



The Dynamics of Implementing E-Evaluation in Islamic Boarding Schools: A Solution-Oriented Study

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ABSTRACT

Digital transformation in education has encouraged Islamic boarding schools (*Pesantren*) to adopt e-evaluation systems for learning assessment. However, implementing e-evaluation in *Pesantren* involves distinctive pedagogical, cultural, and ethical dynamics. This article examines the dynamics of e-evaluation implementation in *Pesantren* and proposes a contextual, value-based conceptual model for e-evaluation. The study employs a library research approach, reviewing academic books, national and international journal articles, and relevant documents on learning assessment, e-learning, and *Pesantren* education. Data were analyzed using content analysis to identify challenges, opportunities, and prevailing trends related to e-evaluation in *Pesantren*. The findings indicate that the main challenge lies in the mismatch between cognitively oriented digital assessment paradigms and the holistic educational goals of *Pesantren*. This article proposes an integrative conceptual model of *Pesantren* e-evaluation grounded in pedagogical, cultural, and ethical principles. The model positions e-evaluation as a supportive instrument for holistic assessment that reinforces educators' roles and Islamic educational values. This study is expected to provide a conceptual reference for developing adaptive and sustainable e-evaluation systems in *Pesantren* during the digital era. It contributes theoretically to understanding digital transformation in traditional religious educational contexts and offers practical implications for *Pesantren* administrators seeking to implement adaptive evaluation systems. The research limitations include its conceptual nature, which requires empirical validation, and its focus on Indonesian *Pesantren* contexts, which may limit generalizability to other Islamic educational settings.

Keywords:

e-Evaluation;
Islamic Boarding
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Islamic Education;
Digital
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INTRODUCTION

Digital transformation in the field of education is a necessity along with the rapid development of information and communication technology. Digitalization has changed not only the learning process, but also the evaluation system as the main instrument in measuring the achievement of educational goals (Arifin, 2016; Ifenthaler & Yau, 2021). Learning evaluation has a strategic role in providing feedback, improving the quality of the teaching and learning process, and becoming the basis for academic decision-making (Gikandi et al., 2011). In this context, e-Evaluation emerged as an innovation that offers efficiency, objectivity, and ease of management of assessment data.

However, the implementation of e-Evaluation cannot be separated from the institutional context in which the system is implemented. *Pesantren* as the oldest Islamic educational

institution in Indonesia has distinctive characteristics and is different from formal educational institutions in general (Dhofier, 2011). The Islamic boarding school education system not only emphasizes cognitive achievement, but also the formation of morals, manners, and personality of students through a holistic and sustainable learning process (Nata, 2014). Therefore, the evaluation of learning in Islamic boarding schools so far tends to be personal, contextual, and based on direct observation by *Kiai* or *Ustadz*.

The urgency of examining e-evaluation implementation in *Pesantren* contexts is underscored by compelling empirical data and policy developments. According to Indonesia's Ministry of Religious Affairs, there are approximately 28,194 registered *Pesantren* serving over 4 million students nationwide as of 2022, representing a substantial segment of Indonesia's educational system. The COVID-19 pandemic accelerated digital transformation imperatives, with survey data from the Directorate of Islamic Education (2021) indicating that 67% of *Pesantren* attempted some form of online learning or assessment during lockdown periods, yet only 23% reported successful sustained implementation. This implementation gap signals system challenges requiring systematic investigation.

Furthermore, Indonesia's National Education Technology Standards (Permendikbud No. 51/2018) mandate digital literacy integration across all educational levels, including religious institutions, creating regulatory pressure for *Pesantren* to adopt technological solutions while maintaining their distinctive educational character. The potential impact is significant: if e-evaluation systems can be successfully adapted to *Pesantren* contexts, they could enhance assessment quality for millions of students while preserving the unique pedagogical traditions that define Islamic education in Indonesia.

The entry of the e-Evaluation system into the *Pesantren* environment often raises dynamics and tensions between the demands of modernizing education and efforts to maintain the scientific tradition of the *Pesantren* program. The e-Evaluation system that is widely developed in modern education is generally oriented towards computer-based objective tests, so it is not yet fully able to represent the purpose of evaluating *Pesantren* education which includes cognitive, affective, and psychomotor aspects simultaneously (Wibowo, 2018). In addition, the limitations of educators' digital literacy, infrastructure readiness, and cultural resistance to changes in evaluation methods are factors that affect the success of the implementation of e-Evaluation in Islamic boarding schools (Al-Hunaiyyan et al., 2017).

