Proceedings of International Conference on Education, Social Studies, Technology and Health (IC-ESTEH)

Volume 01 Nomor 01 Juli 2026

Integrating Technology into Educational Supervision: A Framework for Teacher Professional Development

Luluk Rosyidatul Umah*, Nani Septiana, Istianatul Imamah
Universitas KH. Mukhtar Syafaat, Indonesia
Email : *lulukruh@gmail.com*

DOI: https://doi.org/10.33650/ic-esteh.v1i1.16888

Keywords:
Educational Supervision, Teacher Professional Development, Educational Technology, Massive Open Online Courses

Corresponding Author

ABSTRACT

Teacher professional development requires innovative and adaptive approaches that can respond to the changing demands of contemporary education. This study aims to examine the integration of technology into educational supervision to enhance teacher professional development at MA Mukhtar Syafa'at Blokagung, an Islamic secondary school located within a pesantren environment. Employing a qualitative case study design, data were collected through in-depth interviews, participatory observations, and document analysis involving the principal, teachers, quality control team, educational supervisors, and educational technology developers. Data were analyzed using the interactive model of data reduction, data display, and conclusion drawing. The findings reveal three innovative technology-based approaches in educational supervision. First, Massive Open Online Courses (MOOCs) provide teachers with flexible access to relevant and up-to-date professional development resources, enabling continuous learning alongside their teaching responsibilities. Second, a machine learning system is utilized to analyze historical teacher performance data and identify areas requiring targeted supervisory intervention. Third, AI-based simulation training provides teachers with realistic classroom scenarios, interactive decision-making opportunities, and immediate feedback, contributing to improvements in classroom management and instructional strategies. Although initial technical and adaptation challenges were identified, teachers gradually demonstrated greater familiarity and confidence in using these technologies. The study concludes that integrating MOOCs, machine learning, and AI-based simulations can strengthen educational supervision by making teacher professional development more flexible, data-informed, interactive, and responsive to professional needs within an Islamic educational context.

Please cite this article in APA style as:
Umah, L. R., Septiana, N., & Imamah, I. (2026). Integrating Technology into Educational Supervision: A Framework for Teacher Professional Development. *IC-ESTEH: International Conference on Education, Social Studies, Technology and Health, 1*(1), 173-180.

INTRODUCTION

Teacher professional development cannot be achieved solely through traditional supervision methods; it can be strengthened through the integration of technology that provides real-time feedback and access to broader educational resources (Hong & Zainal, 2024; Liu et al., 2024; Zhu et al., 2023). Effective teacher development requires approaches that are more dynamic and responsive than conventional supervision practices (Bohannon et al., 2024; Ocampo et al., 2021; Tunney & Hanreddy, 2021). Traditional methods are often limited to direct observations and periodic face-to-face sessions, whereas the integration of technology into educational supervision enables more flexible and continuous monitoring. Technology can provide real-time feedback, which is essential for immediate improvement and continuous professional development. This perspective is supported by Withorn et al. (2021), Hidayat-Ur-Rehman (2024), and Ghedin (2021), who emphasize that technology provides access to diverse and extensive educational resources that can support the

development of teachers' competencies and skills more comprehensively. Therefore, integrating technology into educational supervision offers advantages over traditional approaches by providing timely feedback and broader access to educational resources, thereby supporting rapid improvement and more comprehensive teacher competency development.

Research on innovative approaches to educational supervision that integrate technology into teacher professional development has received increasing scholarly attention. Teachers require continuous professional development to remain relevant and effective in their teaching practices (Hollweck, 2020; Rodrigues, 2023; Winter et al., 2020). Technology provides tools and platforms that facilitate more flexible, personalized, and interactive professional learning opportunities, enabling educational institutions to address diverse teacher development needs (Alsaywid et al., 2023; Rawal, 2024; Rodrigues, 2023). Hammond and Hyle (2017) found that technology-supported professional development programs tend to be more effective in improving teaching skills than traditional approaches. Similarly, technology-based professional development provides opportunities for more flexible, personalized, and interactive training that can accommodate diverse professional development needs (Aldosemani, 2023; Gupta, 2023; Lok, 2015). These findings indicate that technology-supported professional development can provide meaningful alternatives to conventional approaches to teacher development, particularly by expanding opportunities for continuous and context-responsive learning.

