Strategic Analysis of Research-Based Learning Management Strategies to Enhance Teacher Competence in Schools

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Abstract
Amidst the ever-evolving wave of technology and the complexity of student needs, teachers must be equipped with relevant skills and knowledge to provide effective learning experiences. Learning management plays a central role in upholding the quality of education in schools, and the use of appropriate strategies is crucial in this context. This research aims to analyze research-based learning management strategies to enhance teacher competence in schools. The research method employed is a qualitative literature review aimed at community service, particularly in the context of its relevance to teacher competence in schools. Data used were obtained from Google Scholar searches spanning from 2008 to 2023. The study findings indicate that by enhancing teacher competence through the application of research-based learning management strategies, schools can create an environment conducive to the sustainable professional development of teachers. This approach combines management principles with research methods to identify needs, design appropriate training programs, and continuously evaluate their effectiveness. Despite its significant potential, challenges such as resource limitations and contextual factors need to be addressed for successful implementation.

Keywords: Learning Management, Research, Teacher Competence

Analisis Strategi Manajemen Pembelajaran Berbasis Riset untuk Meningkatkan Kompetensi Guru di Sekolah

Abstrak
Di tengah gelombang teknologi yang terus berubah dan kompleksitas kebutuhan siswa, guru harus dilengkapi dengan keterampilan dan pengetahuan yang relevan agar dapat memberikan pengalaman pembelajaran yang efektif. Manajemen pembelajaran memainkan peran sentral dalam menegakkan kualitas pendidikan di sekolah, dan penggunaan strategi yang tepat sangat penting dalam konteks ini. Penelitian ini bertujuan untuk menganalisis strategi manajemen pembelajaran berbasis riset untuk meningkatkan kompetensi guru di sekolah. Metode penelitian ini adalah sebuah tinjauan pustaka kualitatif yang ditujukan untuk pengabdian masyarakat, khususnya dalam konteks keterkaitannya dengan kompetensi guru di sekolah. Data yang digunakan diambil dari hasil pencarian Google Scholar pada rentang tahun 2008-2023. Hasil studi menunjukkan bahwa dengan meningkatkan kompetensi guru melalui penerapan strategi manajemen pembelajaran berbasis riset, sekolah dapat menciptakan lingkungan yang mendukung pengembangan profesional guru secara berkelanjutan. Pendekatan ini menggabungkan prinsip-prinsip manajemen dengan metode penelitian untuk mengidentifikasi kebutuhan, merancang program pelatihan yang sesuai, dan mengevaluasi efektivitasnya secara berkelanjutan. Meskipun strategi ini memiliki potensi besar, tantangan seperti keterbatasan sumber daya dan faktor-faktor kontekstual perlu diatasi untuk keberhasilan implementasinya.

Kata kunci: Manajemen Pembelajaran, Riset, Kompetensi Guru

INTRODUCTION

This research originates from the dynamic context of contemporary education sector undergoing continuous transformation, resulting in heavy demands for adaptation by

educators. In an era where technology is rapidly evolving and students' needs are becoming more complex, teachers are faced with the challenge of acquiring relevant skills and knowledge to provide optimal learning experiences. Learning management becomes a key element in ensuring the quality of education within the school environment, and the use of appropriate strategies holds undeniable significance in this context (Munir & Ulfatin, 2023).

The primary challenge facing educators today involves creating a learning environment that is not only stimulating and inclusive but also capable of meeting the individual needs of each student (Ainscow, 2020). Recognizing this complexity, the emergence of evidence-based learning management strategies becomes increasingly important. Through approaches rooted in empirical evidence and recent findings in the field of education, these strategies can provide more detailed and measurable guidance for educators in enhancing their teaching quality. By leveraging a strong scientific foundation, teachers can confront evolving challenges in the education sector with greater confidence and effectiveness.

While these strategies are considered promising solutions, their implementation in practical contexts often poses complex challenges for most educational institutions (Montenegro-Rueda et al., 2023). A profound understanding of the internal dynamics of schools, as well as the diverse needs of educators and students, is required to effectively adopt these strategies. Therefore, research analyzing and testing various research-based learning management strategies in diverse school contexts becomes highly significant. This approach enables the identification of the most appropriate and effective strategies in enhancing the competence and performance of educators. Through in-depth and focused research, a more holistic understanding can be formed of how these strategies can be effectively applied, resulting in significant positive impacts on efforts to improve the quality of education.

