Trends And Strategic Issues In Developing Teacher Professionalism In The Era Of Digital Transformation

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ABSTRACT

This article examines trends and strategic issues in teacher professional development in the era of digital transformation based on a review of recent literature. The purpose of the study is to identify trends and strategic issues in the development of teacher professionalism in the era of digital transformation through analysis of current literature, in order to formulate policy recommendations that support the improvement of digital competencies, school leadership, and collaboration between stakeholders in education. The research method used is a literature study by analyzing journal articles, books, and research reports related to human resource development in education. The results showed three main trends, namely the utilization of information and communication technology (ICT) in teacher training, the important role of school leadership in supporting teacher professionalism, and strengthening collaboration between schools, universities and the government. Strategic issues identified include the need to improve teachers' digital competencies, strengthening induction programs for novice teachers, and integrated teacher career management. Improving digital competencies is a top priority given that digital transformation has changed the roles and responsibilities of teachers. The implication of this research is the need for adaptive policies in developing teacher professionalism that is responsive to the demands of the digital era.

INTRODUCTION

Digital transformation has affected almost all aspects of life, including education (Dąbrowska et al., 2022). Teachers as the main element in the education system are required to continuously adjust and improve their competence in order to meet the challenges of the digital era. The importance of teacher professional

development is increasing to ensure the quality of learning is relevant to the times. Various teacher professional development initiatives have been carried out, but there is still a gap between the needs in the field and the practices implemented. One of the main issues is improving teachers' digital literacy (Dashtestani & Hojatpanah, 2022). Teachers must be able to utilize digital technology effectively to support innovative learning processes (Haleem et al., 2022). In addition, strengthening the incentive system and professional support is important to encourage teachers' motivation to develop themselves continuously.

Digital transformation has changed almost all aspects of life, including education. Teachers as the main component of the education system are required to adapt and improve their competencies (Riskha, 2019). Teacher professional development is important to ensure superior learning quality in the digital era (Saerang et al., 2023). Various initiatives and programs to develop teacher professionalism have been carried out, but there is still a gap between needs and practices in the field (Mustofa, 2012). Teacher professional development should be placed as a top priority in the current education agenda. Only with competent teachers who continuously develop themselves can the quality of learning in the digital era be continuously improved (Sianturi & Simanjuntak, 2024). One strategic issue that needs attention is improving teacher competence in digital literacy and learning technology (Surani, 2019). Teachers must be able to utilize digital technology effectively to support an innovative and meaningful learning process for students (Argo & Windasari, 2022). In addition, teachers also need to develop the ability to design technology-based learning, conduct data analysis and adaptive learning, and facilitate the development of 21st century skills in students (Herawati 2023). On the other hand, strengthening the incentive system and professional support for teachers is also an important issue (Linda Yunita, 2023). Appropriate reward and coaching schemes are needed to motivate teachers to develop themselves continuously.

This research aims to identify trends and strategic issues in developing teacher professionalism in the era of digital transformation. In the context of rapid change due to technological advances, teacher professionalism is an important aspect to ensure the quality of education remains relevant to the needs of the times. Through a literature study approach, this research examines various sources that discuss the challenges, opportunities, and strategies for developing teacher competencies in the digital era. The results of this study are expected to provide comprehensive insights to stakeholders, such as the government, educational institutions, and teacher professional organizations, in formulating policies that are adaptive and responsive to change. Teacher development is not only limited to improving technological skills, but also includes strengthening pedagogical, personality and social competencies in accordance with the demands of the 21st century. With a deep understanding of these

strategic trends and issues, it is expected that the resulting policies will be able to support teachers to innovate in the learning process, improve the quality of education, and prepare students to face global challenges.

By considering the dynamics of technological development and the needs of education in the digital era, it can be assumed that developing teacher professionalism that is adaptive and responsive to change will contribute significantly to improving the quality of learning. Teachers who are able to adapt to technological advances can present innovative, relevant and interesting learning methods for students. In addition, teachers' mastery of technology enables the integration of digital media in the teaching and learning process, which in turn can increase students' participation, understanding and motivation to learn. Therefore, the study of trends and strategic issues in teacher professional development is very important to formulate relevant, effective and sustainable policies. The policy must be able to answer the challenges of the digital era, such as the digital divide, curriculum changes, and training needs in accordance with technological developments. With proper professional development, it is expected that teachers will not only be able to adjust to changes, but also become agents of transformation that drive the quality of education towards a better direction.