This study aims to propose an innovative perspective on educational supervision by integrating technology to strengthen and advance teacher professionalism. One potential contribution of technology lies in improving the efficiency of teacher performance evaluation by accelerating evaluation processes and generating more structured data for further analysis (Sareminia & Mohammadi Dehcheshmeh, 2024; Torabandeh et al., 2023). Experimental research using video-based observation has further demonstrated that technology-supported evaluation can provide more objective and detailed assessments of teaching practices, thereby improving the accuracy of performance evaluation (Estrella, 2024; Lyu et al., 2024; Tang et al., 2022). Accordingly, the integration of technology into educational supervision has the potential to make teacher performance evaluation more efficient, structured, objective, and evidence-based while supporting continuous professional improvement.

The proposed perspective in this study is that innovative educational supervision can integrate technology through several approaches, including MOOC-based professional development courses, machine learning systems for predicting teacher performance, and AI-based teacher training through simulation. These approaches provide potential mechanisms for transforming educational supervision from a predominantly periodic and conventional process into a more continuous, data-informed, adaptive, and technology-enhanced system for teacher professional development.

RESEARCH METHOD

The research setting was MA Mukhtar Syafa'at Blokagung, an Islamic educational institution established and developed within the educational environment of Mukhtar Syafa'at Blokagung Islamic Boarding School. As an Islamic secondary school located within a pesantren environment, the institution is strongly influenced by the religious, cultural, and educational characteristics of the boarding school, particularly in terms of teaching practices, discipline, and learning culture. The selection of MA Mukhtar Syafa'at Blokagung was based on its distinctive characteristics as an Islamic educational institution operating within a pesantren context. This setting provides a rich context for examining innovative approaches to educational supervision, particularly the integration of technology. The institution's strong Islamic traditions and commitment to improving teacher

quality provide an appropriate context for examining the effectiveness and challenges associated with implementing technology in educational supervision and teacher professional development.

This study employed a qualitative research design using a case study approach to explore innovative approaches to educational supervision through the integration of technology for teacher professional development. The qualitative approach enabled the researchers to examine in depth the experiences, perceptions, and practices of educational stakeholders at MA Mukhtar Syafa'at Blokagung. A case study design was selected to provide a comprehensive understanding of technology implementation in educational supervision within a specific context, namely an Islamic educational institution situated in a pesantren environment. Data were collected through in-depth interviews, participant observation, and document analysis. The collected data were subsequently analyzed thematically to identify key themes related to the effectiveness, challenges, and impacts of technology use in educational supervision.

The informants consisted of the principal, teaching staff, quality assurance team, educational supervisors, and educational technology developers at MA Mukhtar Syafa'at Blokagung. The principal provided strategic insights into policies and the implementation of technology in educational supervision, while teachers contributed their experiences and perspectives regarding the practical challenges of using technology for professional development. The quality assurance team provided information concerning the evaluation of educational standards and the effectiveness of technology-supported supervision. Educational supervisors contributed an external perspective on school and teacher performance, while educational technology developers provided insights into the software and platforms used in the supervision process and their alignment with educational needs and objectives.

Data collection involved three complementary techniques: observation, interviews, and documentation. Observations were conducted to examine directly the implementation of technology in educational supervision and the day-to-day interactions within MA Mukhtar Syafa'at Blokagung. In-depth interviews with the principal, teaching staff, quality assurance team, educational supervisors, and educational technology developers were conducted to explore their experiences, perceptions, and challenges associated with technology use. Documentation, including reports, evaluation records, and training materials, was examined to identify relevant policies, procedures, and evidence of technology implementation in educational supervision. The combination of these three data collection techniques enabled the researchers to obtain comprehensive and contextually relevant information.

Data analysis employed the interactive model of Miles and Huberman, consisting of three main components: data reduction, data display, and conclusion drawing. Data reduction involved selecting, organizing, and summarizing relevant information obtained from interviews, observations, and documentation, thereby focusing the analysis on the main themes emerging from the data. Data display involved organizing the reduced data into forms that facilitated interpretation, including tables, graphical representations, and structured narratives. Conclusion drawing involved an in-depth examination of the displayed data to identify patterns, relationships, and meanings associated with the use of technology in educational supervision and teacher professional development. The final conclusions were derived by synthesizing the identified patterns and relationships to formulate the principal findings of the study.