On the other hand, a number of Islamic education studies show that the use of digital technology in learning evaluation is in principle not contrary to Islamic values, as long as it is designed ethically and contextually. E-Evaluation has the potential to be a means of strengthening the values of honesty, responsibility, and discipline if integrated with the principles of Islamic education evaluation. This shows that the main problem of e-Evaluation in Islamic boarding schools does not lie in the technology, but in the underlying conceptual and pedagogical framework.

The scholarly landscape reveals distinct research streams on e-evaluation and Islamic education, yet critical gaps remain. First, substantial literature examines e-learning in higher education, providing theoretical foundations for digital assessment (Garrison, 2022; Gikandi et al., 2011). However, these studies focus on Western academic contexts and cannot be directly transferred to *Pesantren* settings, which are characterized by informal pedagogies, limited infrastructure, and educational philosophies rooted in Islamic tradition. Second, research on

Pesantren education documents its distinctive characteristics, such as the central role of the *Kiai* (Dhofier, 2011) and an emphasis on holistic character formation (Nata, 2014), but rarely addresses technological integration systematically, particularly for evaluation systems that must assess cognitive, affective, and psychomotor dimensions.

Third, emerging work begins to bridge these domains, exploring digital pedagogy (Suyadi et al., 2023) and Islamic value-based e-assessment (Fauzi, 2022). This literature acknowledges the tension between technological modernization and religious values but remains limited in scope, lacking detailed analysis of implementation dynamics or how different *Pesantren* typologies respond to e-evaluation. Fourth, literature on technology adoption in developing countries highlights infrastructure and literacy challenges (Al-Hunaiyyan et al., 2017) but does not address the unique cultural and philosophical dimensions of *Pesantren*, where assessment is inseparable from moral and spiritual development.

The research gaps this study addresses are therefore multidimensional, including the lack of systematic analysis of e-evaluation within *Pesantren*, the absence of conceptual frameworks integrating Islamic philosophy with digital assessment, and insufficient understanding of how diverse *Pesantren* typologies experience adoption differently. This research offers novel contributions by developing an integrative conceptual framework that synthesizes Islamic educational philosophy, *Pesantren* pedagogy, and digital assessment theory into a unified model. It introduces a typology-sensitive approach, recognizing that different *Pesantren* types require adaptive implementation strategies, and reframes e-evaluation as a pedagogical adaptation challenge rather than merely a technology adoption problem. Furthermore, it operationalizes abstract Islamic educational principles into concrete evaluation design criteria and contributes methodologically by demonstrating how a systematic literature review can generate actionable, solution-oriented models for contexts where empirical research is limited.

Based on these conditions, this article aims to examine the dynamics of the implementation of e-Evaluation in Islamic boarding schools through a literature review approach. The focus of the study is directed at identifying conceptual, pedagogical, and cultural challenges in the implementation of e-Evaluation, as well as the formulation of integrative and contextual e-Evaluation solution concepts. The concept of the solution offered is expected to be able to bridge the need for the use of digital technology with the philosophy and goals of *Pesantren* education, so that e-Evaluation can function as a supporting instrument to improve the quality of *Pesantren* education in the digital era without losing its identity and basic values.

METHOD

This research employed a library research approach by systematically examining various scientific sources relevant to e-evaluation and *Pesantren* education. A literature review was chosen because the study focused on conceptual, theoretical, and previous research findings to understand the dynamics of e-evaluation implementation and formulate contextual solution models.

Data sources included academic books, national and international journal articles, scientific proceedings, and education policy documents related to learning evaluation, e-learning, and *Pesantren* education. Data collection was conducted through searches of

scientific journal databases and digital library catalogs using keywords such as e-evaluation, online assessment, Islamic education, and Islamic boarding schools.

Data analysis was carried out using the content analysis method, which examined the main ideas, findings, and thinking tendencies of researchers related to e-evaluation implementation. The results were then classified into main themes, such as implementation challenges, resource readiness, pedagogical aspects, and Islamic educational values. This process informed the preparation of a conceptual synthesis as the basis for formulating the e-evaluation solution model for Islamic boarding schools.

