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SWOT Analysis of School Readiness in Implementing Deep Learning at SDN Kendek, North Banggai District, Banggai Laut Regency

Asrianto, Ansar, Zulystiawati
Gorontalo State University, Indonesia
asriantobalut123@gmail.com

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Abstract

The less-than-optimal readiness of elementary schools to implement a holistic deep learning approach—particularly in resource-limited settings—necessitates a comprehensive SWOT-based analysis to formulate strategies for strengthening institutional preparedness. This study aims to analyze (1) school readiness from internal factors related to the deep learning approach, (2) school readiness from external factors, and (3) strategies for improving school readiness in implementing deep learning at SDN Kendek. Using a descriptive qualitative approach, data were collected through observation, interviews, and documentation, and subsequently analyzed using SWOT analysis. The findings show that, internally, teachers at SDN Kendek possess sufficient initial capital for implementing deep learning, including relatively high professional motivation to develop their competencies and keep pace with advances in learning technology; however, this internal readiness is not yet fully optimal due to persisting constraints. From an external perspective, the school has provided basic learning facilities that support technology use, such as laptops, LCD projectors, and internet access, but these resources remain inadequate to

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fully support the optimal implementation of deep learning. Based on the combined analysis of internal and external factors, improving school readiness for deep learning requires an integrated and sustainable strategy that not only focuses on developing teacher competencies, but also on strengthening school policies, providing adequate facilities, fostering collaboration with external partners, and enhancing communication with parents.

Keywords: Elementary Schools; School Readiness; Deep Learning Approach; SWOT Analysis; Educational Planning.

INTRODUCTION

Developments in 21st-century education demand a paradigm shift in learning from traditional teacher-centered approaches to ones that emphasize active student engagement, in-depth understanding, and meaningful learning. One approach relevant to these demands is deep learning, a pedagogical approach that emphasizes in-depth conceptual understanding, critical thinking, reflection, and the ability to transfer knowledge to real-life contexts. This research issue stems from the fact that the implementation of the deep learning approach at the elementary school level has not been fully optimal, particularly in schools located in areas with limited resources. Schools face various challenges, stemming from both internal factors such as teacher competency and school culture, and external factors such as policy support, infrastructure, and parental support. In response to these conditions, researchers deem it crucial to conduct a comprehensive study of school readiness to implement the deep learning approach. School readiness is not only understood as the readiness of individual teachers, but as a systemic readiness involving the entire school ecosystem. Therefore, an analytical approach is needed that can comprehensively map strengths, weaknesses, opportunities, and threats.

Deep learning in the educational context is a learning approach that emphasizes in-depth conceptual understanding, higher-order thinking skills (analysis, evaluation, creation), and the connection of knowledge to real-world contexts, enabling students to become active and reflective learners, rather than simply memorizing facts. This approach emphasizes the process of knowledge construction, transfer, and application in authentic situations (Kovač et al., 2025).

In research by Santiani, (2025) the deep learning approach is a learning method that emphasizes in-depth understanding of material, rather than mere memorization or surface mastery. Deep learning aligns with constructivist theory, which emphasizes the active role of learners in constructing meaning through experience, problem-solving, collaboration, and reflection. Learning designed based on constructivist principles facilitates the achievement of in-depth understanding (Weng et al., 2023).

In the context of learning, school readiness is the state of comprehensive capacity (knowledge, skills, attitudes, and environmental support) to plan, implement, evaluate, and adapt to changes in curriculum/technology. Practically, dimensions of readiness typically include: (a) pedagogical and content competencies, (b) digital competencies/TPACK, (c) teaching self-efficacy, and (d) institutional support/resources. A recent review emphasized readiness as a multidimensional construct that combines aspects of knowledge, pedagogy, and technology (TPACK) and institutional context factors (Masoumi & Noroozi, 2025). Technological Pedagogical Content Knowledge (TPACK) emphasizes the simultaneous integration of content, pedagogical, and technological knowledge; it is the most frequently used framework for mapping school readiness for digital-based learning. Recent evidence suggests that developing TPACK through structured training impacts teaching strategies and teacher efficacy (Ozden et al., 2024);(Yue et al., 2024).

Previous studies have shown that the implementation of deep learning in elementary schools is influenced by school readiness, teacher competencies, technological infrastructure, and policy and social support. However, most research still focuses on aspects of teacher competency or technology use, and few specifically examine school readiness holistically using a SWOT analysis approach, particularly in the context of elementary schools in rural areas.