RESULTS AND DISCUSSION

MOOC-Based Professional Development Courses

The interview data indicate that MA Mukhtar Syafa'at Blokagung has implemented a professional development program based on Massive Open Online Courses (MOOCs). The integration of MOOCs into teacher professional development enables teachers to participate in online

courses that align with their professional needs and interests in a flexible manner (Koddebusch et al., 2024; Halagatti et al., 2023). This approach offers a high degree of flexibility and accessibility, allowing teachers to participate in relevant courses anytime and anywhere without being constrained by conventional time and location limitations (Halagatti et al., 2023; Khodabocus et al., 2022; Stanislaus, 2022). This flexibility enables teachers to continue learning and developing professionally despite demanding teaching schedules.

The field interview data further indicate that teachers at MA Mukhtar Syafa'at Blokagung have participated in various online courses relevant to their respective fields. These courses have supported teachers in updating their knowledge and improving their teaching skills. The principal of MA Mukhtar Syafa'at Blokagung, Khoirul Anwar, S.Pd., explained: *"At MA Mukhtar Syafa'at Blokagung, we have implemented a professional development program based on Massive Open Online Courses (MOOCs) for the past several years. The program is designed to provide our teachers with access to various online courses relevant to their fields. The response from the teachers has been very positive. They feel that these online courses are very helpful in updating their knowledge and teaching skills. MOOCs provide considerable flexibility, allowing them to learn according to the time they have available. This is particularly important given their demanding teaching schedules."*

This statement was reinforced by Noviatul Azizah, S.Pd., a member of the quality assurance team at MA Mukhtar Syafa'at Blokagung: *"MOOC-based professional development at MA Mukhtar Syafa'at Blokagung has had a very positive impact. The program enables teachers to access up-to-date training materials that are relevant to their needs, which is very helpful in improving teaching quality. We give teachers the freedom to choose courses that best suit their needs. However, we also provide general guidance to ensure that the courses are relevant to the subjects they teach and the skills they seek to develop. In addition, we conduct periodic evaluations to assess the effectiveness of the courses."*

These interviews indicate that the MOOC-based professional development program at MA Mukhtar Syafa'at Blokagung has been implemented successfully and has generated positive outcomes. According to the principal, teachers responded positively to the program because the online courses enabled them to update their knowledge and teaching skills while providing flexibility that helped them accommodate their demanding teaching schedules. The quality assurance team further emphasized that the program provides access to up-to-date and relevant training materials while allowing teachers to select courses according to their professional needs. General guidance and periodic evaluation are also used to maintain the relevance and effectiveness of the courses. Overall, the findings suggest that MOOC-based professional development has contributed to the improvement of teaching quality at MA Mukhtar Syafa'at Blokagung.

Machine Learning Systems for Predicting Teacher Performance

The interview data indicate that MA Mukhtar Syafa'at Blokagung has implemented a machine learning system to predict potential teacher performance based on historical data and key performance-related factors. The implementation of machine learning is intended to enable supervisors to identify potential areas of concern and plan more targeted interventions. The use of machine learning for predicting teacher performance is based on its capacity to analyze historical data and identify complex patterns. Through such analysis, supervisors can develop more targeted and effective interventions to support improvements in teaching and learning.

The principal of MA Mukhtar Syafa'at Blokagung, Khoirul Anwar, S.Pd., stated: *"At MA Mukhtar Syafa'at, we have implemented a machine learning system to help predict teacher performance. The system analyzes historical teacher performance data and various key factors, such as educational background, teaching experience, and previous performance evaluations. By using*

machine learning algorithms, we can make more accurate predictions regarding teachers' potential future performance."

This statement was further supported by Noviatul Azizah, S.Pd.: *"At MA Mukhtar Syafa'at Blokagung, we have implemented a machine learning system to predict potential teacher performance using historical data and key factors. The system analyzes various types of data, including previous evaluation results, attendance, and feedback from students and supervisors. Based on this information, we can predict areas that may require greater attention and plan more effective interventions. This helps us provide more targeted guidance and better support teachers' professional development."*

The interviews with Khoirul Anwar, S.Pd., and Noviatul Azizah, S.Pd., indicate that MA Mukhtar Syafa'at Blokagung has implemented machine learning as a tool to support teacher performance prediction. The system analyzes historical teacher performance and several key factors, including educational background, teaching experience, previous evaluation results, attendance, and feedback from students and supervisors. The use of machine learning algorithms enables the institution to generate predictions concerning potential future performance and identify areas requiring further attention. This implementation allows supervisors to design more targeted interventions and provide more focused professional guidance, thereby supporting teacher professional development. Machine learning can function as a data-informed component of educational supervision by supporting the identification of professional development needs.