The significance of this research is not limited to the professional development aspect of teachers but is closely related to efforts to improve the overall quality of education provided within the school environment. The presence of highly competent educators has a substantial impact on various aspects, including students' academic achievement, their attendance rates, and the quality of interactions between teachers and students in the learning context. Therefore, the importance of investing in research focusing on research-based learning management strategies cannot be overlooked. This is due to the significant potential of such research to provide long-term returns by generating continuous updates in educational practices and making stronger contributions to achieving desired educational goals.

In addition to providing valuable insights for education practitioners, this research also opens opportunities for schools and educational institutions to develop a sustainable learning culture. By integrating research findings into the framework of school policies and operational practices, educational institutions can create an environment that not only supports innovation but also facilitates continuous improvements in the learning process. Thus, these steps will not only enhance the quality of education in the present but also

establish a stable foundation for addressing future challenges that may arise in the education domain. By nurturing a dynamic learning culture that is responsive to research findings, schools can become progressive agents of change in realizing more inclusive and achievement-oriented educational goals.

Learning Management

Learning management refers to a series of processes designed to organize, direct, and oversee various aspects of learning in an educational environment (Bradley, 2020). In this context, learning management encompasses curriculum planning, development of teaching strategies, assessment and evaluation of student performance, as well as classroom management and interaction between teachers and students. Its aim is to create an effective and efficient learning environment where each student can achieve their maximum potential. Learning management involves coordination among various stakeholders, including teachers, students, parents, and other school staff, to ensure that learning objectives are optimally achieved (Elsa Sabrina et al., 2022). It also involves the application of relevant management strategies and practices, such as time management, resource management, and conflict management, to create an environment conducive to effective and inclusive learning. Thus, learning management is an integral component in efforts to improve the quality of education and ensure students' success in school.

Research

Research is a systematic and planned process conducted to obtain new knowledge, deeper understanding, or solutions to specific problems using scientific methods (Garg, 2016). In this context, research involves identifying relevant research questions or problems, collecting appropriate data, analyzing data meticulously, and interpreting results to achieve a better understanding of the researched topic. The purpose of research is to explore phenomena, test hypotheses, or develop new theories that can contribute to the development of knowledge in specific fields (Barroga & Matanguihan, 2022). Research methods may vary depending on the discipline and research objectives, including experiments, surveys, observations, or secondary data analysis (Nassaji, 2015). Through research, researchers can explore and document phenomena, discover causal relationships or correlations between variables, and produce empirical evidence that can be used as a basis for decision-making or policy development. Thus, research is an important instrument in advancing knowledge and solving complex problems in various fields of science and life.

Teacher Competence

Teacher competence refers to the combination of skills, knowledge, attitudes, and behaviors required to succeed in their educational role (Sulaiman & Ismail, 2020). It includes the ability to design and implement effective learning, manage classrooms effectively, objectively evaluate student progress, communicate well with students, parents, and colleagues, as well as have a deep understanding of the subjects they teach. Additionally, teacher competence also includes professionalism aspects such as the ability

to collaborate in teams, adapt to changes in the curriculum or educational technology, and commit to continuous professional development. Teacher competence is not limited to academic aspects but also includes social, emotional, and ethical aspects in interacting with students and the school community (Ghiaţău, 2015). Competent teachers can create inclusive, supportive, and stimulating learning environments, contribute positively to students' academic achievement, and overall well-being. Thus, the development of teacher competence becomes a key factor in improving the quality of education and creating meaningful learning experiences for all students.

METHOD

The research method employed is a qualitative literature review aimed at community service, particularly in the context of its relevance to teacher competence in schools. Data used were obtained from Google Scholar searches spanning from 2008 to 2023. This qualitative literature review aims to identify, analyze, and synthesize recent findings in relevant scholarly literature concerning the enhancement of teacher competence. By adopting a qualitative approach, this research will explore the nuances and complexities of the information found in selected articles. After undergoing a rigorous screening process, resulting in 19 articles that meet the inclusion criteria, data from these articles will be analyzed in detail to identify patterns, key findings, and different perspectives related to teacher competence development strategies in schools. The results of this literature review are expected to provide valuable insights for education practitioners, school stakeholders, and researchers to design more effective and relevant professional development programs tailored to the needs of teachers in addressing contemporary educational challenges.

