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Teacher Professionalism in Facing the Challenges of Digitization of Learning

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ABSTRACT

The development of digital technology brings significant changes in the world of Education, demanding teachers to adapt quickly to various forms of digitization of learning. Teacher professionalism is a key factor in addressing this challenge, encompassing pedagogical competence, technology, and work ethics. Purpose: this study aims to analyze how teachers in Padang demonstrate professionalism in facing the challenges of digitizing learning and identify supporting and inhibiting factors. Methods: the method used is a qualitative case study in one of the public junior high schools in Padang. Data collection techniques include observation, in-depth interviews, and documentation studies. Results: the results showed that most teachers are trying to adjust to the demands of digitization through online training, the use of digital learning platforms, as well as the development of interactive teaching media. However, the challenges faced include limited ICT facilities, differences in the level of digital literacy among teachers, as well as internet network constraints in some regions. Implications: this study implies the need for stronger institutional support, both from local governments and education units, to sustainably strengthen the professional capacity of teachers. Conclusion: teacher professionalism in the digital age is determined not only by mastery of technology, but also by commitment to continuous learning and adaptability. The development of digital competencies and the creation of an inclusive learning ecosystem are key factors in effectively addressing the challenges of digitalization.

Keywords: *Teacher Professionalism, Digitization of Learning, Digital Competence*

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INTRODUCTION

Digital transformation in education is a necessity in the era of Industrial Revolution 4.0 and Society 5.0. Information and Communication Technology (ICT) has changed the way teachers teach, students learn, and schools manage learning systems. The need for digital learning continues to increase, along with the development of curricula and educational policies that emphasize the importance of digital literacy, project-based learning, and the use of technology to support a more flexible and student-centered learning process.

At the national level, the government has launched various initiatives such as the teaching independence Platform (PMM), akun belajar.id, and online training for teachers to encourage the adoption of technology in education. This was also responded by the Padang City Government through the provision of digital facilities such as Chromebooks, Google for Education training, and account activation belajar.id. in 2023, 35,312 accounts were recorded belajar.id it is available to educators and learners in Padang, with 14,523 active accounts. This fact indicates progress towards digitalization, but also implies that more than half of teachers and students are not yet actively utilizing the digital platforms provided.

Although various efforts and progress have been made in digitizing learning, the challenges in the field are still very significant, especially in the suburban area of Padang. Many schools in the area still face major obstacles related to the availability of information and Communication Technology (ICT) infrastructure. Uneven internet access is one of the main problems that limit the fluency of digital-based learning. Geographical conditions and budget constraints often make it difficult for schools to get a stable and fast internet connection, thus inhibiting teachers and students from utilizing online learning media optimally.

In addition, the limitations of technological devices are a real obstacle in the implementation of digital learning. Not all schools have facilities such as computers, laptops, or mobile devices that are sufficient to be used in the teaching and learning process. This causes considerable inequality between schools in the city center with schools in the suburbs. As a result, despite the desire to use technology, teachers and students sometimes have to take turns using limited devices or even rely on familiar conventional learning methods. This situation, of course, reduces the effectiveness and innovation in the learning process.

In addition to the problem of facilities and infrastructure, the level of digital literacy of teachers in Padang City is also uneven. Many teachers are unfamiliar or less confident in using digital devices to support teaching and learning activities. Based on a national survey, as many as 52.75% of teachers rarely use laptops in their daily teaching activities, while 62% of students admitted that information and communication technology-based learning is still rarely applied in their schools. This condition shows that the mastery of technology by teachers has not become a common practice, so there needs to be an increase in competence and training on an ongoing basis so that teachers are better prepared and able to use digital technology effectively in learning.

In addition to infrastructure and competency challenges, teachers also face a digital administrative burden that is considerable. Tasks such as filling in online learning data, making digital reports, and managing Learning Management Systems (LMS) are often carried out without adequate technical assistance. This condition makes many teachers feel overwhelmed, especially if they do not have enough digital skills or are not familiar with the system. This additional burden

has the potential to cause work stress and fatigue which can ultimately reduce productivity and enthusiasm in teaching.

Stress due to the digital administrative burden also negatively affects the motivation of teachers in carrying out their basic duties as educators. When teachers have to spend more time and energy to take care of data and technology-related administration, time and focus on preparing learning materials are reduced. This can result in a decrease in the quality of teaching and interaction between teachers and students during the teaching and learning process. In other words, the administrative burden, which is not balanced by sufficient training and support, becomes an obstacle in the process of digitizing learning.

