Candradimuka: Journal of Education
e-ISSN 2985-4431
Vol. 4, No. 1, January 2026. Page 15-25
http://www.jurnal.prismasejahtera.com/index.php/candradimuka/index
DOI: https://doi.org/10.60012/cje.v4i1.196

GOVERNING ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION: POLICY IMPLICATIONS FOR FACULTY PROFESSIONAL COMPETENCE

Doni Anggoro Ari Santoso[1], Agustina Ramadhianti[2], Sugianti Somba[3], Nandang Hidayat[4]
Universitas Indraprasta PGRI[1,2,3]
Universitas Pakuan[4]
don.okba@gmail.com

Keywords: Artificial Intelligence; Higher Education Policy; AI Governance; Faculty Professional Competence; Qualitative Study

Abstract: This study investigates how artificial intelligence (AI) is governed in higher education institutions and examines the implications of institutional AI governance policies for faculty professional competence. A qualitative policy analysis approach was employed. Data were collected through document analysis of institutional AI-related policies, including academic integrity guidelines and faculty development regulations, as well as semi-structured interviews with faculty members and academic leaders involved in AI governance and implementation. The data were analyzed using thematic analysis guided by an AI governance framework encompassing pedagogical, governance, and operational dimensions. The findings reveal that higher education institutions have increasingly formalized AI governance through institutional policies. However, these policies are largely regulatory in orientation, with a strong emphasis on ethical compliance, academic integrity, and risk mitigation. Explicit pedagogical guidance and systematic support for faculty professional competence development are limited. As a result, faculty members experience uncertainty in applying AI in teaching and assessment practices and rely predominantly on self-directed or informal learning, leading to uneven levels of AI-related professional competence. The study suggests that AI governance in higher education should move beyond compliance-oriented regulation toward an integrative, capacity-building approach. Institutional AI policies need to be aligned with structured faculty development frameworks that incorporate pedagogical guidance, ethical awareness, and operational support to enable responsible and effective AI integration in academic practice.

Submitted: 19-01-2026 | Revised: 22-01-2026 | Accepted: 31-01-2026

INTRODUCTION

Artificial Intelligence (AI) technologies are rapidly transforming multiple aspects of higher education, ranging from instructional design and assessment to research productivity and administrative processes. Generative AI tools such as large language models have become ubiquitous in academic environments, prompting institutions to reconsider traditional approaches to governance and policy frameworks in order to responsibly integrate these

technologies (McDonald, Johri, Ali, & Hingle, 2024). As AI adoption grows, so too does the complexity of institutional governance, especially regarding faculty roles and professional competence development within academic systems.

Integrating AI into higher education challenges existing governance structures, requiring both clarity in institutional policies and alignment with core academic values such as academic integrity, equity, and professional autonomy (Chan, 2023; Chan & Lee, 2023). Indeed, higher education institutions (HEIs) worldwide are responding through various policies and guidelines aimed at both regulating and facilitating AI use in teaching and learning contexts (McDonald et al., 2024). While initial institutional responses often emphasize student behavior and academic integrity concerns, there is increasing attention toward faculty practices, professional development, and competency frameworks that support effective and ethical AI integration.

One useful conceptual foundation for understanding AI governance in higher education is provided by the AI Ecological Education Policy Framework, which organizes policy considerations across three interrelated dimensions: pedagogical, governance, and operational (Chan, 2023). The pedagogical dimension addresses teaching and learning innovations supported by AI; the governance dimension focuses on accountability, privacy, and ethical considerations; and the operational dimension highlights infrastructure, training, and capacity-building needs. This multidimensional perspective underscores that governance is not limited to rules and regulations but includes the development of institutional capacity to utilize AI responsibly and effectively.

In particular, faculty professional competence has emerged as a central concern in discussions on AI governance. Faculty members must not only understand the affordances of AI tools but also critically evaluate their implications for pedagogy, assessment design, and academic integrity (Chan, 2023). Research suggests that faculty professional development must extend beyond technical training to include ethical, reflective, and pedagogical competencies that enable educators to navigate the complex landscape of AI-enhanced academic practice.