FINDING AND DISCUSSION

Education plays an essential role as the foundation for nation-building. The role of teachers in the educational process is crucial and irreplaceable. They not only act as knowledge transmitters but also as agents shaping the character and quality of learners. Therefore, it is imperative for educators to continually enhance their competencies to provide quality education. One proven approach to achieving this goal is by implementing research-based learning management strategies.

Research-based learning management strategies entail utilizing scientific evidence and empirical data to strengthen the learning process (Yulhendri et al., 2018). Focused on enhancing the competencies of educators, this method integrates management principles with research techniques to identify existing needs, develop appropriate training programs based on these findings, and continuously evaluate the effectiveness of implemented programs. Through this approach, teachers are empowered to develop necessary skills and adopt best practices in teaching, thus meeting the demands of increasingly complex and diverse educational requirements.

The initial step in analyzing research-based learning management strategies begins with the process of identifying the competency needs of teachers. This approach may involve various methods such as surveys, interviews, or analysis of educator performance

evaluation data. By gaining a deep understanding of these needs, educational managers or school principals can design detailed and appropriate training programs that not only target individual skill enhancements but also reflect the specific needs of the school or educational environment concerned (Kamalov et al., 2023). Thus, the implementation of this strategy becomes a strategic step aimed at maximizing the potential of teachers and effectively improving the quality of education at every level.

After the identification of teachers' competency needs, the next step in implementing research-based learning management strategies is designing training programs based on the latest research findings in education and professional development of educators. A concrete example of this approach is if research findings indicate that integrating technology into the learning process significantly increases student participation and engagement, then training programs can focus on enhancing teachers' skills in using technology as a teaching aid. Thus, the designed training programs are not solely based on assumptions or intuition but are also supported by scientific evidence to ensure that professional development efforts are relevant and effective in enhancing the quality of education in the respective educational environment (Domitrovich et al., 2008).

Once the training program planning is formulated, the next step is to execute it in a structured and comprehensive manner. The implementation process of this training program should involve various instructional methods that are suitable for the needs and characteristics of the material to be taught, while also considering the individual learning styles of the trainees. In this context, it's important to emphasize that providing adequate support and resources is crucial to facilitate teachers in applying the skills they acquire during the training in real classroom situations (Kim et al., 2019). This support can take the form of access to mentors, reference materials, or further training to deepen the understanding and skills gained. Thus, the comprehensive and structured implementation of the training program ensures that teachers can effectively integrate the best practices acquired from the training into their daily teaching practices, which in turn will positively impact student learning experiences.

Evaluation is a crucial stage in the implementation of research-based learning management strategies. The evaluation process can be conducted formatively, both during and after the implementation of the training program, with the aim of assessing the understanding and application of new skills acquired by educators (Arrafii & Sumarni, 2018). Additionally, a holistic evaluation approach also includes summative aspects, aiming to measure the long-term impact of the training program on improving teaching quality and student learning outcomes. This approach provides opportunities for educational managers or school principals to gain in-depth insights into the effectiveness of the training program in achieving the set learning objectives, and to identify areas that require further improvement or refinement in the future. By effectively utilizing evaluation data, educational institutions can optimize resources and direct professional development efforts towards the most beneficial direction for both educators and students.

Through the implementation of research-based learning management strategies, schools have the potential to create an environment that facilitates continuous professional

development for teachers. By utilizing scientific evidence and empirical data as the basis for decision-making processes, educational institutions can ensure that efforts to enhance educators' competencies are not solely based on assumptions or personal experiences but are also supported by current knowledge and recent findings in the field of education. This approach creates a solid foundation for developing a learning-focused school culture and a firm commitment to providing high-quality education for all students. Through this process, schools can become dynamic learning centers, where best practices are driven by research and tailored to the unique needs of each educational environment. Thus, the implementation of research-based learning management strategies not only supports teachers' professional development but also strengthens schools' capacity to provide meaningful and effective learning experiences for all students.

In a deeper context, research-based learning management strategies offer schools the ability to adapt to the continuous dynamics of change in the field of education. Alongside technological advancements, changes in curricula, and the evolving dynamics of society, teachers are faced with the demand to continually enhance their skills and knowledge. By adopting a research-based approach, schools have an advantage in proactively responding to these changes by providing appropriate and relevant training for educators (Beycioglu & Kondakci, 2021). More than just passively responding to change, this approach enables educational institutions to become active agents of change, driving innovation in teaching practices, and ensuring that teachers have access to the tools and knowledge necessary to meet the demands of increasingly complex education. Thus, research-based learning management strategies become not only a tool for improving teaching quality but also a foundation for shaping an adaptive and dynamic learning culture in every school.

