

Optimizing Teacher Performance Human Resources in Facing the Digital Era

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ABSTRACT

The development of digital technology has brought major changes in the world of education, requiring teachers to adopt more innovative and technology-based teaching methods. Teachers are required to have adequate digital competence in order to be able to face the challenges of the digital era. Therefore, optimizing human resources (HR) is very important to improve teacher performance. This study aims to analyze HR optimization strategies to improve teacher performance in facing the digital era. The method used is a literature review by reviewing various relevant previous studies related to improving teacher competence in the digital era. The results of the study show that the development of technological competence, pedagogical innovation, and ongoing training are effective strategic steps in improving teacher performance. In addition, institutional support in the form of providing digital infrastructure and strengthening education policies are key factors in the HR optimization process. The synergy between strengthening teacher competence and support for the education system can create a learning ecosystem that is adaptive to the development of digital technology. The recommendations of this study emphasize the importance of cross-sector collaboration in providing technology-based training and ongoing teacher professional development to strengthen the quality of education in the digital era.

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1. INTRODUCTION

The development of digital technology has brought about major changes in the world of education, requiring teachers to adopt more innovative and technology-based teaching methods. Teachers must have adequate digital competence in order to be able to face the challenges of the digital era and improve the quality of learning. Teachers' digital competence not only includes the ability to operate technological devices, but also the ability to integrate technology with pedagogical strategies and mastery of learning materials as a whole. This is in accordance with the concept of TPACK (Technological Pedagogical Content Knowledge) which is an important foundation in developing teacher professionalism in the digital era (Munianti, 2022).

Optimizing human resources (HR) is very important to improve teacher performance in the digital era. This optimization strategy includes developing technological competencies, pedagogical innovation, ongoing training, and institutional support in the form of providing digital infrastructure and supportive education policies. The synergy between strengthening teacher competencies and supporting the education system can create a

learning ecosystem that is adaptive to the development of digital technology. In addition, cross-sector collaboration in technology-based training and ongoing teacher professional development are key to strengthening the quality of education in the digital era (Purba, R. D., et al., 2022).

This study aims to analyze HR optimization strategies to improve teacher performance in facing the digital era, using a literature review method of various relevant previous studies. The results of the study are expected to provide practical recommendations for educational institutions and policy makers in developing teacher capacity so that they can contribute optimally to technology-based education.

1.1 Developing Teacher Digital Competence in the Digital Era

Mastery of digital competence by teachers is the main foundation in facing the challenges of education in the digital era. Teachers are not only required to master the subject matter, but must also be able to integrate technology into the learning process effectively. This is in line with the concept of TPACK (Technological Pedagogical Content Knowledge) which emphasizes the importance of balance between mastery of content, pedagogy, and technology.

Teacher digital competence refers to the ability to understand, use, and integrate technology and information in the teaching and learning process. This is not just about how to operate the device, but has a broader meaning. Teachers who have digital competence can utilize various tools and applications to improve the quality of teaching and create a more engaging learning experience for students. With the pandemic and the shift to online learning, this competence is increasingly vital to support the success of learning in the digital era (Muthmainnah et al., 2025).

A key aspect of digital competence is digital literacy, which includes teachers' ability to find, assess, and utilize information from a variety of digital sources. Digitally literate teachers are able to help students not only access information, but also think critically about what they read and how it is relevant in the context of learning. Digital literacy also involves an understanding of ethics and information security in cyberspace, so that teachers can teach students how to use the internet safely and responsibly (Jalaluddin, 2024).

The main challenge for teachers in the digital era is to master technology and continue to develop creativity and innovation. A creative and innovative learning atmosphere can create new challenges in every learning, thus encouraging students to be more active during the learning process. The important role of technology cannot be separated from increasing learning effectiveness (Jasrial & Rusli, 2019).