The literature also highlights a policy gap across institutions where governance frameworks are either absent or insufficiently detailed to support faculty adoption of AI tools (Ghimire & Edwards, 2024). Studies have found that despite institutional recognition of AI's potential, many HEIs lack specialized governance mechanisms that comprehensively guide faculty on responsible AI use, equity considerations, and implications for academic standards. These gaps point toward the need for flexible, iterative policy frameworks that can adapt to fast-changing technologies while preserving academic governance and shared decision-making.

From a theoretical standpoint, AI governance in higher education can be situated within broader technology governance and institutional change theories, which emphasize the role of formal policy structures, distributed leadership, and stakeholder engagement in facilitating meaningful technology integration. According to these frameworks, governance involves not just compliance and risk mitigation but also capacity-building that enables educators to realize the pedagogical potential of emerging technologies.

Ethical concerns are another critical component of AI policy discourse. Scholars argue that AI governance must proactively address risks associated with bias, privacy, algorithmic

transparency, and the potential erosion of academic values (Chan, 2023; McDonald et al., 2024). Embedding ethical considerations into governance frameworks, therefore, becomes a dual-purpose endeavor: protecting institutional integrity while enhancing the professional capabilities of faculty to make informed, reflective decisions about AI use in their academic work.

Moreover, broader policy landscapes—such as regional and international regulatory frameworks—are increasingly influencing institutional governance strategies. For example, proposals to adapt risk-based regulatory models like the European Union's AI Act to educational contexts demonstrate how macro-level governance trends can shape institutional policy-making and normative expectations surrounding AI adoption (Temper, Tjoa, & David, 2025). Such alignment between external regulation and internal governance is likely to have important implications for how faculty professional competencies are defined and cultivated in an AI-enabled academic environment.

In summary, governing AI in higher education involves complex policy decisions that extend beyond technological adoption to encompass ethical standards, institutional values, and professional development. As universities grapple with these challenges, policy frameworks must balance innovation with accountability and equip faculty with the competencies necessary to integrate AI in ways that support meaningful learning and uphold the core missions of higher education.

Despite the growing body of literature on artificial intelligence (AI) governance in higher education, existing studies have largely focused on ethical considerations, academic integrity, and institutional risk management. While these aspects are crucial, relatively limited empirical attention has been paid to how institutional AI governance policies shape faculty professional competence in teaching and assessment practices. Previous research tends to examine AI policy content at a macro level or explore faculty perceptions of AI adoption without sufficiently linking governance frameworks to systematic faculty competence development. As a result, the relationship between AI governance as an institutional policy mechanism and faculty professional competence remains underexplored, particularly within the pedagogical and operational dimensions of governance frameworks.

In response to this gap, the present study aims to examine how artificial intelligence is governed through institutional policies in higher education and to analyze the implications of such governance for faculty professional competence. Specifically, this study explores how AI governance policies address pedagogical guidance, ethical regulation, and operational support, and how these dimensions influence faculty members' ability to integrate AI responsibly and effectively into academic practice. By adopting a qualitative policy analysis approach, this study seeks to contribute to the literature by conceptualizing AI governance not merely as a compliance-oriented regulatory instrument but as a potential capacity-building framework for enhancing faculty professional competence in an AI-enabled higher education context.

METHOD

Research Design

This study adopts a qualitative policy analysis approach to examine how artificial intelligence (AI) is governed in higher education and its implications for faculty professional competence.

This approach is appropriate as it enables an in-depth understanding of policy intentions, governance mechanisms, and their influence on academic practice within institutional contexts (Bowen, 2009; Creswell & Poth ,2018).

Analytical Framework

The analysis is guided by an AI governance framework in higher education comprising pedagogical, governance, and operational dimensions. This framework is used to examine how institutional AI policies support teaching practices, address ethical and regulatory concerns, and facilitate faculty professional development (Chan, 2023; McDonald et al., 2024).

Data Sources and Participants

Data were collected from two primary sources:

1. Institutional policy documents, including AI guidelines, academic integrity regulations, and faculty development policies.
2. Semi-structured interviews with faculty members and academic leaders involved in AI implementation and governance.