Research by Nurul et al., (2025) shows that learning that implements a fun, meaningful, and mindful deep learning approach can increase student engagement, strengthen conceptual understanding, and support cognitive and emotional development. Effective implementation requires the support of teachers who understand modern pedagogical approaches, the availability of adequate technology, and a curriculum that adapts to changing times.

Feriyanto & Anjariyah, (2024) demonstrated that combining meaningful, mindful, and joyful learning improves engagement and understanding of a framework widely used in

elementary school classrooms. Meaningful Learning facilitates critical thinking and problem-solving skills through project-based educational methods and gamification. Mindful Learning improves cognitive abilities, focus, and academic performance using techniques such as mindfulness training and AI-assisted personalization. Joyful Learning encourages emotional engagement and retention through the integration of art, game-based activities, and incremental learning. Together, these approaches enhance conceptual understanding, creativity, and motivation.

Research by Muttaqin et al., (2025) indicates that, although deep learning technology is still implemented on a limited scale, its impact on improving the quality of learning, such as increased student motivation, better understanding of the material, and more accurate analysis of student progress, is quite significant. However, the implementation of this technology also faces various challenges, particularly related to limited infrastructure and the need for ongoing teacher training.

The novelty of this research lies in the use of a SWOT analysis as a basis for mapping school readiness for deep learning implementation and formulating contextual readiness improvement strategies. Theoretically, this research is based on the concept of school readiness, deep learning theory, and the SWOT analysis framework in educational management studies. Based on this description, the focus of this research is the analysis of school readiness in implementing the deep learning approach at SDN Kendek, Banggai Utara District, Banggai Laut Regency. The objectives of this research are to: (1) identify school readiness from internal factors; (2) identify school readiness from external factors; and (3) formulate strategies to improve school readiness in implementing deep learning.

METHODS

This research employed a qualitative approach with a case study approach. This approach was chosen to gain an in-depth understanding of school readiness in a real-world, specific context. The research design was descriptive-exploratory, with the aim of comprehensively describing the school's readiness to implement deep learning. The research location was SDN Kendek, North Banggai District, Banggai Laut Regency. Participants included the principal and teachers, selected using purposive sampling based on their involvement and relevance to the implementation of deep learning. The data sources for this study were the classroom teachers at SDN Kendek, North Banggai

District, who were the primary focus of the research because they directly implement the learning process and are the subjects of deep learning policies. The principal, as the managerial and pedagogical authority at the educational unit level, has a strategic view of the school's overall readiness and plays a role in encouraging or hindering the implementation of deep learning. The vice-principal, or vice-principal, can provide additional insights into the school's internal dynamics, communication patterns among teachers, and policies that support professional development. Students and parents can serve as complementary data sources to describe perceptions and responses to teacher-implemented learning, while also serving as part of the learning community that plays a role in the educational ecosystem.

The research instruments included in-depth interview guidelines, observation sheets, and documentation. Data collection was conducted through interviews, direct observation of the learning process and school environment, and documentation studies of learning tools and school policies. Data analysis was conducted using a SWOT analysis, which included identifying internal factors (strengths and weaknesses) and external factors (opportunities and threats). Data validity was maintained through source and technique triangulation, as well as data validity checks based on the principles of credibility, dependability, and confirmability. This research was conducted over three months, from September to November 2025, encompassing preparation, data collection, data analysis, and reflection on the research results.

Table 1. SWOT Strategy Matrix (S–O, W–O, S–T, W–T)

INTERNAL / **EKSTERNAL**	**STRENGTH (S)**	**WEAKNESS (W)**
	1. Teachers possess basic technological competency (PowerPoint, Google Classroom, Quizizz, dll.) 2. Teachers are highly motivated and open to learning innovation. 3. Basic school facilities are available (laptops, LCD screens, internet access, computer lab).	1. Understanding of deep learning concepts is not yet uniform and operational. 2. Teachers' time constraints due to administrative burdens and busy teaching schedules. 3. Internet facilities and networks are suboptimal (unstable, limited devices).
OPPORTUNITIES (O)	**STRENGTH -**	**WEAKNESS -**