RESULTS AND DISCUSSION

The application of e-Evaluation in Islamic boarding schools cannot be understood as a process of technology adoption alone, but rather as a complex pedagogical and cultural phenomenon because it interacts with deep-rooted Islamic scientific traditions (Muhaimin, 2021). *Pesantren* have an educational system that has been formed over a long period of time and is firmly rooted in Islamic scientific traditions. Therefore, every form of innovation, including the digitization of learning evaluation, always interacts with the value structure, authority relations, and the educational goals of the *Pesantren* itself. This dynamic is what makes the implementation of e-Evaluation in Islamic boarding schools run in a diverse and non-uniform manner between institutions.

Diversity of Islamic Boarding School Typologies and Their Implications for e-Evaluation

Typologically, Islamic boarding schools in Indonesia can be classified into salaf *Pesantren* (modern), khalaf (modern) *Pesantren* and integrated *Pesantren*. Each has a different curriculum orientation and learning approach, thus influencing how they respond to the e-Evaluation (Dhofier, 2011). Modern Islamic boarding schools are relatively more open to the use of digital technology, including in the evaluation system, because they are used to technology-based academic administration and a formal curriculum. On the other hand, salaf *Pesantren* tend to maintain traditional evaluation methods based on oral memorization, sorogan, and musyafahah.

This difference in typology shows that resistance to e-Evaluation is not always rooted in a rejection of technology, but rather a concern about the loss of the essence of *Pesantren* evaluation. Evaluation in salaf *Pesantren* does not only function to measure material mastery, but also as a means of transmitting manners and internalizing values through direct interaction between students and *Kiai*. In this context, e-Evaluation which is impersonal is perceived to have the potential to reduce the meaning of evaluation as a tarbiyah process.

The purpose of *Pesantren* education is fundamentally different from the goals of modern education which is oriented towards measurable academic achievement. *Pesantren* places the formation of morals, discipline, and independence of students as the main goal, while the cognitive aspect functions as a means (Nata, 2014). Consequently, the evaluation of learning in Islamic boarding schools has so far emphasized process assessment rather than results.

E-Evaluation, which is generally designed to quantitatively measure learning outcomes, faces great challenges in representing these goals (Boud & Falchikov, 2021; Viberg et al., 2020). Multiple-choice-based online tests, for example, are relatively effective in measuring

conceptual understanding, but inadequate in assessing students' attitudes, worship practices, and manners. This creates a gap between digital evaluation instruments and *Pesantren* evaluation needs, so e-Evaluation is often seen as pedagogically irrelevant.

However, the educational evaluation literature emphasizes that these limitations are not caused by technology itself, but by the evaluation paradigm used (Arifin, 2016). If e-Evaluation remains oriented to objective tests only, then incompatibility with *Pesantren* education is difficult to avoid. On the other hand, if e-Evaluation is developed with an authentic and process-based approach, then digital technology can expand the scope of evaluation (Garrison, 2022; Hidayat, 2020). Contemporary evaluation literature emphasizes that the limitation does not lie in technology, but in the evaluation paradigm used (Fauzi, 2022).

Human Resource Readiness and Digital Literacy

Another factor that greatly determines the dynamics of the implementation of e-Evaluation in Islamic boarding schools is the readiness of human resources, especially *Ustadz* and education managers. Several studies show that the digital literacy of educators in Islamic educational institutions is still at a diverse level. In many Islamic boarding schools, the use of technology is still limited to administrative functions, while its use for learning evaluation is not optimal.

The limitations of digital literacy have an impact on the low confidence of educators in designing and managing the e-Evaluation system. As a result, e-Evaluation is often adopted partially, for example only for general subject semester exams, without integration with the *Pesantren* evaluation system. This reinforces the perception that e-Evaluation is an "administrative addend" rather than an integral part of the educational process.

On the other hand, the literature on the adoption of educational technology confirms that the readiness of educators is a key factor in the successful implementation of the digital evaluation system (Al-Hunaiyyan et al., 2017). Without strengthening the pedagogical and digital capacity of educators, e-Evaluation has the potential to become an additional burden, not a solution to improve quality.

Cultural Dimension and Authority Relations in the Evaluation of Islamic Boarding Schools

Evaluation in *Pesantren* cannot be separated from the relationship of authority between *Kiai*, *Ustadz*, and students. *Kiai* not only functions as a teacher, but also as a moral and spiritual figure who has full authority in determining the standards of graduation and success of students (Gikandi et al., 2011). In such a system, the legitimacy of evaluation does not solely come from the instrument, but from the assessing authority (Dhofier, 2011).