Participants were selected using purposive sampling, based on their experience with AI use and policy implementation in higher education (Palinkas et al., 2015).

Data Collection

Policy documents were retrieved from official institutional repositories. Interviews were conducted online or in person, lasting approximately 45–60 minutes, and were audio-recorded with informed consent. Ethical principles of confidentiality and voluntary participation were strictly observed. (Kvale & Brinkman, 2015)

Data Analysis

Data were analyzed using thematic analysis. Policy documents and interview transcripts were coded iteratively and organized into themes aligned with the pedagogical, governance, and operational dimensions of AI governance. The analysis focused on identifying relationships between policy frameworks and faculty professional competence. (Braun & Clarke, 2019)

Trustworthiness and Ethics

To ensure rigor, the study employed data triangulation and peer review of coding. Ethical approval was obtained, and all data were anonymized to protect participants' identities. (Lincoln & Guba, 1985; Nowell et al., 2017)

Limitations

The findings are context-specific and intended for analytical rather than statistical generalization, contributing to policy understanding and faculty development discourse (Yin, 2018).

RESULT AND DISCUSSION

Results

This section presents the findings derived from qualitative policy document analysis and semi-structured interviews. The results are organized thematically based on the AI governance framework in higher education, encompassing pedagogical, governance, and operational dimensions, with a specific focus on their implications for faculty professional competence.

Overview of Policy Landscape

Analysis of institutional documents reveals that most higher education institutions have begun to formally acknowledge AI as a strategic component of teaching and learning. However, the scope and depth of AI governance policies vary significantly. While some institutions provide comprehensive guidance, others rely on fragmented references embedded within academic integrity or digital transformation documents.

Overall, policies tend to prioritize regulatory control and risk mitigation, with comparatively less emphasis on structured faculty competence development.

Theme 1: Pedagogical Orientation of AI Policies

Policies across institutions generally recognize AI as a tool to enhance instructional efficiency and innovation. However, explicit guidance on pedagogical integration remains limited. Faculty members reported uncertainty regarding appropriate AI use in curriculum design, assessment practices, and feedback mechanisms.

Interview data indicate that while AI is perceived as pedagogically beneficial, policy ambiguity constrains faculty confidence and experimentation.

Table 1. Pedagogical Dimension of AI Governance Policies

Policy Focus Area	Key Findings	Implications for Faculty Competence
Teaching support	AI acknowledged as a learning aid	Limited pedagogical training
Assessment	AI use mentioned indirectly	Unclear assessment boundaries
Curriculum design	Rarely addressed	Faculty rely on personal judgment

Faculty participants emphasized the need for pedagogically explicit policies that translate AI potential into concrete teaching competencies.

Theme 2: Governance and Ethical Regulation

Governance-related provisions are the most dominant feature of AI policies. Institutions emphasize academic integrity, ethical AI use, data privacy, and compliance with institutional values. These elements are often articulated through restrictive language, positioning AI primarily as a potential risk rather than a professional resource.

Faculty interviews suggest that compliance-oriented governance increases awareness of ethical risks but may unintentionally discourage innovation.

Table 2. Governance Dimension of AI Policies

Governance Aspect	Policy Emphasis	Faculty Perception
Academic integrity	Strong	Necessary but restrictive
Data privacy	Moderate to strong	Lacks practical guidance
Ethical AI use	General principles	Limited operational clarity

Faculty professional competence in this dimension is characterized by heightened ethical awareness but insufficient procedural competence to operationalize ethical AI use in teaching.

Theme 3: Operational Support and Faculty Development

Operational dimensions—including infrastructure provision, training programs, and institutional support—are inconsistently addressed across policies. Only a small number of institutions explicitly link AI governance to systematic faculty professional development.

Faculty participants frequently reported self-directed learning as the primary means of acquiring AI-related competencies, indicating a gap between policy aspirations and institutional support mechanisms.

Table 3. Operational Dimension and Faculty Development

Operational Element	Policy Presence	Observed Practice
Training programs	Limited	Ad hoc workshops
Technical support	General	Reactive assistance
Competence framework	Rare	Not institutionalized

This gap suggests that current governance frameworks insufficiently institutionalize AI-related professional competence as a formal development priority.