RESEARCH METHODS

This research uses a qualitative design with a library research approach (Ihksan et al., 2023). The unit of analysis is written documents, such as journal articles, books, research reports, and relevant literature sources that discuss the development of teacher professionalism in the era of digital transformation. Sources of information come from published and unpublished texts, including manuscripts, online news, and educational institution documents (Sofiah et al., 2020). Data collection was conducted through the desk-review method with the following steps: formulation of research questions, literature search using trusted databases, selection of sources based on relevance and quality, and critical evaluation of the content of the documents (Kartiningrum, E. D. 2015). This process aims to obtain valid data that meets the needs of the research. Data analysis involves three main stages: data reduction to filter out important information, data display to visualize the findings, and data verification to ensure accuracy (Dwinanda et al., 2023). The analysis method used is content analysis to identify themes, concepts, and patterns, and interpretation analysis to understand the deep meaning of the data obtained (Fatimah et al., 2023). This literature study provides a comprehensive overview of trends, strategic issues and strategies for developing teacher professionalism. The results are expected to help stakeholders formulate policies that are adaptive, responsive and innovative to the demands of the digital era.

RESULTS AND DISCUSSION OF FINDINGS

The development of teacher professionalism in the era of digital transformation requires teachers' ability to use information and communication technology (ICT) in training (Afriani et al., 2024). Teachers must have appropriate academic qualifications and the ability to master all traditional and modern learning media. With information and communication technology, teachers can teach a large number of students and provide explanations orally and in writing (Candra Dewi et al., 2023). Developing teacher professionalism in the digital era also requires support from school principals and supervisors (Andari, 2022; Karacabey, 2021). Principals should provide guidance and support to teachers to improve their teaching quality and professionalism (Rahayuningsih & Muhtar, 2022). Teachers must have the ability to develop pedagogical skills, improve teaching quality, and improve interactions with students.

Developing teacher professionalism in the digital era also requires improving teacher competencies through training and education (Nastiti & Ayu, 2023). Teachers must have the ability to develop their pedagogical skills, improve the quality of their teaching and enhance their interactions with students. Thus, teachers can improve their teaching quality and professionalism, and improve the quality of education that students receive. Developing teacher professionalism in the digital era also requires the right strategies to improve teachers' abilities (Sutarmizi & Syarnubi, 2022). These strategies include continuous training, pedagogical skill development and technological skill development. Teachers must have the ability to develop pedagogical skills, improve the quality of teaching and enhance interactions with students.

Thus, developing teacher professionalism in the era of digital transformation requires teachers' ability to use information and communication technology, support from principals and supervisors, improving teachers' competencies through training and education, and appropriate strategies to improve teachers' abilities. Thus, teachers can improve their teaching quality and professionalism, as well as improve the quality of education that students receive. Here are some examples of literature study implementation related to trends in Teacher Professionalism Development in the Era of Digital Transformation

**Utilization of Information and Communication Technology in Teacher Training**

Technological advancements are opening up huge opportunities in teacher training. Some trends include online training, the use of digital learning platforms, and the integration of technologies such as simulation and augmented reality. By utilizing these technologies, teacher training can become more interactive and flexible (Elshami et al., 2021). Some trends that can be observed include training in online formats that allow teachers to access learning content flexibly, including video-based training, webinars, and virtual collaborative learning (Irvani et al., 2020). Furthermore, the use

of digital learning platforms that can facilitate content personalization, real-time feedback, and monitoring of teacher learning progress (Rahmadhea 2024; Elitasari, 2022a). Integration of technologies such as simulations, educational games, and augmented reality to make teacher training more interactive and engaging (Nuraini et al., 2023).

The Importance of School Leadership in Professional Development

School leadership plays an important role in creating an environment that supports teacher development. Principals can facilitate collaboration, provide training opportunities and motivate teachers to innovate in learning. Effective school leadership plays a key role in promoting teacher professional development (Moorhouse, 2024; Prasetia, 2021). Some of the things that can be done are creating a school culture that supports teacher learning and innovation, providing opportunities for teachers to be involved in decision making and sharing best practices, facilitating collaboration among teachers and encouraging teacher leadership development, identifying and managing teacher talent well, including mentoring and career development programs (Fuad et al., 2022; Sugiarto et al., 2021).

Figure 1. The Impact of School Leadership

The Impact of School Leadership
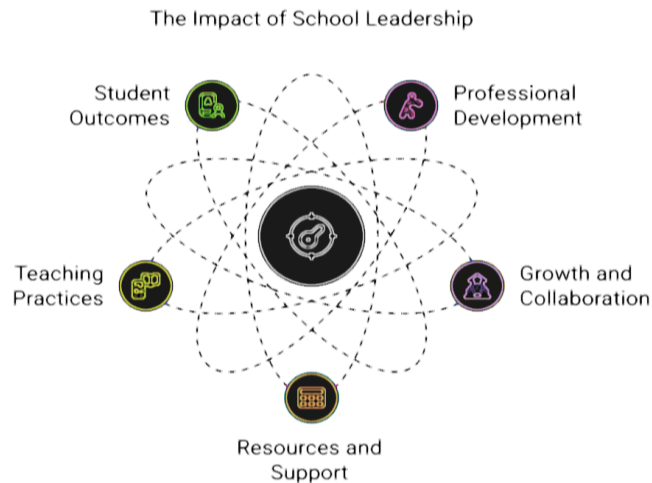
Strengthening Collaboration between Schools, Universities and Government

Teacher professional development cannot be done partially by one party alone. Close collaboration between schools, universities and the government is needed, including through partnerships between schools and universities in teacher training and development programs, government involvement in providing policy frameworks, funding and supportive infrastructure, resource sharing, best practices and continuous feedback between stakeholders (Murtafiah et al., 2023).