Some steps that can be taken to face the challenges of teacher professionalism in the digital era: 1) Continuous Professional Training and Development: Providing training programs that focus on improving digital literacy and technological skills for teachers. 2) Infrastructure Support: Increasing access to adequate technological devices and internet networks in every school, especially in remote areas. 3) Balanced Approach: Balancing the use of technology in the learning process without ignoring conventional teaching methods that remain effective. 4) Institutional Support: Ensuring support from schools and educational policies that support the application of technology in learning (Al Hudaya et al., 2024).

It is important to explore how digital transformation affects teacher competency, as well as how they can adapt to meet the demands of today's education. Along with technological advances, teachers are required to not only have knowledge of learning materials, but also have the ability to utilize technology effectively in the teaching process. This adaptation includes the use of digital platforms, technology-based learning methods, and interactive strategies that can increase student engagement. Through this understanding, we can improve the learning environment, which can facilitate more enjoyable and effective learning for students. In addition, improving teachers' digital competency also plays a role in creating an inclusive and flexible additional education system to the demands of the times (Triyunita, H et al., 2025).

1.2 Teacher Performance Professionalism Development Strategy

Teacher professional development is a continuous process to improve the quality of teaching, skills, knowledge, and attitudes. Professional teachers are able to provide effective learning, adapt to the latest curriculum and technology, and contribute to school management. The use of technology in teaching and education management has expanded the scope of learning, opened access to diverse educational resources, and facilitated greater collaboration between teachers (Novelita, N. et al., 2023).

These professional teachers are expected to be able to introduce their students to the world of science and technology or direct them to the 21st century society. If teachers are not experts in the world of science and technology, they are unable to teach their students to help and lead in the world of information and technology. Activities that are usually carried out face to face can now be done through online media such as blogs, websites and through social media. So that it influences people who need a service or want to buy a product, it can be done online (Suheri et al., 2020). This is what then becomes one of the opportunities in utilizing technology online.

Therefore, the competencies needed by every teacher in this digital era are competencies that are able to involve students in technology-based entrepreneurship and student innovation as provisions for the future.

Students must not only do and create, but also how to control, obtain, and maintain something that has been developed. Entrepreneurship education is expected to be able to penetrate the mindset of the next generation of the nation, so that they do not easily give up in facing life's challenges and are ready to work intelligently with other countries to compete. Teachers as agents of change are responsible for developing all children's opportunities and interests, especially in the field of entrepreneurship (Munianti, S. 2022).

A professional teacher must have four competencies, namely pedagogical competency, personality competency, social competency, and professional competency.

- a. Pedagogical competency: According to the National Education Standards, Article 28 Paragraph 3 point a states that pedagogical competency is the ability to manage student learning, which includes understanding students, designing and implementing learning, evaluating learning outcomes, and developing students to maximize their potential.
- b. Personality competency: In the National Education Standards, the explanation of Article 28 paragraph 3 point b, it is stated that what is meant by personality competency is the ability of a steady, stable, mature, fair, and authoritative personality, being a role model for students, and having noble character.
- c. Professional Competence: Article 28 paragraph 3 point c of the National Education Standards explains that professional competency is the ability to master learning materials thoroughly and in depth, which allows students to achieve the competency standards set out in the National Education Standards.
- d. Social Competence: Article 28 paragraph 3 point d of the National Education Standards explains that social competence is the ability of teachers as members of society to communicate and interact effectively with students, fellow educators, education personnel, parents/guardians of students, and the surrounding community (Hatta, 2018).

Teacher professionalism can be enhanced through a variety of strategies, with three main theories standing out: Collaborative Learning Theory, Constructivism Theory, and Problem-Based Learning Theory.