In addition, the implementation of these strategies also facilitates the formation of a collaborative and inclusive learning culture within the school environment. By encouraging active participation of teachers in research activities and professional development, schools can foster a spirit of collaboration and exchange of ideas among teaching staff, making it an integral part of the organizational culture (Xie et al., 2023). Its impact extends beyond the improvement of teaching quality in general, but also strengthens individual ownership and involvement in the learning process within the school. Through this open and inclusive culture, teachers feel supported and valued for their contributions and innovations they bring to the table, creating an environment that fosters a sense of community and commitment to achieving educational goals together. Thus, research-based learning management strategies not only serve as a vehicle for individual professional growth but also act as a catalyst for the creation of a dynamic and competitive learning community within the school.

However, despite the promising benefits of these strategies, their implementation also faces several challenges that require resolution. One of these is the limitation of resources, including aspects of time, manpower, and budget. Research-based training programs often demand significant investment, both in the development of relevant curriculum, effective implementation of training, and evaluation of its outcomes (Salas et al., 2012). Therefore, strong support from school management and the government is crucial to ensuring the

sustainability and effectiveness of these strategies. Through adequate resource allocation and sustained commitment, educational institutions can overcome these obstacles and strengthen the implementation of research-based learning management strategies, thereby making a significant impact on improving the quality of education and professional development of teachers in the future.

Furthermore, the importance of considering contextual factors that influence the success of the implementation of these strategies cannot be overlooked. Each school has unique characteristics and needs, so an approach that proves effective in one school may not be entirely relevant in another educational environment (Davies et al., 2013). Therefore, a high level of flexibility and adaptation is required in designing and implementing research-based training programs to carefully consider the dynamics and specific needs of each school. By understanding the unique context of each educational institution, stakeholders involved in the implementation of these strategies can develop more appropriate and effective solutions that are better able to address challenges and capitalize on opportunities. Through an adaptive and responsive approach to local needs, schools can ensure that research-based professional development efforts are not only relevant but also have a positive and significant impact on learning and the development of educators and students in the respective educational environment.

Taking into account various challenges and relevant contextual factors, research-based learning management strategies remain an approach with great potential to enhance the competencies of educators within the school environment. Through this approach, educational institutions can build a solid foundation based on reliable scientific evidence and empirical data, thereby driving the achievement of their goals in improving overall education quality and providing meaningful learning experiences for all learners. In the context of the ever-evolving dynamics of education, these strategies serve as effective tools to align professional development efforts with existing demands, ensuring that teachers can continue to innovate and adapt to changes in the learning environment. Thus, research-based learning management strategies are not only a promising alternative but also an urgent necessity in advancing the quality of education in this increasingly complex and dynamic era.

CONCLUSION

Education is a crucial foundation in the development of a nation, and the role of teachers is pivotal in the educational process. They are not just instructors but also leaders in shaping the character and quality of learners. By enhancing teacher competence through the application of research-based learning management strategies, schools can create an environment supportive of sustainable professional development for teachers. This approach integrates management principles with research methods to identify needs, design appropriate training programs, and continuously evaluate their effectiveness. Despite the significant potential of this strategy, challenges such as resource limitations and contextual factors need to be addressed for successful implementation. Recommendations that can be offered based on the research findings include:

1. Support from school management and government is crucial to ensure the sustainability and effectiveness of research-based learning management strategies. This includes allocating adequate resources for curriculum development, training implementation, and evaluation.

2. There needs to be flexibility and adaptation in designing and implementing research-based training programs to fit the specific context of each school. Every school has unique characteristics and needs, so an effective approach in one school may not be entirely relevant in another.

3. Encouraging collaboration and idea exchange among teachers can strengthen a collaborative and inclusive learning culture in schools. This can enhance overall teaching quality and reinforce teachers' ownership and engagement in the learning process.

4. Proactively responding to continuous changes in the education sector by providing relevant and timely training for teachers. This will help schools remain relevant and adaptive to technological advancements, changes in curriculum, and evolving social dynamics.