AI-Based Teacher Training through Simulation

The field interview data indicate that MA Mukhtar Syafa'at Blokagung has begun using AI-based simulations to provide practical training for teachers in dealing with various classroom situations, including behavioral management and instructional challenges. The implementation of AI-based simulation is intended to provide teachers with a more practical and realistic training environment. The simulation-based training at MA Mukhtar Syafa'at Blokagung involves supporting hardware and equipment, including computers or other compatible devices, as well as audio-visual equipment such as headsets, microphones, and projectors.

The interactive training modules allow teachers to interact with simulated classroom scenarios, make decisions, and observe the consequences of their actions in real time. The modules are designed to provide immediate feedback to participants. This simulation-based approach allows teachers to practice responding to various classroom situations within a safe and controlled environment, enabling them to strengthen their classroom management and instructional skills. By simulating realistic scenarios, teachers can experience and respond to different classroom challenges, develop greater confidence, and prepare themselves to address similar situations in real-world settings. The technology also provides immediate and objective feedback, which is important for continuous improvement and the enhancement of teaching quality.

These findings were supported by an interview with Khoirul Anwar, S.Pd., who explained: *"At MA Mukhtar Syafa'at, we use advanced computers and supporting equipment such as headsets, microphones, and projectors for AI simulations. Our computers have high specifications to ensure that the simulations run smoothly without technical interruptions. Headsets and microphones are used for direct interaction during the simulations, allowing teachers to communicate and interact with the simulated scenarios. Projectors are used to display the simulations in the training room so that all participants can observe and learn together. The teachers feel that the use of modern and interactive hardware is very helpful in their training. They can practice in a more realistic and intensive manner, and the equipment provides a more immersive and effective learning experience. Although there were some initial technical challenges and an adaptation period, over time they*

became more familiar and comfortable with the technology."

This finding was further reinforced by Noviatul Azizah, S.Pd., a member of the quality assurance team at MA Mukhtar Syafa'at Blokagung:

"The interactive training modules we use are designed to provide teachers with a practical and in-depth learning experience. The modules include various realistic classroom scenarios, such as student behavior management, teaching difficult materials, and handling emergency situations. Teachers can interact directly with the simulations, make decisions, and see the outcomes of their actions in real time. The modules also provide instant feedback, enabling teachers to immediately understand and correct their mistakes. We have observed significant improvements in our teachers' classroom management skills and teaching strategies. They have become better prepared and more confident in dealing with various classroom situations. In addition, we have observed improvements in positive interactions between teachers and students, which have contributed to a better overall learning environment."

The interviews with Khoirul Anwar, S.Pd., and Noviatul Azizah, S.Pd., demonstrate that MA Mukhtar Syafa'at Blokagung has implemented AI-based teacher training supported by advanced hardware, including high-performance computers, headsets, microphones, and projectors. These technologies enable simulations to operate effectively while providing teachers with an immersive and interactive learning experience. The interactive training modules incorporate realistic scenarios, including student behavior management, the teaching of difficult material, and emergency situations, while providing immediate feedback to support teachers in identifying and correcting mistakes. The findings reported by the participants indicate improvements in classroom management skills, teaching strategies, and positive teacher–student interactions, contributing to a more supportive learning environment. Although teachers initially experienced technical difficulties and required an adaptation period, they subsequently became more familiar and comfortable with the technology.

CONCLUSION

The integration of technology into educational supervision at MA Mukhtar Syafa'at Blokagung provides an innovative approach to strengthening teacher professional development. The implementation of Massive Open Online Courses (MOOCs) enables teachers to access flexible, relevant, and up-to-date professional learning resources, while the use of machine learning supports the identification of potential teacher performance and enables more targeted supervisory interventions. In addition, AI-based simulation training provides teachers with realistic and interactive opportunities to develop classroom management and instructional skills through immediate feedback. Although the implementation initially encountered technical and adaptation challenges, teachers gradually became more familiar and comfortable with the technologies. Overall, the integration of MOOCs, machine learning, and AI-based simulations demonstrates the potential of technology-enhanced educational supervision to make teacher development more flexible, data-informed, interactive, and responsive to professional needs within an Islamic educational context.