On the other hand, not a few teachers have shown resistance to changes in digital learning methods. a portion of teachers exhibit a preference for conventional methods with conventional learning methods that they have mastered and run for years. A sense of uncertainty and incomprehension towards new technologies causes some teachers to be reluctant to adapt, creating a gap between the demands of modern curricula and learning practices in the field. This resistance is also reinforced by a work culture that has not fully supported innovation and the use of technology in learning.

The work culture that does not support digitization of learning further complicates the challenges faced by teachers in maintaining their professionalism. Professionalism is not only a matter of mastering teaching materials, but also how teachers are able to adjust to the times, including the ability to manage learning technology. If the work environment and educational institutions do not provide adequate encouragement and support, then teachers tend to find it difficult to develop and improve their digital competence. This requires serious attention from the school, government, and other stakeholders.

This condition shows that the professionalism of teachers in the digital era is not enough to be measured only from the technical ability to use devices and applications. Professionalism also includes high adaptability, willingness to constantly learn, and active involvement in the development of learning innovations. Professional teachers are those who are able to transform in accordance with the demands of the times, while maintaining the quality of quality education. For this reason, the improvement of professionalism must be carried out continuously and systematically.

Some studies, such as those conducted by Pane et al. (2023), affirms the importance of continuous training, mentoring and strengthening of Professional Learning Communities (PLC) for teachers. These development models have proven effective in improving teachers ' readiness to face the digitalization of learning. However, in Padang, in-depth research on the extent to which teachers are able to answer this digital challenge is still very limited. Therefore, further research is needed to understand the specific needs of teachers, the obstacles they face, and effective forms of support in the local context of Padang.

The Independent curriculum, which demands project-based learning, digital literacy, and personalized learning, further reinforces the urgency of strengthening teacher professionalism. On the one hand, teachers are required to be creative, collaborative, and technology-based learning facilitators. On the other hand, not all teachers get the training or support that suits the real needs in the field. The disparity between curriculum expectations and actual conditions in schools creates implementation gaps that require serious attention.

From this condition, it is clear that there is a need to explore in more depth how teachers in Padang City face the dynamics of digitizing learning. It is necessary to conduct studies that are able to capture reality as a whole-both in terms of teachers ' abilities, the obstacles they face, and the forms of support that are felt and needed. Qualitative approach through case studies is considered appropriate to explore the subjective experience of teachers in a particular context.

This study aims to analyze the forms of professionalism shown by teachers in the face of digitization of learning in the city of Padang, as well as identify the supporting and inhibiting factors. With a focus on the real experience of teachers in junior high school, it is hoped that this research can contribute to the mapping of actual conditions and the preparation of strategies to strengthen professionalism that are more contextual and applicable.

With this background, it is important to realize that digital transformation in education is not only a matter of technology, but also a matter of Human Resource readiness. Teachers, as the spearhead of Education, play a strategic role in ensuring that digitization actually brings benefits to learners. Therefore, strengthening the professionalism of teachers in Padang city is a strategic step to answer challenges and take advantage of opportunities in the era of digital learning effectively and sustainably.

Although numerous studies have explored the challenges of digitalization in education, most of them focus on general perspectives at the national level or on urban schools with relatively advanced infrastructure (Afandi, 2021; Hamid, 2022). However, there is limited research that deeply examines how teachers in specific local contexts, such as Padang City, adapt to and cope with the digital transformation in learning. This study seeks to fill that gap by providing a detailed case analysis of teacher professionalism across varying school conditions urban and suburban in Padang. The novelty of this research lies in its localized insight into how contextual disparities in infrastructure, digital literacy, and administrative systems shape the actual implementation of teacher professionalism in the face of digitalization.

METHODS

This study adopts a qualitative case study design to investigate the dynamics of teacher professionalism in responding to the challenges of learning digitalization in Padang City, Indonesia. The case study approach allows for an in-depth exploration of contextualized experiences and perspectives that may not be captured through quantitative means.

1. Research Setting and Participant Selection

The research was conducted in four public junior high schools two located in the urban core and two in suburban areas of Padang. These schools were purposively selected to reflect contextual variations in digital infrastructure, institutional support, and school governance. A total of 12 teachers were selected as primary participants (six from urban schools and six from suburban schools), with varying levels of engagement in digital teaching practices. In addition, school principals and ICT support personnel were included as secondary informants to provide contextual and institutional perspectives.

2. Data Collection Procedures

Data were collected over three sequential phases:

a. **Preliminary Mapping**

A contextual mapping was conducted to assess the readiness and availability of digital resources at each school. This involved analysis of school profiles, infrastructure documentation, and observational checklists.

b. **Main Data Collection**

The core data were gathered through semi-structured in-depth interviews with selected teachers, direct observation of their teaching practices (both online and hybrid modalities), and collection of supporting institutional documents—such as digital program plans, training records, and ICT usage logs.

c. **Verification and Triangulation**

Member checking was employed to validate the interview transcripts and interpretations with the participants. Data triangulation was ensured by cross-referencing interview findings with observation notes and institutional documents to strengthen the reliability of results.

