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The Implementation of E-Supervision on Online Learning in Education 5.0

Ahmad Abdun Salam[1], Dwi Setyo Pratiwi[2]
[1]Manajemen Pendidikan Islam, Fakultas Tarbiyah, Universitas Islam Negeri (UIN) Syekh Wasil Kediri; [2]Pendidikan Biologi, FMIPA, Universitas Negeri Surabaya
Correspondence e-mail: abdunsalam@uinkediri.ac.id

Abstract:
This study explores the implementation of e-supervision in the context of online learning during the era of Education 5.0. Using a descriptive qualitative method, the study engaged principals, assessors, and teachers to investigate the implementation of online supervision practices in educational environments. Data were collected from five public schools that had previously implemented e-supervision. The findings indicate that the implementation of academic e-supervision settings follows a similar structure to face-to-face supervision, comprising three main stages: preliminary monitoring, supervision execution, and evaluation with follow-up. The preliminary monitoring stage involves the online review of instructional documents, including lesson plans (RPP), syllabi, student assessment analysis sheets, attendance journals, and other relevant materials. The implementation of supervision aligns with the mode of instruction—whether conducted online or face-to-face learning. The evaluation and follow-up stage is typically conducted in person to reinforce improvements and ensure the sustainability of quality teaching practices. E-supervision facilitated meaningful feedback to teachers, especially as many were adapting to the new landscape of digital instruction. Furthermore, the study identified several extraneous factors that influenced teacher performance, including infrastructure, school policy, student engagement, parental involvement, teacher creativity, professional competence, commitment, and access to professional development. As a key contribution, this research proposes a conceptual model for blended supervision, offering an innovative framework to enhance supervision practices in future educational landscapes.

Keywords: E-supervision, Online Learning, Education 5.0, Teacher Performance, Blended Supervision

Introduction

The education landscape of the 21st century has experienced considerable changes in comparison to earlier periods, especially regarding its incorporation of technology into the learning experience (Shonfeld et al., 2021). Education and technological development are two interrelated domains that influence and reinforce each other. As technology rapidly evolves, educational systems are compelled to adapt accordingly (Irawan et al., 2018). This change has been notably expedited by the worldwide COVID-19 pandemic, which necessitated a move from in-person teaching to digital learning formats (Bozkurt & Sharma, 2020; Hamdani et al., 2020; Jaenem & Zulkifli, 2022; Temelli et al., 2021). Consequently, a new paradigm has emerged, underscoring the critical role of technology in education both now and in the future, as societies must be prepared for potential similar disruptions.

Distance education and hybrid learning models have become standard across all educational levels, including primary, secondary, and higher education. The likelihood is growing that online learning will not just be a short-term fix but will establish itself as a core method of education delivery (Yamamoto & Altun, 2020). Furthermore, current educational practices must emphasize student-centered learning, promoting independent study through the effective use of available technologies (Wei & Chou, 2020). This aligns with the principles of Education 5.0, which aims to foster autonomous and collaborative learning environments, while accommodating students' developmental needs through technologies such as artificial intelligence (AI), virtual reality (VR), and the Internet of Things (IoT) (Ahmad et al., 2023).

The swift progress of technology affects educational supervision as well as the teaching and learning processes (Sanoto et al., 2024). Traditional supervision methods are inadequate in a context where online and blended learning have become dominant. Educational supervision plays a crucial role in monitoring, evaluating, and improving instructional practices on an ongoing basis (Sanoto et al., 2021), thus enhancing learning quality and student success (Vaiz et al., 2021).

However, several challenges hinder the effectiveness of conventional supervision. Many supervisors are unable to perform their duties due to limitations in time, distance, and the complexity of manual reporting systems (Yanuarti & Rusman, 2018). Supervision often requires physical visits to multiple schools, making the process inefficient, particularly given the limited number of supervisors available (Sanoto et al., 2024). To address these issues, the use of digital tools in academic supervision, commonly referred to as e-supervision, has emerged as a promising solution (Habibi et al., 2020).