REFERENCES

Aldosemani, T. (2023). Adopting HyFlex Course Design: Actions for Policymakers, Researchers, and Practitioners. In M. D. Lytras (Ed.), *Active and Transformative Learning in STEAM Disciplines* (pp. 197–227). Emerald Publishing Limited. https://doi.org/10.1108/978-1-83753-618-420231010

Alsaywid, B. S., Alajlan, S. A., & Lytras, M. D. (2023). Transformative Learning as a Bold Strategy for the Vision 2030 in Saudi Arabia: Moving Higher Healthcare Education Forward. In C. Vaz de Almeida & M. D. Lytras (Eds.), *Technology-Enhanced Healthcare Education: Transformative Learning for Patient-Centric Health* (pp. 187–207). Emerald Publishing Limited. https://doi.org/10.1108/978-1-83753-598-920231014

Bohannon, K., Connelly, V., Bigaj, S., & Wasielewski, L. M. (2024). Development and Evolution of Clinical Partnerships: K-12 School Leaders' Perspectives. *School-University Partnerships*. https://doi.org/10.1108/SUP-02-2023-0014

Estrella, F. (2024). Exploring the Efficacy of Writing Comics as a Tool for Enhancing EFL Writing Skills of Undergraduate Ecuadorian Polytechnic Students. *Quality Education for All, 1*(1), 106–128. https://doi.org/10.1108/QEA-12-2023-0028

Ghedin, E. (2021). Social Innovation Through Collaboration for Enabling Educational Inclusive Ecosystems: Following Italy's Lead. In S. R. Semon, D. Lane, & P. Jones (Eds.), *Instructional Collaboration in International Inclusive Education Contexts* (Vol. 17, pp. 71–96). Emerald Publishing Limited. https://doi.org/10.1108/S1479-363620210000017008

Gupta, V. P. (2023). Integration of New-Age Technologies in Education System to Achieve Sustainable Development Goals (SDGs) in Emerging Economies. In Q. T. Islam, R. Goel, & T. Singh (Eds.), *Fostering Sustainable Businesses in Emerging Economies* (pp. 259–280). Emerald Publishing Limited. https://doi.org/10.1108/978-1-80455-640-520231016

Halagatti, M., Gadag, S., & Banakar, V. (2023). Artificial Intelligence: The New Tool of Disruption in Educational Performance Assessment. In P. Tyagi, S. Grima, K. Sood, B. Balamurugan, E. Özen, & T. Eleftherios (Eds.), *Smart Analytics, Artificial Intelligence and Sustainable Performance Management in a Global Digitalised Economy* (Vol. 110A, pp. 261–287). Emerald Publishing Limited. https://doi.org/10.1108/S1569-37592023000110A014

Hammond, L. D., Hyle, E. M., & Gardner, M. (2017). Effective Teacher Professional Development (Research Brief). *Effective Teacher Professional Development (Research Brief)*, June, 1–8.

Hidayat-Ur-Rehman, I. (2024). Digital Competence and Students' Engagement: A Comprehensive Analysis of Smartphone Utilization, Perceived Autonomy and Formal Digital Learning as Mediators. *Interactive Technology and Smart Education, 21*(3), 461–488. https://doi.org/10.1108/ITSE-09-2023-0189

Hollweck, T. (2020). Growing the Top: Examining a Mentor–Coach Professional Learning Network. In L. Schnellert (Ed.), *Professional Learning Networks: Facilitating Transformation in Diverse Contexts with Equity-Seeking Communities* (pp. 141–170). Emerald Publishing Limited. https://doi.org/10.1108/978-1-78769-891-820201007

Hong, L., & Zainal, S. R. M. (2024). The Role of Mindfulness Skill and Inclusive Leadership in Job Performance Among Secondary Teachers in Hong Kong. *Journal of Asia Business Studies, 18*(3), 609–636. https://doi.org/10.1108/JABS-08-2023-0313

Khodabocus, F., Bahadur, G. K., & Armoogum, S. (2022). Innovative Teaching and Learning Methods at the University of Mauritius. In E. Sengupta & P. Blessinger (Eds.), *ICT and Innovation in Teaching Learning Methods in Higher Education* (Vol. 45, pp. 31–49). Emerald Publishing Limited. https://doi.org/10.1108/S2055-364120220000045003

Koddebusch, M., Halsbenning, S., & Becker, J. (2024). Design Principles for MOOC Platforms: A Public Sector Perspective. *Transforming Government: People, Process and Policy*. https://doi.org/10.1108/TG-05-2023-0065

Liu, P., Yang, Z., & Wang, T.-K. (2024). The Effect of Augmented Reality Applied to Learning Process with Different Learning Styles in Structural Engineering Education. *Engineering, Construction and Architectural Management*. https://doi.org/10.1108/ECAM-06-2023-0596