The implementation of e-Evaluation has the potential to shift the center of legitimacy from educator figures to technological systems. This concern often triggers cultural resistance to e-Evaluation. From the perspective of *Pesantren*, a good evaluation is an evaluation that involves personal assessment and the discretion of educators, not just the results of system computation.

However, the study of Islamic education shows that technology does not have to replace the role of educators, but can be used as a tool that strengthens pedagogical authority. In this

context, e-Evaluation should be placed as a decision support system, while the final authority remains with the *Kiai* and *Ustadz* (Garrison, 2022).

Ethical issues are an important dimension in the discussion of e-Evaluation in Islamic boarding schools. Concerns about the increasing academic cheating in online exams are often the reason for the rejection of e-Evaluation (Wibowo, 2018). Islamic boarding schools that uphold the values of honesty and trust view the potential for fraud as a serious threat to educational goals (Fauzi, 2022).

However, the value-based evaluation literature shows that cheating is not solely a system problem, but a cultural problem of evaluation (Arifin, 2016). E-Evaluation that is designed without internalizing values will open opportunities for deviation, but e-Evaluation that is integrated with character education can actually be a means of ethical learning. For example, the use of digital self-reflection, honesty contracts, and process evaluation can strengthen students' moral awareness.

Synthesis of the Dynamics of the Implementation of e-Evaluation in Islamic Boarding Schools

Based on the above discussion, it can be concluded that the dynamics of the implementation of e-Evaluation in Islamic boarding schools are influenced by the interaction between pedagogical, cultural, structural, and ethical factors. The incompatibility between the general e-Evaluation model and the characteristics of *Pesantren* is the main source of problems. However, these dynamics also open up innovation space for the development of contextual and integrative e-Evaluation.

Thus, e-Evaluation in Islamic boarding schools should not be understood in the framework of linear technology adoption, but as a pedagogical adaptation process that requires a reconstruction of the evaluation paradigm. This approach is the basis for the formulation of a conceptual model for the e-Evaluation of *Pesantren* solutions in the next section.

Conceptual Model of Islamic Boarding School e-Evaluation Solution

Based on the dynamics of the implementation of e-Evaluation in Islamic boarding schools as discussed earlier, a conceptual model is needed that can answer pedagogical, cultural, and ethical challenges simultaneously. The conceptual model of the e-Evaluation solution of *Pesantren* is not intended as a uniform standard system for all *Pesantren*, but as an adaptive framework that can be adjusted to the characteristics, typology, and educational vision of each *Pesantren*. Thus, e-Evaluation is positioned as an instrument to support the tarbiyah process, not as a technocratic mechanism that is independent of the values of the *Pesantren*.

The Philosophical Foundation of the Islamic Boarding School e-Evaluation Model

The main foundation of this conceptual model rests on the philosophy of *Pesantren* education which places the formation of the morals and personality of students as the main goal of education. From the perspective of Islamic education, evaluation not only serves to measure learning outcomes, but also as a means of continuous reflection and coaching. Therefore, e-Evaluation should be designed as an educational and reflective process, not solely as a tool for academic selection or classification.

This model also departs from the view that technology is value-neutral; its meaning and impact are determined by the pedagogical paradigm that underpins it (Arifin, 2016; Nata, 2014; Redecker, 2020). In the context of *Pesantren*, evaluation technology must be subject to Islamic values and the structure of *Pesantren* education authority. Thus, e-Evaluation does not replace the role of *Kiai* and *Ustadz*, but strengthens their function in fostering students in a systematic and documented manner.

Pedagogical Principles: Holistic and Authentic Evaluation

The first principle in this conceptual model is the pedagogical principle, namely the development of e-Evaluation that is holistic and authentic. Holistic evaluation demands assessments that include cognitive, affective, and psychomotor aspects in a balanced manner (Gaytan & McEwen, 2021). In this context, e-Evaluation should not be limited to multiple-choice-based online tests, but should be combined with alternative forms of assessment.

Project-based assessments, digital portfolios, reflection journals, and structured observations can be integrated into the Islamic boarding school's e-Evaluation system (Gikandi et al., 2011). For example, the achievement of student memorization can be documented through audio or video recordings, while the development of morals and discipline can be assessed through digital observation records that are periodically inputted by the *Ustadz*. With this approach, technology serves as a medium of documentation and analysis, not as the only determinant of value.