Theme 4: Policy–Practice Alignment Gap

A recurring theme across data sources is the misalignment between policy intent and faculty practice. While policies articulate high-level principles, faculty experience uncertainty in translating these principles into day-to-day academic work.

This gap manifests in:

- inconsistent AI use across departments,
- uneven competence levels among faculty,
- reliance on informal peer learning rather than structured development.

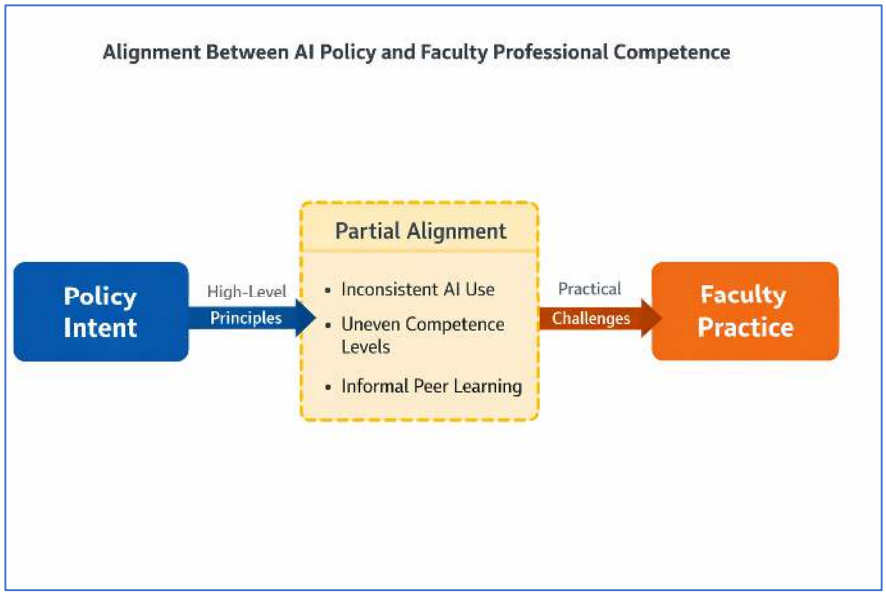

Figure 1. **Alignment Between AI Policy and Faculty Professional Competence**

(Conceptual representation of partial alignment between policy frameworks and faculty competence development)

Synthesis of Key Findings

The findings indicate that AI governance in higher education is currently policy-heavy but capacity-light. While institutions demonstrate strong commitment to ethical governance, less attention is devoted to systematically enhancing facu*lty professional competence.*

Table 4. Summary of Cross-Dimensional Findings

Dimension	Strength	Key Limitation
Pedagogical	Recognition of AI potential	Lack of pedagogical guidance
Governance	Strong ethical framing	Compliance-driven approach
Operational	Strategic acknowledgment	Weak faculty development linkage

Overall Result

Collectively, the results demonstrate that current AI governance policies in higher education primarily function as regulatory instruments, rather than as developmental frameworks for faculty professional competence. This imbalance limits the transformative potential of AI in academic practice and highlights the need for governance models that explicitly integrate policy regulation with structured faculty competence development.

Discussion

This study set out to examine how artificial intelligence (AI) is governed in higher education and to analyze the implications of such governance for faculty professional competence. The findings demonstrate that while higher education institutions have begun to formalize AI governance through institutional policies, these policies remain largely regulatory in orientation and insufficiently integrated with structured faculty competence development. This section discusses these findings in relation to existing theories and empirical studies, particularly those proposed by Chan (2023) and McDonald et al. (2024).

AI Governance as Regulation Rather Than Capacity Building

The results reveal that AI policies in higher education predominantly emphasize ethical regulation, academic integrity, and risk mitigation. This aligns with McDonald et al. (2024), who found that most institutional AI guidelines prioritize compliance-oriented concerns, positioning AI primarily as a potential threat rather than as a pedagogical and professional resource. While such an emphasis is understandable in the early stages of AI adoption, the present findings suggest that this regulatory dominance may unintentionally constrain faculty agency and innovation.