Lok, C. K. (2015). Adoption of Smart Card-Based E-Payment System for Retailing in Hong Kong Using an Extended Technology Acceptance Model. In *E-Services Adoption: Processes by Firms in Developing Nations* (Vol. 23B, pp. 255–466). Emerald Group Publishing Limited. https://doi.org/10.1108/S1069-09642015000023B003

Lyu, S., Niu, S., Yuan, J., & Zhan, Z. (2024). Developing Professional Capital Through Technology-Enabled University-School-Enterprise Collaboration: An Innovative Model for C-STEAM Preservice Teacher Education in the Greater Bay Area. *Asia Pacific Journal of Innovation and Entrepreneurship*. https://doi.org/10.1108/APJIE-01-2024-0014

Ocampo, D. J., Rufino, R., & Gonzales, J. F. (2021). Participatory Policy Formulation on Indigenous Peoples Education in the K to 12 Basic Education Program in the Philippines. In J. W. Lalas & H. L. Strikwerda (Eds.), *Minding the Marginalized Students Through Inclusion, Justice, and Hope* (Vol. 16, pp. 211–242). Emerald Publishing Limited. https://doi.org/10.1108/S1479-363620210000016012

Rawal, D. M. (2024). Mapping of School Teachers' Digital Competency in the Context of Digital Infrastructure: A Systematic Review and Empirical Study of India. *Journal of Professional Capital and Community, 9*(3), 173–195. https://doi.org/10.1108/JPCC-01-2024-0016

Rodrigues, A. L. (2023). Innovative Hybrid Learning: A New Paradigm in Teacher Education for Transformative Learning. In M. D. Lytras (Ed.), *Active and Transformative Learning in STEAM Disciplines* (pp. 153–175). Emerald Publishing Limited. https://doi.org/10.1108/978-1-83753-618-420231008

Sareminia, S., & Mohammadi Dehcheshmeh, V. (2024). Developing an Intelligent and Sustainable Model to Improve E-Learning Satisfaction Based on the Learner's Personality Type: Data Mining Approach in Higher Education Systems. *The International Journal of Information and Learning Technology*. https://doi.org/10.1108/IJILT-05-2023-0073

Stanislaus, I. (2022). Forming Digital Shepherds of the Church: Evaluating Participation and Satisfaction of Blended Learning Course on Communication Theology. *Interactive Technology and Smart Education, 19*(1), 58–74. https://doi.org/10.1108/ITSE-10-2020-0217

Tang, M., Zhou, H., Yan, Q., Li, R., & Lu, H. (2022). Virtual Medical Learning: A Comprehensive Study on the Role of New Technologies. *Kybernetes, 51*(4), 1532–1554. https://doi.org/10.1108/K-10-2020-0671

Torabandeh, M. A., Dorri, B., Rabieh, M., & Motameni, A. R. (2023). Designing a Multi-Division Model of National Innovation Capability Promotion Based on Social Network Analysis. *Journal of Science and Technology Policy Management, 14*(2), 386–418. https://doi.org/10.1108/JSTPM-01-2021-0006

Tunney, J., & Hanreddy, A. (2021). Inclusive Teaching Requires Inclusive Lesson Planning. In J. W. Lalas & H. L. Strikwerda (Eds.), *Minding the Marginalized Students Through Inclusion, Justice, and Hope* (Vol. 16, pp. 111–134). Emerald Publishing Limited. https://doi.org/10.1108/S1479-363620210000016007

Winter, J. S., Bressman, S., & Efron, E. S. (2020). An Innovative Model of Mentoring Teachers in Jewish Day Schools. *International Journal of Mentoring and Coaching in Education, 9*(1), 37–51. https://doi.org/10.1108/IJMCE-02-2019-0009

Withorn, T., Eslami, J., & Haas, A. (2021). Library Instruction and Information Literacy 2020. *Reference Services Review, 49*(3/4), 329–418. https://doi.org/10.1108/RSR-07-2021-0046

Zhu, B., Zheng, Y., Ding, M., Dai, J., Liu, G., & Miao, L. (2023). A Pedagogical Approach Optimization Toward Sustainable Architectural Technology Education Applied by Massive Open Online Courses. *Archnet-IJAR: International Journal of Architectural Research, 17*(3), 589–607. https://doi.org/10.1108/ARCH-07-2022-0151