Developed countries have already implemented digital supervision systems to monitor their educational frameworks (Vaiz et al., 2021). E-supervision enables supervision activities to be conducted across different geographical areas without temporal or spatial constraints. This approach also fosters broader collaboration among supervisors, school principals, and teachers (Vaiz et al., 2021). Digital supervision has significantly contributed to enhancing teachers' competencies, particularly during the COVID-19 pandemic, when online instruction became widespread (Prestiadi et al., 2021). It utilizes various digital platforms, such as Microsoft Teams, Google Meet, Zoom, Google Classroom, and WhatsApp groups, for observing teaching practices and facilitating supervisory interactions (Alya Dayinta et al., 2020).

Rather than replacing traditional supervision entirely, digital supervision is often combined with in-person approaches, resulting in what is known as blended supervision. This model offers meaningful experiences for teachers, who benefit from direct consultation with supervisors (Dyrstad et al., 2024). However, empirical research on the

implementation of blended supervision in online learning contexts remains limited. This study aims to explore the application of blended supervision in online learning, with the expectation that it will offer new insights and contribute to the development of more effective supervisory systems in the future.

Methods

The method in this study employed a descriptive qualitative research design (Sugiyono, 2018). Data were collected through structured interviews, structured observations, and documentation. The selection of data sources was based on purposive and snowball sampling techniques, prioritizing individuals who were most knowledgeable and capable of providing valid and relevant information (Sugiyono, 2021). Informants included school principals, vice principals, and teachers who had participated in e-supervision during the implementation of online learning.

Data were analysed using Patton's inductive qualitative analysis method, which consists of six steps: (1) observing, identifying, and cross-checking data; (2) categorizing the gathered information; (3) tracing and interpreting each category; (4) exploring the relationships among categories; (5) constructing or elaborating theoretical interpretations; and (6) drawing conclusions (Moleong, 2010).

Results and Discussion

a. Implementation of E-Supervision in Online Learning

Based on the qualitative research findings, it was revealed that in response to the implementation of distance or online learning, especially since the onset of the COVID-19 pandemic, several schools have adopted a blended supervision model. This model combines face-to-face supervision with online (e-supervision) modalities. Online supervision is enabled by widely accessible virtual platforms like Google Meet, Microsoft Teams, Zoom, WhatsApp groups, and more. The selection of a platform frequently relies on the digital resources currently employed by educators in online teaching. Additionally, e-supervision is viewed as more adaptable, enabling supervision tasks to be carried out at any time and from any place, whether at home, in school, or other distant sites.

These findings are consistent with (Albar, 2012) who states that e-supervision can be carried out independently of geographical or temporal constraints, offering convenience for teachers, supervisors, and students alike. This model promotes wider collaboration between supervisors, school principals, and teachers (Vaiz et al., 2021).

Academic oversight is not exclusive to principals; instead, it is assisted by trained evaluators selected by the principal according to established criteria. This is due to the limited capacity of principals to supervise all teachers directly. These assessors, typically vice principals or senior teachers, must hold at least a Grade 4A rank or a master's degree and must have completed official assessor training administered by the local education office. Standardized instruments are provided to ensure consistency in supervision across all parties.

The requirements for appointing assessors are aligned with the Indonesian Ministry of National Education Regulation No. 12 of 2007 concerning standards for school/madrasah supervisors. This regulation stipulates qualification and competency requirements for school supervisors at the junior and senior high school levels. These include: (1) holding at least a bachelor's degree in education from an accredited institution; (2) having a minimum of eight years of teaching experience or four years as a school principal; (3) possessing at least a rank of III/c; (4) being no older than 50 years

at the time of appointment; (5) passing competency tests administered by authorized institutions; and (6) succeeding in the supervisor selection process.