ACKNOWLEDGEMENT

REFERENCES

Ainscow, M. (2020). Promoting inclusion and equity in education: lessons from international experiences. *Nordic Journal of Studies in Educational Policy*, *6*(1), 7–16. https://doi.org/10.1080/20020317.2020.1729587

Arrafii, M. A., & Sumarni, B. (2018). Teachers' Understanding of Formative Assessment. *Lingua Cultura*, *12*(1), 45. https://doi.org/10.21512/lc.v12i1.2113

Barroga, E., & Matanguihan, G. J. (2022). A Practical Guide to Writing Quantitative and Qualitative Research Questions and Hypotheses in Scholarly Articles. *Journal of Korean Medical Science*, *37*(16), 1–18. https://doi.org/10.3346/jkms.2022.37.e121

Beycioglu, K., & Kondakci, Y. (2021). Organizational Change in Schools. *ECNU Review of Education*, *4*(4), 788–807. https://doi.org/10.1177/2096531120932177

Bradley, V. M. (2020). Learning Management System (LMS) Use with Online Instruction. *International Journal of Technology in Education*, *4*(1), 68. https://doi.org/10.46328/ijte.36

Davies, D., Jindal-Snape, D., Collier, C., Digby, R., Hay, P., & Howe, A. (2013). Creative learning environments in education—A systematic literature review. *Thinking Skills and Creativity*, *8*, 80–91. https://doi.org/10.1016/j.tsc.2012.07.004

Domitrovich, C. E., Bradshaw, C. P., Poduska, J. M., Hoagwood, K., Buckley, J. A., Olin, S., Romanelli, L. H., Leaf, P. J., Greenberg, M. T., & Ialongo, N. S. (2008). Maximizing the Implementation Quality of Evidence-Based Preventive Interventions

in Schools: A Conceptual Framework. *Advances in School Mental Health Promotion*, *1*(3), 6–28. https://doi.org/10.1080/1754730X.2008.9715730

Elsa Sabrina, M. Giatman, & Ernawati. (2022). Development of curriculum management in the world of education. *Fair Value : Jurnal Ilmiah Akuntansi Dan Keuangan*, *4*(10), 4691–4696.

Garg, R. (2016). Methodology for research I. *Indian Journal of Anaesthesia*, *60*(9), 640. https://doi.org/10.4103/0019-5049.190619

Ghiaţău, R.-M. (2015). Ethical Competence for Teachers: A Possible Model. *Symposion*, *2*(3), 387–403. https://doi.org/10.5840/symposion20152325

Kamalov, F., Santandreu Calonge, D., & Gurrib, I. (2023). New Era of Artificial Intelligence in Education: Towards a Sustainable Multifaceted Revolution. *Sustainability*, *15*(16), 12451. https://doi.org/10.3390/su151612451

Kim, S., Raza, M., & Seidman, E. (2019). Improving 21st-century teaching skills: The key to effective 21st-century learners. *Research in Comparative and International Education*, *14*(1), 99–117. https://doi.org/10.1177/1745499919829214

Montenegro-Rueda, M., Fernández-Cerero, J., Fernández-Batanero, J. M., & López-Meneses, E. (2023). Impact of the Implementation of ChatGPT in Education: A Systematic Review. *Computers*, *12*(8), 153. https://doi.org/10.3390/computers12080153

Munir, A. S., & Ulfatin, N. (2023). Student Management Strategies for Enhancing the Quality of Learning. *International Journal of Educational Research and Social Sciences (IJERSC)*, *4*(6), 989–993.

Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research*, *19*(2), 129–132. https://doi.org/10.1177/1362168815572747

Salas, E., Tannenbaum, S. I., Kraiger, K., & Smith-Jentsch, K. A. (2012). The Science of Training and Development in Organizations. *Psychological Science in the Public Interest*, *13*(2), 74–101. https://doi.org/10.1177/1529100612436661

Sulaiman, J., & Ismail, S. N. (2020). Teacher Competence and 21<sup>st</sup> Century Skills in Transformation Schools 2025 (TS25). *Universal Journal of Educational Research*, *8*(8), 3536–3544. https://doi.org/10.13189/ujer.2020.080829

Xie, W., Sui, Y., Liu, X., & Liu, S. (2023). Effects of Teacher Collaboration on Teaching Practices in China and England: A Structural Equation Model With TALIS 2018 Data. *SAGE Open*, *13*(2), 1–14. https://doi.org/10.1177/21582440231177908

Yulhendri, Syofyan, E., & Afridona, S. (2018). The Development Of Research-Based Learning Model And Journal As For Graduate Students' Scientific Publications Of M.Pd.E On Economic. *International Journal of Scientific and Research Publications (IJSRP)*, *8*(5), 500–505. https://doi.org/10.29322/IJSRP.8.5.2018.p7764