From a theoretical perspective, this supports Chan's (2023) argument that AI governance in higher education often lacks balance across pedagogical, governance, and operational dimensions. The current study confirms that the governance dimension is the most developed, whereas pedagogical guidance and operational support—particularly faculty professional development—remain underdeveloped. Consequently, governance functions more as a control mechanism than as an enabling framework for professional competence.

Pedagogical Ambiguity and Faculty Professional Competence

The findings further indicate that institutional AI policies provide limited pedagogical guidance on how AI should be integrated into teaching, assessment, and curriculum design. Faculty members reported uncertainty regarding acceptable AI use, especially in assessment contexts. This finding resonates with Chan and Lee's (2023) observation of a growing "AI generation gap," where institutional expectations do not always align with faculty readiness or pedagogical confidence.

Theoretically, this gap can be interpreted through the lens of professional competence development, which emphasizes not only technical skill acquisition but also pedagogical reasoning and reflective judgment. Without explicit pedagogical framing in AI policies, faculty are forced to rely on individual discretion, resulting in uneven competence development and inconsistent instructional practices across departments.

Operational Gaps and Informal Learning Practices

One of the most significant findings is the limited operationalization of AI governance through formal faculty development structures. Despite strategic acknowledgment of AI in institutional documents, systematic training programs and competence frameworks are largely absent. This finding extends Chan's (2023) ecological policy framework by empirically demonstrating that the operational dimension is the weakest link in AI governance implementation.

As a result, faculty members rely heavily on informal peer learning and self-directed exploration to develop AI-related competencies. While such practices may foster innovation among early adopters, they also risk widening competence disparities and undermining institutional coherence. From a governance theory standpoint, this reflects a disconnect between policy formulation and institutional enactment, where policy intent fails to translate into sustained professional learning ecosystems.

Policy–Practice Misalignment and Partial Alignment Model

The conceptual model presented in Figure 1 illustrates a condition of partial alignment between AI policy intent and faculty professional practice. This model echoes McDonald et al.'s (2024) conclusion that institutional policies often articulate high-level principles without providing sufficient procedural guidance for faculty implementation. The partial alignment observed in this study manifests in inconsistent AI use, uneven competence levels, and uncertainty in pedagogical decision-making.

Theoretically, this supports the view that governance in higher education must move beyond normative statements toward actionable frameworks that embed professional competence development within policy structures. Effective AI governance, therefore, requires not only ethical safeguards but also institutional investment in faculty learning pathways.

Implications for AI Governance Theory and Policy Design

Taken together, the findings reinforce and extend existing AI governance theories in higher education. Consistent with Chan (2023), the study demonstrates that effective AI governance must be ecological and integrative, addressing pedagogy, ethics, and operations simultaneously. However, this study adds empirical depth by highlighting how the absence of explicit competence-oriented policies limits the transformative potential of AI.

Moreover, the findings suggest that AI governance policies should be reconceptualized as professional development instruments, not merely regulatory documents. Aligning AI policy with faculty competence frameworks could help institutions shift from reactive governance toward proactive capacity building, ensuring that faculty are equipped to engage critically, ethically, and pedagogically with AI technologies.

Contribution to the Literature

This study contributes to the growing body of literature on AI in higher education by empirically demonstrating how governance structures shape faculty professional competence. While previous studies have focused primarily on policy content or ethical concerns, this research foregrounds the lived implications of AI governance for faculty practice. In doing so, it bridges the gap between AI policy analysis and professional competence theory, offering a more holistic understanding of AI governance in higher education.

CONCLUSION

This study examined the governance of artificial intelligence (AI) in higher education and its implications for faculty professional competence through a qualitative policy analysis approach. The findings indicate that while higher education institutions have increasingly formalized AI governance through institutional policies, these policies are predominantly regulatory in nature and place greater emphasis on ethical control, academic integrity, and risk mitigation than on structured faculty competence development.