The appointment of assessors in this study aligns with those regulations in terms of educational background, rank, age, and certification. This ensures the professional conduct of supervision and facilitates the improvement of teaching competencies. Furthermore, assessors are typically more experienced and higher-ranking than the teachers they supervise, reducing potential discomfort in providing feedback or guidance.

Academic e-supervision consists of several stages: planning, implementation, and follow-up. The Indonesian Ministry of Education and Culture, through the Institute for School Principal Development and Empowerment, has issued a guide for school supervision during the pandemic. According to this guide, the planning phase includes: (1) reviewing existing supervision programs; (2) identifying school infrastructure; (3) developing pre-observation, observation, and post-observation instruments; (4) adjusting existing programs to pandemic conditions; and (5) socializing the adapted supervision program.

Following these guidelines, principals begin the planning phase by evaluating challenges in online learning through surveys (e.g., Google Forms) to assess technological capabilities, internet access, digital literacy, and infrastructure needs. The results inform new policies, including the shift from face-to-face to online supervision.

Subsequently, customized supervision instruments are developed in line with national or regional guidelines and are disseminated to assessors and teachers through online meetings or messaging groups. During the implementation phase, supervisors conduct pre-observations to review lesson plans, syllabi, assessments, and attendance records. The observation itself is carried out using digital platforms, guided by standardized assessment tools. Post-observation meetings are arranged to provide feedback, coaching, and reflection.

While much of the process is conducted online, face-to-face interactions are preserved during pre-observation and follow-up stages to foster personal connections. This blended supervision approach enhances communication and comfort, enabling teachers to express concerns and receive guidance more openly. This aligns with Dyrstad et al. (2024), who emphasize the benefits of blended supervision in promoting professional development through direct consultation.

The importance of building a collegial and supportive atmosphere during supervision is highlighted by Shulhan (2012), who argues that such environments encourage teachers to openly discuss challenges. Even in the context of online learning, maintaining face-to-face interactions helps ensure meaningful collaboration.

E-supervision has a significant impact on teacher performance, particularly as many teachers are still adjusting to online teaching methods. Without supervision, teachers may rely solely on self-assessment, which can be biased or insufficient. Constructive feedback and guidance help teachers recognize areas for improvement and develop more effective instructional strategies.

These findings align with Sergiovanni's views, which suggest that academic supervision is essential for helping teachers develop pedagogical skills, classroom management strategies, and reflective practices (Shulhan, 2012). Likewise, (Marwan, 2017) confirms the positive influence of academic supervision on teacher performance, especially when implemented regularly.

In the context of distance learning, e-supervision is proven to be both effective and efficient, allowing supervisors to monitor teaching activities without being physically present, thus overcoming limitations of time and space (Paulsen & Crawford, 2017).

b. Innovative Findings

Education systems must continuously innovate to remain resilient in the face of technological advances and potential crises such as pandemics. Innovations in educational technology are essential not only for teaching and learning but also for school management, supervision, and administration. Supervision plays a critical role in maintaining instructional quality and enhancing teacher competencies.

This study, which utilized interviews, observations, and documentation, identified a new hypothetical model of academic supervision: Blended Supervision. This model combines face-to-face (offline) and online (e-supervision) approaches. The following figure illustrates the steps involved in the blended supervision model:

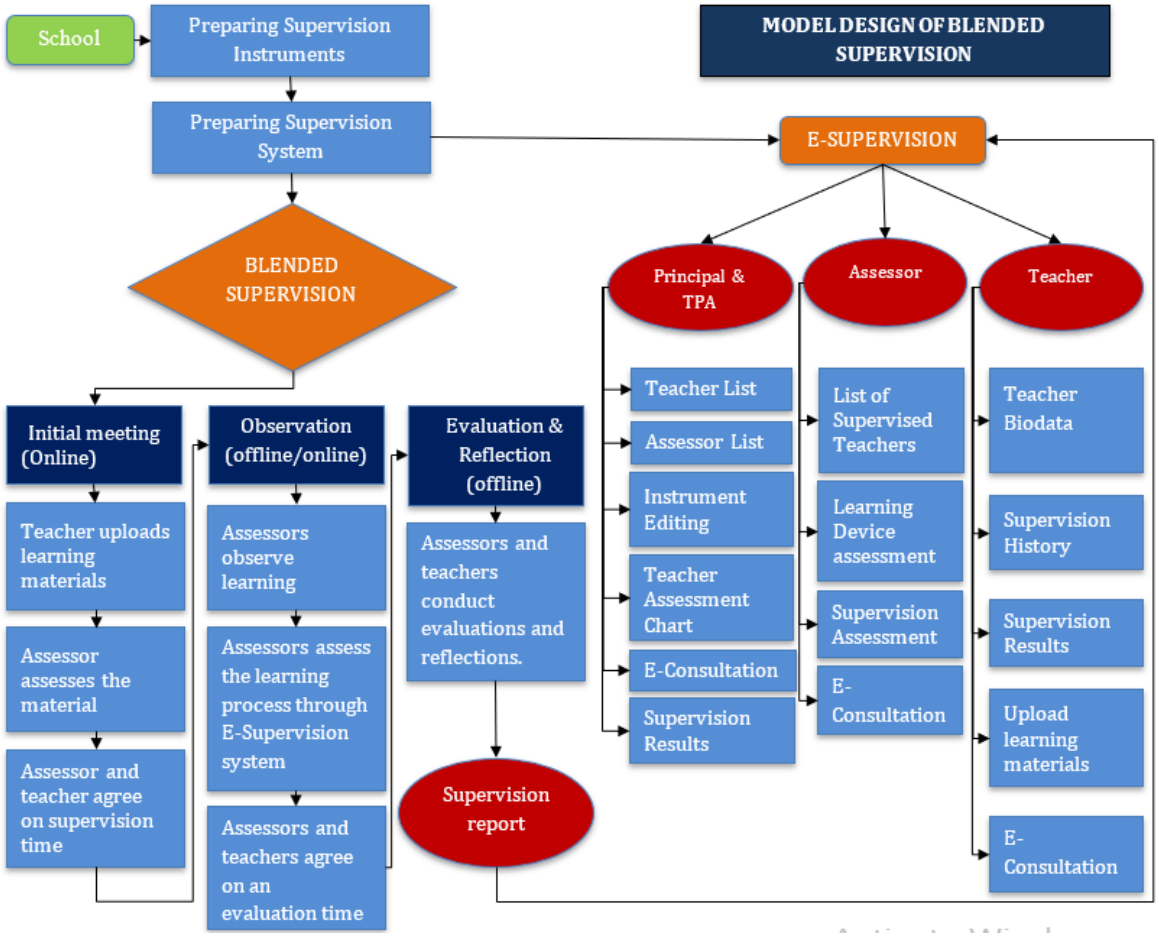


Figure 1. Implementation Model of Blended Learning Supervision

Blended supervision offers a practical alternative for supervision during and after pandemic conditions, especially considering the increasing integration of digital tools in education. This model supports principals and assessors facing time and distance constraints by leveraging existing technologies, while maintaining personal interaction to ensure professional growth.

In addition to implementing the model, the development of an integrated e-supervision system is recommended. Such systems can streamline supervision processes, ranging from planning and communication to documentation and reporting, addressing one of the major weaknesses of traditional supervision: administrative inefficiency.

However, it is essential to recognize the limitations of digital systems, particularly their lack of human interaction. Therefore, blended supervision that includes direct interpersonal engagement remains necessary to create a balanced and effective supervision framework.

Conclusion

The study concludes that 1) Academic supervision is implemented using a blended approach that combines online and face-to-face methods. 2) Teachers benefit significantly from this supervision model, especially in adapting to online teaching, which remains a novel experience for many. 3) Several external factors also influence teacher performance, including infrastructure, school policies, student engagement, parental support, teaching skills, teacher motivation, and opportunities for continuous professional development.

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