3. Data Analysis and Validity Strategies

The collected data were analyzed using thematic analysis. Manual open coding was conducted to identify recurring concepts, which were then grouped into broader categories aligned with the theoretical dimensions of teacher professionalism—namely digital competence, pedagogical adaptability, and collaborative engagement. To enhance data credibility, method and source triangulation were applied. Researcher bias was minimized through peer debriefing with fellow qualitative researchers and reflective memoing throughout the analytic process.

RESULTS

This study revealed varying levels of teacher professionalism in addressing the challenges of learning digitization in junior high schools across Padang City. The variations were influenced by contextual differences between urban and suburban schools, particularly in terms of infrastructure, training access, and institutional support.

Teachers generally showed increasing efforts to integrate digital technologies into their instructional practices. These technologies were employed for material delivery, assessments, and teacher–student communication. Out of the 12 participating teachers, five (42%) demonstrated high proficiency in using digital platforms such as Google Classroom and learning management systems (LMS). Four teachers (33%) exhibited moderate proficiency, while three (25%) were still in the early stages of digital adoption, often limited to basic usage of messaging apps or presentation tools.

However, this integration was not without challenges. The most commonly reported obstacles included infrastructure limitations (reported by 75% of participants), increased administrative workload (83%), lack of technical support (67%), and low confidence in using digital tools (50%). These barriers were more prevalent in suburban schools, indicating contextual disparities in access to digital resources and readiness for digital transformation.

In terms of digital competence, teachers with regular access to ICT training and facilities showed greater confidence and fluency in using online platforms. Meanwhile, those without consistent technical support often expressed frustration, and some preferred to minimize their use of technology due to the perceived complexity and inefficiency.

The digital administrative workload emerged as a significant demotivating factor. Teachers reported feeling burdened by the requirement to input data, prepare digital reports, and maintain online student portfolios, which detracted from their focus on pedagogical tasks. While supportive learning communities helped some teachers cope with these demands, others lacked such collaborative networks and felt isolated in navigating digital demands.

Despite these challenges, several teachers demonstrated adaptive and innovative responses. Those who actively engaged in continuous professional development and peer mentoring were able to design blended learning strategies that combined conventional and digital approaches. These teachers also exhibited greater openness to experimentation and reflection, enabling them to maintain learning quality amidst technological constraints.

Importantly, the findings indicate that teacher professionalism in the digital age extends beyond technical skills. It also encompasses adaptability, lifelong learning, and participation in professional communities. Teachers who embodied these attributes were better positioned to navigate the dynamic demands of digital education. To enhance this professionalism, the study emphasizes the importance of structured training, mentoring systems, and a supportive institutional culture that promotes digital resilience. The synthesized findings are presented in Table 1.

Table 1. Summary of Research Results

Aspect	Key Findings	Supporting Factors	Obstacles / Barriers
Mastery of Technology	Some teachers are able to operate LMS and Google Classroom effectively	Training from the service and school	Infrastructure limitations
Digital Administrative Burden	Digital administrative burden leads to stress and burnout	Support from the teacher learning community	Lack of technical assistance
Teacher Motivation	Decreased motivation due to administrative burdens and technical barriers	Continuous training	Resistance to digital methods
Adaptation and innovation	Proactive teachers develop innovative methods combining technology and conventional methods	Learning community, mentoring	Lack of work environment support
Preparedness For Professionalism	Professionalism includes mastery of technology, adaptation, and continuous learning	Training, mentoring, job support	Technical barriers and work culture

The results summarized in Table 1 provide a comprehensive picture of the diverse conditions shaping teacher professionalism in the era of learning digitization. In the following section, these findings are further examined in light of existing theories and relevant literature, with an emphasis on contextual implications and practical recommendations.

DISCUSSION

This study reveals significant disparities in teacher professionalism when confronting the digitization of learning in Padang City. Teachers in urban schools generally exhibit stronger proficiency in using Learning Management Systems (LMS), video conferencing platforms, and creative tools such as Google Workspace, Canva, and Edmodo. This digital competence is supported by access to better infrastructure, regular participation in training programs, and involvement in peer learning networks. These findings support socio-constructivist perspectives such as Laurillard (2018) and OECD (2020), which emphasize that effective digital learning environments are shaped not only by individual teacher efforts but also by collaborative practices and systemic support. When teachers are immersed in such enabling contexts, they tend to develop adaptive digital pedagogies and sustain professional growth.