The analysis reveals a consistent imbalance across the pedagogical, governance, and operational dimensions of AI policy implementation. Governance and ethical considerations are relatively well articulated, whereas pedagogical guidance and operational support—particularly in the form of systematic faculty professional development—remain limited. As a result, faculty members often experience uncertainty in translating high-level policy principles into concrete teaching and assessment practices, leading to uneven AI adoption and professional competence across academic units.

This study also identifies a persistent policy–practice gap, characterized by partial alignment between institutional AI policy intent and faculty professional practice. In the absence of explicit pedagogical frameworks and institutionalized training pathways, faculty rely heavily on informal learning and peer support to develop AI-related competencies. While such practices demonstrate faculty agency and adaptability, they also risk reinforcing disparities in competence and undermining coherent institutional governance.

Theoretically, this research extends existing AI governance frameworks by empirically demonstrating that effective governance in higher education must move beyond compliance-oriented regulation toward integrative, capacity-building approaches. AI governance policies should therefore be reconceptualized not only as instruments of control but also as strategic mechanisms for enhancing faculty professional competence.

In practical terms, the findings underscore the need for higher education institutions to align AI governance policies with explicit faculty development frameworks that integrate pedagogical innovation, ethical awareness, and operational support. By doing so, institutions can better

harness the transformative potential of AI while safeguarding academic values and strengthening faculty professionalism in an AI-enhanced educational environment.

From a practical and policy perspective, the findings of this study suggest that higher education institutions should reconceptualize AI governance policies as strategic instruments for faculty professional development rather than solely as mechanisms of ethical control and compliance. Institutional AI policies need to be explicitly aligned with structured faculty development frameworks that integrate pedagogical guidance, ethical reasoning, and operational support. Such alignment would enable faculty members to develop not only technical proficiency in AI tools but also pedagogical judgment and ethical reflexivity, thereby promoting more consistent and responsible AI integration across academic units.

At the theoretical level, this study reinforces and extends existing AI governance frameworks by empirically demonstrating the importance of capacity-building within institutional governance structures. By foregrounding faculty professional competence as a key outcome of AI governance, the study contributes to a more integrative understanding of governance that bridges policy analysis and professional competence theory. This perspective highlights the need to move beyond compliance-driven models toward governance approaches that actively support professional learning ecosystems in higher education.

Future research could build on these findings by employing comparative or cross-national designs to examine how AI governance policies operate across different higher education systems and regulatory contexts. Quantitative or mixed-methods studies could further investigate the relationship between AI governance maturity and measurable indicators of faculty professional competence. Additionally, longitudinal research is needed to explore how institutional AI policies evolve over time and how sustained faculty development initiatives influence pedagogical practices and governance effectiveness in AI-enhanced educational environments.

REFERENCES

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9*(2), 27–40. https://doi.org/10.3316/QRJ0902027

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education, 20*(1), Article 38. https://doi.org/10.1186/s41239-023-00408-3

Chan, C. K. Y., & Lee, K. K. W. (2023). The AI generation gap: Are Gen Z students more interested in adopting generative AI such as ChatGPT in teaching and learning than their Gen X and millennial generation teachers? *Smart Learning Environments, 10*(1), Article 60. https://doi.org/10.1186/s40561-023-00269-1

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage Publications.

Ghimire, A., & Edwards, J. (2024). *From guidelines to governance: A study of AI policies in*

education. *arXiv*. https://doi.org/10.48550/arXiv.2403.15601

Kvale, S., & Brinkmann, S. (2015). *InterViews: Learning the craft of qualitative research interviewing* (3rd ed.). Sage Publications.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage Publications.

McDonald, N., Johri, A., Ali, A., & Hingle, A. (2024). Generative artificial intelligence in higher education: Evidence from an analysis of institutional policies and guidelines. *arXiv*. https://doi.org/10.48550/arXiv.2402.01659

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*(1), 1–13. https://doi.org/10.1177/1609406917733847

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research, 42*(5), 533–544. https://doi.org/10.1007/s10488-013-0528-y

Temper, M., Tjoa, S., & David, L. (2025). *Higher Education Act for AI (HEAT-AI): A framework to regulate the usage of AI in higher education institutions*. *Frontiers in Education*. https://doi.org/10.3389/feduc.2025.1505370

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.