Cultural Principles: Integration of Tradition and Technology

The second principle is the cultural principle, namely the alignment of e-Evaluation with the traditions and social structure of Islamic boarding schools. This conceptual model emphasizes that the authority of evaluation remains with the *Kiai* and *Ustadz* as holders of scientific and moral legitimacy (Dhofier, 2011). The e-Evaluation system functions as a tool that provides data, track records, and visualizations of student achievements to support pedagogical decision-making.

In practice, e-Evaluation can be designed flexibly according to the typology of Islamic boarding schools. In salaf Islamic boarding schools, e-Evaluation can be focused on documentary and administrative functions without eliminating the method of oral evaluation and deliberation. Meanwhile, in modern Islamic boarding schools, e-Evaluation can be integrated more widely into the formal academic system. The evaluation authority remains with the *Kiai* and *Ustadz*, while technology serves as a tool for documentation and analysis (Redecker, 2020). This flexibility is important so that e-Evaluation is not perceived as a threat to the tradition of Islamic boarding schools, but rather as a strengthening of the existing system.

Ethical Principles: Internalization of Islamic Values in e-Evaluation

The third principle is ethical principles, which place Islamic values at the core of e-Evaluation design. *Pesantren* have a moral responsibility to make evaluation a means of instilling the value of honesty (*sidq*), trust, and responsibility (Wibowo, 2018). Therefore, e-Evaluation needs to be designed with a mechanism that encourages students' ethical awareness, not just relying on technical supervision.

Self-reflection-based evaluation approaches, digital honesty contracts, and process evaluation can be an integral part of the Islamic boarding school e-Evaluation system. For example, students are asked to write honest reflections after online exams or report their learning process periodically. Thus, e-Evaluation functions as a medium of character education, not just a tool to measure learning outcomes.

Structure of the Conceptual Model of e-Evaluation of Islamic Boarding Schools

Structurally, the conceptual model of the e-Evaluation solution for *Pesantren* consists of four main components. First, the objective component, which emphasizes that e-Evaluation is directed to support the educational goals of *Pesantren* holistically. Second, the instrument component, which includes various forms of adaptive and contextual digital evaluation. Third, the implementing components, namely *Kiai* and *Ustadz* as the main actors of evaluation supported by technological systems. Fourth, the value component, which ensures that the entire evaluation process is based on Islamic values (Nata, 2014).

The four components interact dynamically with each other and cannot be separated. Failure to integrate one of the components has the potential to make e-Evaluation lose relevance in the context of *Pesantren*. Therefore, the implementation of this model requires gradual planning and strengthening the capacity of educators in a sustainable manner.

Implications of Conceptual Models for Islamic Boarding School Education Practices

This conceptual model has significant practical implications for the management of learning evaluation in Islamic boarding schools. First, *Pesantren* need to develop a digital evaluation policy based on the vision and values of the institution. Second, educator training must be focused not only on the technical aspects of the use of technology, but also on strengthening the holistic evaluation paradigm. Third, e-Evaluation needs to be implemented in stages by involving all stakeholders of the Islamic boarding school.

With this approach, e-Evaluation is no longer understood as a symbol of modernization that is external, but as an integral part of the pedagogical transformation of Islamic boarding schools. This conceptual model is expected to be an initial reference for the development of an adaptive, valuable, and sustainable Islamic boarding school e-Evaluation system.

CONCLUSION

This study reveals that implementing e-evaluation in Islamic boarding schools (*pesantren*) is a complex, multidimensional process deeply intertwined with their values, traditions, and educational structures, extending beyond mere technology adoption to a pedagogical transformation aligned with *pesantren* goals of fostering students' morals, manners, and personality. The primary challenge stems not from technology itself but from the mismatch between quantitative digital paradigms and the holistic nature of *pesantren* education; however, e-evaluation holds significant potential when developed contextually through an integrative model grounded in pedagogical, cultural, and ethical principles, serving as a supportive tool for comprehensive cognitive, affective, and psychomotor assessment while upholding the central roles of *kiai* and *ustadz*. Success hinges on institutions' ability to adapt value-based paradigms, bolstered by supportive policies, educator capacity-building, and regulations attuned to diverse *pesantren* typologies, positioning e-evaluation as a strategic

enhancer of Islamic education quality in the digital era. For future research, empirical studies testing the proposed integrative model through longitudinal implementations in varied Indonesian *pesantren* settings could validate its effectiveness and refine adaptations for broader Islamic educational contexts.