Entering the era of digital transformation, the development of teacher professionalism has become increasingly crucial to ensure the quality of education in

accordance with the demands of the times (Mohamed Hashim et al., 2022). The development of information and communication technology (ICT) has changed the learning landscape and demands new competencies for teachers. Therefore, various strategic issues need to be identified and addressed comprehensively so that teachers can continue to develop themselves and have a positive impact on students (Wijaya, 2023). One of the main strategic issues is improving the digital competence of teachers (Saerang et al., 2023). Teachers' ability to utilize digital technology to support the learning process is the key to success in the current era. Teachers need to have adequate technological literacy in order to design innovative and effective learning activities and guide learners to develop 21st century skills (Elitasari, 2022).

In addition, strengthening the induction program for novice teachers is also an important issue to consider (Danim, 2015). The transition from education to teaching practice is not an easy one, so comprehensive support through an induction program is necessary. This will not only help novice teachers adapt quickly, but also develop pedagogical practices that suit the needs of learners. On the other hand, integrated teacher career management also needs attention (Munawir et al., 2022). In the context of digital transformation, teacher career management from recruitment, training, performance appraisal, to career development must be managed holistically (Safrudin & Sesmiarni, 2022). This will enable teachers to receive comprehensive support in navigating their careers and continuously improve their competencies as needed.

Facing these strategic issues, collaborative efforts between schools, universities and the government are key to success. The synergy among these stakeholders will enable effective and sustainable teacher professional development, so as to be able to answer the challenges of education in the era of digital transformation. The following are the Strategic Issues in Teacher Professionalism Development in the Era of Digital Transformation.

Improving Teachers' Digital Competence

One of the main strategic issues in developing teachers' professionalism is improving their digital competencies. The digital transformation taking place in education has significantly changed the roles and responsibilities of teachers. Teachers are no longer just information deliverers, but facilitators and designers of learning experiences that utilize digital technology (Muslimin et al., 2024). To effectively fulfill this role, teachers must have adequate technological literacy. They need to master the skills in using various digital tools and platforms, not only to improve teaching efficiency, but also to design innovative learning activities and promote skill development (Sikumbang & Nasution, 2023). In addition, digital transformation also requires teachers to be able to guide learners in utilizing technology as a learning tool. Teachers must be able to integrate digital technology into the learning process

effectively, so as to facilitate the development of critical thinking, problem solving, collaboration, and creativity skills in learners.

Therefore, improving teachers' digital competencies is a strategic issue that must be prioritized in developing teacher professionalism in the current era of digital transformation. Systematic and comprehensive efforts are needed to ensure teachers are able to adapt and develop along with the rapid technological changes. The competencies that teachers must have in the digital era are as follows Teachers need to have adequate technological literacy in order to design innovative and effective learning activities utilizing digital technology (Sánchez-Cruzado et al., 2021), teachers should be able to guide learners to develop technology-based 21st century skills, such as critical thinking, problem solving, collaboration, and creativity, training and professional development for teachers should be focused on improving competence in integrating digital technology into the learning process, schools need to provide adequate technology infrastructure and support teachers in exploring various digital tools to improve learning effectiveness (Murtafiah et al., 2023).

**Figure 2. Increasing Teacher Digital Competence**
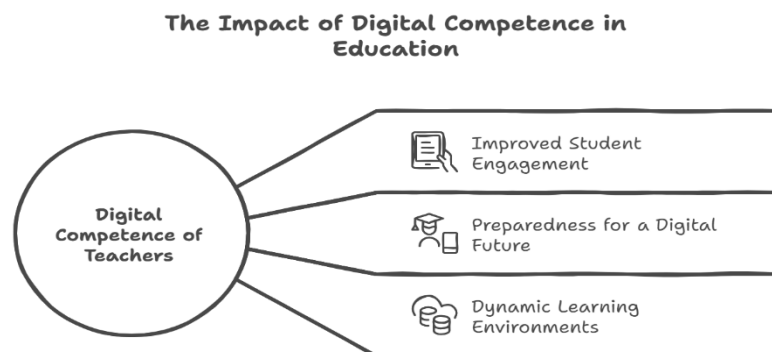
Strengthening the Novice Teacher Induction Program

The transition from teacher education to teaching practice in the field is one of the crucial phases in a teacher's professional journey. At this stage, beginning teachers need comprehensive support in order to adapt quickly and develop pedagogical practices that meet the needs of learners.