- a. Collaborative Learning Theory (Vygotsky) emphasizes the importance of social interaction and collaboration between teachers. Through collaboration, teachers can share experiences, provide feedback, and find joint solutions to teaching problems. This not only improves teaching effectiveness, but also develops interpersonal skills such as communication and leadership, and builds a supportive and innovative learning community.
- b. Constructivism Theory (Piaget and Vygotsky) views learning as a process of building knowledge from experience. Teachers can enhance their professionalism by reflecting on their teaching practice and engaging in hands-on experiences such as training or collaboration. Reflection helps evaluate and improve, while hands-on experience allows for the development of new skills and increased teaching effectiveness.
- c. Problem-Based Learning Theory (Barrows and Tamblyn) focuses on the development of critical thinking and problem-solving skills. Teachers are trained to encounter real-world situations in their teaching practice, allowing them to identify, analyze, and find solutions. This approach not only deepens conceptual understanding but also encourages collaboration to implement best practices in teaching (Miramadhani, A., Putri, A., & Faelasup, F. 2024).

2. THE ROLE OF INSTITUTIONS AND POLICIES IN SUPPORTING DIGITAL LEARNING

Law of the Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers, and Government Decree of the Republic of Indonesia Number 74 concerning Teachers are the basis of policy for the development of teacher professionalism. The policy indicates that teacher training centers must be designed in such a way that professional teachers must have academic qualifications, become trainers, and mentors. Teacher professional development basically involves teaching activities, learning, and transformation of teachers' practical knowledge for the benefit of students (Sianturi, M. V., & Simanjuntak, M. P. U. 2024).

In this regard, educational institutions have an important role in advancing digital learning. They can be at the forefront of this initiative, even involving technology experts. In addition, educational institutions can also research and collect data on digital ethics issues in education. They can also be a meeting place for educators and technology practitioners to exchange ideas and knowledge about the principles of digital technology (Kholiq, A. 2023).

Similar to formal education, non-formal educational institutions also play an important role, especially training and course institutions. So rather than focusing on the negative side of the digital era, it is better to focus on changing or improving the mindset that the progress of civilization is indeed inevitable and must be followed by the flow if you do not want to be left behind. In addition, also focus on developing personal skills in order to be able to face the development of a dynamic and complex era. With such a mindset, the problem of unemployment can be reduced little by little and not become a continuous social problem (Latifa, I., & Pribadi, F. 2021).

3. DISCUSSION AND CONCLUSION

In the fast-moving digital era, change in the world of education is a reality. Learning in the digital era has opened the door to extraordinary educational transformation. Modern teachers are faced with a number of unique and unprecedented challenges, as technology increasingly integrates into the learning process to provide relevant and effective education. These challenges require teachers to keep up with technological developments, adapt their teaching methods, and face various problems related to the use of technology in learning (Husna, K. et al., 2023).

Professional teachers play a major role in the advancement of education in determining the quality of reliable graduates under the direction of the principal. In other words, the principal's strategy in improving teacher professionalism plays a role in creating a quality generation of the nation (Wibowo, A. 2022).

Digital transformation in education brings a number of significant benefits that are reshaping the way educational institutions manage their operations. One of the main benefits is increased operational efficiency. Through the implementation of advanced information technology and management systems, educational institutions can automate various administrative and routine tasks. This results in a reduction in the time and effort required for these tasks, allowing greater focus on important aspects such as curriculum development and learning (Ahyani, E., & Duhani, E. M. 2024).

Based on the discussion above, it can be concluded that the development of teachers' digital competencies, optimization of competencies through continuous training, and institutional support and education policies are the three main pillars in improving teacher performance in the digital era. A key aspect of digital competence is digital literacy, which includes teachers' ability to find, assess, and utilize information from a variety of digital sources. Digitally literate teachers are able to help students not only access information, but also think critically about what they read and how it is relevant in the context of learning. A professional teacher must have four competencies, namely pedagogical competency, personality competency, social competency, and professional competency. Educational institutions have an important role in advancing digital learning. They can be at the forefront of this initiative, even involving technology experts. In addition, educational institutions can also research and collect data on digital ethics issues in education.

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