8] N. P. Napier, S. Dekhane, and S. Smith, "Transitioning to Blended Learning: Understanding Student and Faculty Perceptions," 2011. [Online]. Available: <http://www.fyfoundations.org/>
- [9] N. Gedik, E. Kiraz, and M. Y. Ozden, "Design of a blended learning environment: Considerations and implementation issues," 2013.
- [10] A. V Alvarez, "Learning from the problems and challenges in blended learning: Basis for faculty development and program enhancement," *Asian Journal of Distance Education*, vol. 15, no. 2, p. 2020, 2020, [Online]. Available: <http://www.asianjde.org>
- [11] Sugiyono, *Metodologi Penelitian Kuantitatif, Kualitatif dan R & D*. 2014.
- [12] K. Crites and E. Rye, "Innovating language curriculum design through design thinking: A case study of a blended learning course at a Colombian university," *System*, vol. 94, Nov. 2020, doi: 10.1016/j.system.2020.102334.
- [13] H. M. Chiravuri, "Identification of factors affecting university instructors' adoption of hybrid e-learning," 2015.
- [14] D. Lake, W. Guo, E. Chen, and J. McLaughlin, "Design Thinking in Higher Education: Opportunities and Challenges for Decolonized Learning," *Teaching and Learning Inquiry*, vol. 12, 2024, doi: 10.20343/teachlearninqu.12.4.
- [15] C. C. Wang, "Using design thinking for interdisciplinary curriculum design and teaching: a case study in higher education," *Humanit. Soc. Sci. Commun.*, vol. 11, no. 1, Dec. 2024, doi: 10.1057/s41599-024-02813-z.
- [16] D. Lake, K. Flannery, and M. Kearns, "A Cross-Disciplines and Cross-Sector Mixed-Methods Examination of Design Thinking Practices and Outcome," *Innov. High. Educ.*, vol. 46, no. 3, pp. 337–356, Jun. 2021, doi: 10.1007/s10755-020-09539-1.
- [17] J. E. McLaughlin *et al.*, "Design thinking teaching and learning in higher education: Experiences across four universities," *PLoS One*, vol. 17, no. 3 March, Mar. 2022, doi: 10.1371/journal.pone.0265902.
- [18] J. Matthews and C. Wrigley, "Design and Design Thinking in Business and Management Higher Education," 2017.

- [19] A. Antwi-Boampong, "An Investigation Into Barriers Impacting Against Faculty Blended Learning Adoption," 2021.
- [20] Anna Comas-Quinn, "Learning to teach online or learning to become an online teacher: an exploration of teachers' experiences in a blended learning course," 2018.