Novice teacher induction programs play an important role in facilitating the adaptation process and professional development of new teachers (Mitchell et al., 2021). Through induction programs, novice teachers can receive guidance, feedback and emotional support from experienced mentors. This will help them strengthen their competence and confidence in managing the classroom and overcoming early career challenges (Niam, 2020). In the current era of digital transformation, the novice teacher induction program needs to be strengthened to support the development of teachers'

digital competencies (Masoumi & Noroozi, 2023). In addition to equipping novice teachers with pedagogical abilities, induction programs should also emphasize improving technological literacy and skills in integrating digital technology into learning. With the strengthening of a comprehensive induction program, novice teachers are expected to not only adapt quickly but also have the competencies needed to design and implement innovative and effective learning in the era of digital transformation. This will contribute to improving the overall quality of education.

Figure 3. Strengthening the Beginner Teacher Induction Program
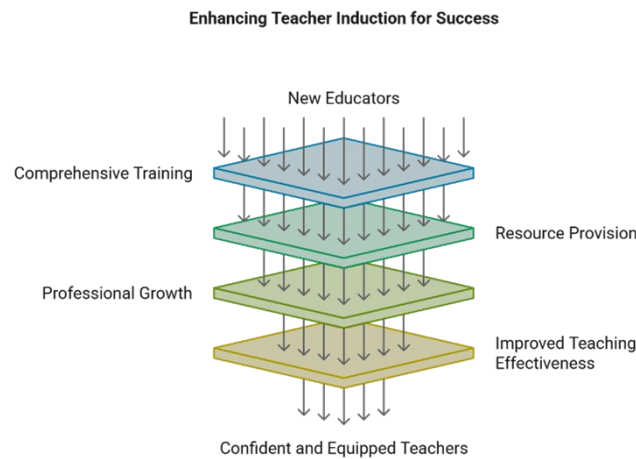
Integrated Career Management of Teachers

The third strategic issue in developing teacher professionalism is integrated teacher career management. In the current era of digital transformation, teacher career management must be managed holistically, starting from recruitment, training, performance appraisal, to career development (Febriyanni et al., 2022). An integrated teacher career management system will enable teachers to obtain comprehensive support in navigating their careers and continuously improve their competencies as needed. This is important considering that the demands for teacher competencies in the digital era have grown rapidly, covering not only pedagogical abilities, but also adequate digital competencies (Zuzandi & Connie, 2019). Teacher performance appraisals, for example, should consider teachers' ability to utilize digital technology and develop pedagogical innovations. This will encourage teachers to continuously strive to improve their digital competencies to support learning effectiveness.

In addition, teachers' career development paths should also be flexible and provide opportunities for teachers to engage in instructional leadership or professional development roles. Teachers with superior digital competencies can be involved in initiatives such as mentoring novice teachers, designing digital training or developing technology-based curriculum (de Juana-Espinosa et al., 2023). With integrated teacher career management, it is expected that an environment that supports teachers in

developing their digital competencies on an ongoing basis will be created. This will contribute to improving the quality of learning in the era of digital transformation (Goulart et al., 2022).

The following ways can be taken in order to manage an integrated teacher career, first, teacher career management starting from recruitment, training, performance appraisal, to career development must be managed holistically, second, the career management system must allow teachers to obtain comprehensive support in navigating their careers and continue to improve their competencies as needed, third, teacher performance assessments must consider teachers' ability to utilize digital technology and pedagogical innovation, fourth, teacher career development paths must be flexible and provide opportunities for teachers to engage in instructional leadership roles or professional development (Karaca-Atik et al., 2023).

CONCLUSIONS

This research identifies key trends in teacher professional development, including the use of digital technology, the importance of school leadership, and strengthening collaboration between stakeholders. The utilization of digital technology is a crucial aspect in supporting an innovative learning process that is relevant to the needs of learners in the era of digital transformation. Effective school leadership plays a role in creating an environment that encourages teachers to continuously develop and adapt to change. In addition, strong collaboration between government, schools, communities and the private sector can strengthen support for teachers' professional development.

Strategic issues identified include improving teachers' digital competencies, strengthening induction programs for new teachers, and integrated career management. Digital competencies include not only mastery of technology, but also the ability to utilize technology pedagogically to improve the quality of learning. Effective induction programs help teachers adapt to the work environment, while integrated career management ensures continuous professional development.

The implementation of policies and programs that are responsive to the challenges of the digital era are needed to support teachers' continuous professional development. These policies must consider the actual needs in the field, the potential of technology, and the dynamics of global education. With the right approach, it is expected that teacher professional development can improve the quality of education and prepare students to face future challenges.

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