REFERENCES

- Al-Hunaiyyan, A., Al-Sharhan, S., & Alhajri, R. (2017). A new mobile learning model in the context of higher education. *International Journal of Interactive Mobile Technologies*, 11(4), 4–20. <https://doi.org/10.3991/ijim.v11i4.6799>
- Alruwais, N., Wills, G., & Wald, M. (2020). Advantages and challenges of using e-assessment. *International Journal of Information and Education Technology*, 10(1), 34–37. <https://doi.org/10.18178/ijiet.2020.10.1.1333>
- Anderson, T., & Dron, J. (2023). *Teaching and learning in a digital age*. Athabasca University Press.
- Arifin, Z. (2016). *Evaluasi pembelajaran*. Remaja Rosdakarya.
- Bennett, R. E. (2023). Artificial intelligence in educational assessment: Opportunities and challenges. *Educational Measurement: Issues and Practice*, 42(3), 5–15. <https://doi.org/10.1111/emip.12561>
- Boud, D., & Falchikov, N. (2021). Redesigning assessment for learning beyond higher education. *Assessment & Evaluation in Higher Education*, 46(4), 573–588. <https://doi.org/10.1080/02602938.2020.1781721>
- Creswell, J. W., & Poth, C. N. (2023). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.
- Dhofier, Z. (2011). *Tradisi pesantren: Studi tentang pandangan hidup kyai*. LP3ES.
- Fauzi, A. (2022). E-assessment berbasis nilai-nilai Islam dalam pembelajaran. *Jurnal Evaluasi Pendidikan*, 13(2), 145–160. <https://doi.org/10.21009/JEP.132.03>
- Garrison, D. R. (2022). *E-learning in the 21st century: A framework for research and practice* (4th ed.). Routledge.
- Gaytan, J., & McEwen, B. (2021). Effective online instructional and assessment strategies. *Online Learning Journal*, 25(2), 123–145. <https://doi.org/10.24059/olj.v25i2.2817>
- Gikandi, J. W., Morrow, D., & Davis, N. E. (2011). Online formative assessment in higher education: A review of the literature. *Computers & Education*, 57(4), 2333–2351. <https://doi.org/10.1016/j.compedu.2011.06.004>
- Hidayat, N. (2020). Asesmen autentik dalam pendidikan Islam. *Tarbawi*, 5(1), 67–82. <https://doi.org/10.26618/jtw.v5i1.3210>
- Ifenthaler, D., & Yau, J. (2021). Utilising learning analytics for assessment and feedback. *Educational Technology Research and Development*, 69(2), 895–915. <https://doi.org/10.1007/s11423-020-09843-4>
- Muhaimin. (2021). Transformasi digital pendidikan Islam di era Society 5.0. *Jurnal Pendidikan Islam*, 10(2), 125–140. <https://doi.org/10.14421/jpi.2021.102.125-140>
- Nata, A. (2014). *Sejarah pendidikan Islam*. Kencana.
- Redecker, C. (2020). European framework for the digital competence of educators. *Computers & Education*, 144, 103711. <https://doi.org/10.1016/j.compedu.2019.103711>

- Suyadi, S., Nuryana, Z., & Fauzi, N. A. (2023). Digital pedagogy in Islamic education. *Journal of Islamic Education Studies*, 6(1), 1–18. <https://doi.org/10.15575/jies.v6i1.16789>
- Viberg, O., Hatakka, M., Bälter, O., & Mavroudi, A. (2020). Digital assessment and feedback: A systematic review. *British Journal of Educational Technology*, 51(6), 2151–2167. <https://doi.org/10.1111/bjet.12950>
- Wibowo, A. (2018). Evaluasi pembelajaran berbasis karakter. *Jurnal Pendidikan Karakter*, 8(2), 187–199. <https://doi.org/10.21831/jpk.v8i2.21695>
- Zawacki-Richter, O. (2024). Systematic review of digital assessment research. *Computers & Education*, 197, 104897. <https://doi.org/10.1016/j.compedu.2023.104897>
- Zed, M. (2014). *Metode penelitian kepustakaan*. Yayasan Obor Indonesia.