In contrast, many teachers in suburban schools face significant obstacles. Limited access to devices, unstable internet connectivity, low confidence, and lack of institutional support constrain their ability to integrate technology meaningfully. Some express anxiety or skepticism toward digital tools, often reverting to traditional methods. This resistance is consistent with Lewin's Change Management Theory, where the "unfreeze" stage readiness for change has not been fully achieved. Fullan (2020) also emphasizes that transformation in education requires emotional investment and cultural readiness, which are still lacking in several schools studied. The perception that digital tools are supplementary rather than integral to pedagogy further delays the adoption of innovative practices, echoing findings from Pendadaran (2024).

The results also align with Risman and Widodo (2023), who assert that frequency of digital tool use and access to continuous training are decisive factors in digital mastery. In Padang, teachers who actively participate in structured or community led digital learning either through formal training or peer support demonstrate better adaptation. Conversely, teachers who are excluded from such opportunities remain in the early phases of digital integration, both technically and pedagogically.

Another key finding relates to the increased administrative burden teachers experience in digital learning environments. Tasks such as managing LMS data, uploading lesson plans, and monitoring student attendance or performance often consume instructional time and lead to fatigue. Desniyanti (2025) notes that over 60% of secondary school teachers in Indonesia cite digital documentation as a primary source of stress. In the Padang context, this burden is worsened by the lack of technical support and complexity of available platforms, which contributes to decreased morale and professional disengagement. A national survey analyzed by Pane et al. (2023) also reveals that more than half of teachers in coastal and peri-urban areas suffer from "digital overload," which impairs their willingness to sustain technology-enhanced teaching.

Despite these challenges, several enabling platforms have emerged to support teacher professionalism. Professional Learning Communities (PLCs) and the government-supported Platform Merdeka Mengajar (PMM) provide collaborative and flexible learning environments that foster mutual growth. According to Yulin and Danso (2025), digital transformation in education systems especially in low and middle-income contexts depends on a synergy of infrastructure, training, and peer collaboration. In this study, teachers who engage in PLCs are more successful in sustaining digital teaching, which aligns with Ministry of Education data (2024) indicating that such teachers are 1.7 times more likely to continue using digital tools effectively. The PMM platform,

which reached over 2.7 million teachers by the end of 2023, offers self-paced training modules and mentorship spaces that enhance teacher autonomy. In Padang, schools that integrate PMM into their professional development routines report improved digital literacy, innovation in lesson planning, and higher teacher engagement.

These findings also validate the pedagogical readiness framework introduced by Yulin and Danso (2025), which defines digital professionalism as a combination of technical capability, emotional readiness, and institutional support. In the Padang case, teacher readiness is shaped by infrastructure availability, clarity of administrative procedures, and leadership support. Schools with committed principals who advocate for teacher growth, simplify bureaucratic tasks, and encourage experimentation show stronger outcomes in digital integration.

In response to these challenges and opportunities, this study recommends a holistic strategy to enhance digital professionalism. The proposed approach includes upgrading school ICT infrastructure, providing tailored and continuous professional training, simplifying administrative systems to reduce teacher workload, and reinforcing collaborative learning through school-based PLCs. It also highlights the importance of strong school leadership that values innovation, encourages peer learning, and supports teacher well-being. Most importantly, the study concludes that the digitization of learning should not be reduced to a technological agenda but must be recognized as a cultural and pedagogical transformation. Realizing a sustainable digital learning ecosystem in Padang requires joint commitment from all stakeholders including teachers, school leaders, policy makers, and communities to nurture a professional culture that is adaptive, reflective, and inclusive in the face of educational change.

CONCLUSIONS

Based on the findings and discussion, this study concludes that teacher professionalism in responding to the digitization of learning in Padang City is shaped by a complex interplay of infrastructure access, digital competence, training exposure, institutional support, and work culture. While a portion of teachers particularly those in well resourced schools demonstrate readiness and confidence in utilizing digital tools such as LMS platforms and video conferencing applications, a substantial number still face significant challenges. These include limited access to devices and internet, low digital literacy, lack of technical support, and burdensome administrative tasks related to digital documentation. The unequal distribution of digital readiness highlights a systemic gap that must be addressed comprehensively.

Therefore, enhancing teacher professionalism in the digital era cannot rely solely on the provision of technology. A holistic strategy is needed one that integrates continuous capacity building, mentoring, access to user-friendly digital platforms, simplification of administrative procedures, and reinforcement of Professional Learning Communities (PLCs). Platforms such as *Merdeka Mengajar* have proven effective in facilitating contextualized and autonomous teacher development, especially when complemented by collaborative peer-learning environments. When consistently implemented and adapted to local conditions, such interventions can enable teachers in Padang to carry out their professional roles more effectively, equitably, and sustainably amidst the ongoing digital transformation in education.

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