	OPPORTUNITIES (SO)	**OPPORTUNITIES (WO)**
1. Training support from the education office (workshops, regular training). 2. Opportunities for external collaboration with universities or technology partners. 3. Support from some parents for technology-based learning.	1. Leverage teachers' high motivation to participate in advanced training from the department and partners. 2. Optimize basic school facilities to support internal training programs. 3. Develop ICT-based teacher learning communities through external collaboration.	1. Addressing the lack of understanding of deep learning through ongoing training. 2. Reducing teachers' time constraints by allocating dedicated time for professional development. 3. Increasing teacher confidence through hands-on practical mentoring.
THREATS (T)	**STRENGTH - THREATS (ST)**	**WEAKNESS THREATS (WT)**
1. Student digital divide (not everyone has a device/access). 2. Technology dependency has the potential to reduce social interaction. 3. Security and privacy risks to student data.	1. Utilizing teachers' ICT competencies to design hybrid learning to reduce the digital divide. 2. Utilizing teachers' collaborative culture to mitigate the risks of technology dependency. 3. Optimizing digital training to increase students' data security awareness.	1. Minimize the impact of limited resources to prevent widening the digital divide among students. 2. Reduce the risk of teacher workload to prevent resistance to innovation. 3. Anticipate low teacher confidence to prevent policy implementation failure.

Table 1. SWOT Strategy Matrix (S–O, W–O, S–T, W–T) presents a comprehensive analysis of SDN Kendek's readiness to implement deep learning based on the school's internal and external factors. Internal factors consist of strengths and weaknesses, while external factors include opportunities and threats. Regarding strengths, the school has a strong initial capital base, demonstrated by teachers' basic technological competencies, motivation and openness to learning innovation, and the availability of basic learning facilities such as laptops, LCDs, and internet access. However, weaknesses include uneven conceptual and operational understanding of deep learning among teachers, time constraints due to administrative burdens and busy teaching schedules, and limited quality of facilities and internet network stability.

Externally, opportunities arise through training support from the education office, collaboration with universities or technology partners, and support from some parents for technology-based learning. Meanwhile, the threats facing schools include the digital divide

among students, the potential for reduced social interaction due to technology dependency, and risks to student data security and privacy. Based on this mapping, the Strengths–Opportunities (S–O) strategy focuses on leveraging teachers' motivation and core competencies to participate in advanced training, optimizing school facilities to support professional development programs, and strengthening ICT-based teacher learning communities through external collaboration. The Weakness–Opportunities (W–O) strategy aims to address internal weaknesses through ongoing training, allocating dedicated time for professional development, and mentoring direct learning practices.

Furthermore, the Strengths–Threats (S–T) strategy emphasizes leveraging teachers' ICT competencies and collaborative culture to design hybrid learning to reduce the digital divide, manage the risk of technology dependency, and increase student data security awareness. The Weakness–Threats (W–T) strategy focuses on minimizing the impact of limited resources and teacher workloads to prevent widening the digital divide, preventing resistance to innovation, and addressing low teacher confidence in implementing immersive learning policies. Overall, Table 1 shows that increasing school readiness in implementing in-depth learning requires an integrated, systematic, and sustainable strategy that takes into account the balance between internal and external factors of the school.

RESULTS

Based on the research data presented regarding school readiness for implementing deep learning at SDN Kendek, North Banggai District, Banggai Laut Regency, several key findings were obtained that comprehensively describe the school's readiness, encompassing internal and external factors, as well as necessary strengthening strategies.

Identification of school readiness based on internal factors for the deep learning approach at SDN Kendek, North Banggai District, Banggai Laut Regency

Figure 1. Context diagram of school readiness identification from internal factors in the deep learning approach at SDN Kendek, indicate that teachers at SDN Kendek essentially possess the initial internal readiness to implement deep learning, particularly in terms of basic technological competency and professional motivation. Most teachers are able to utilize digital learning tools and applications such as e-learning platforms, presentation applications, and interactive media in their daily learning activities. This

indicates that teachers are not at the initial stage of digital literacy but are already at the adaptive stage of learning technology.

However, the research findings also reveal that teachers' understanding of the concept of deep learning is not yet uniform and not fully operational. Some teachers define deep learning as the use of technology or artificial intelligence, while others understand it as a pedagogical approach that emphasizes in-depth understanding, reflection, and the application of values in everyday life. This difference in interpretation results in the suboptimal technical and systematic implementation of deep learning in the classroom.

Furthermore, researchers found that teachers' motivation for self-development is relatively high, but not fully matched by the availability of time and self-confidence. Administrative burdens, busy teaching schedules, and limited opportunities for practice prevent teachers from maximizing their efforts in developing deep learning-based instruction. Low self-confidence among some teachers in implementing learning technology is also an internal barrier that requires attention.

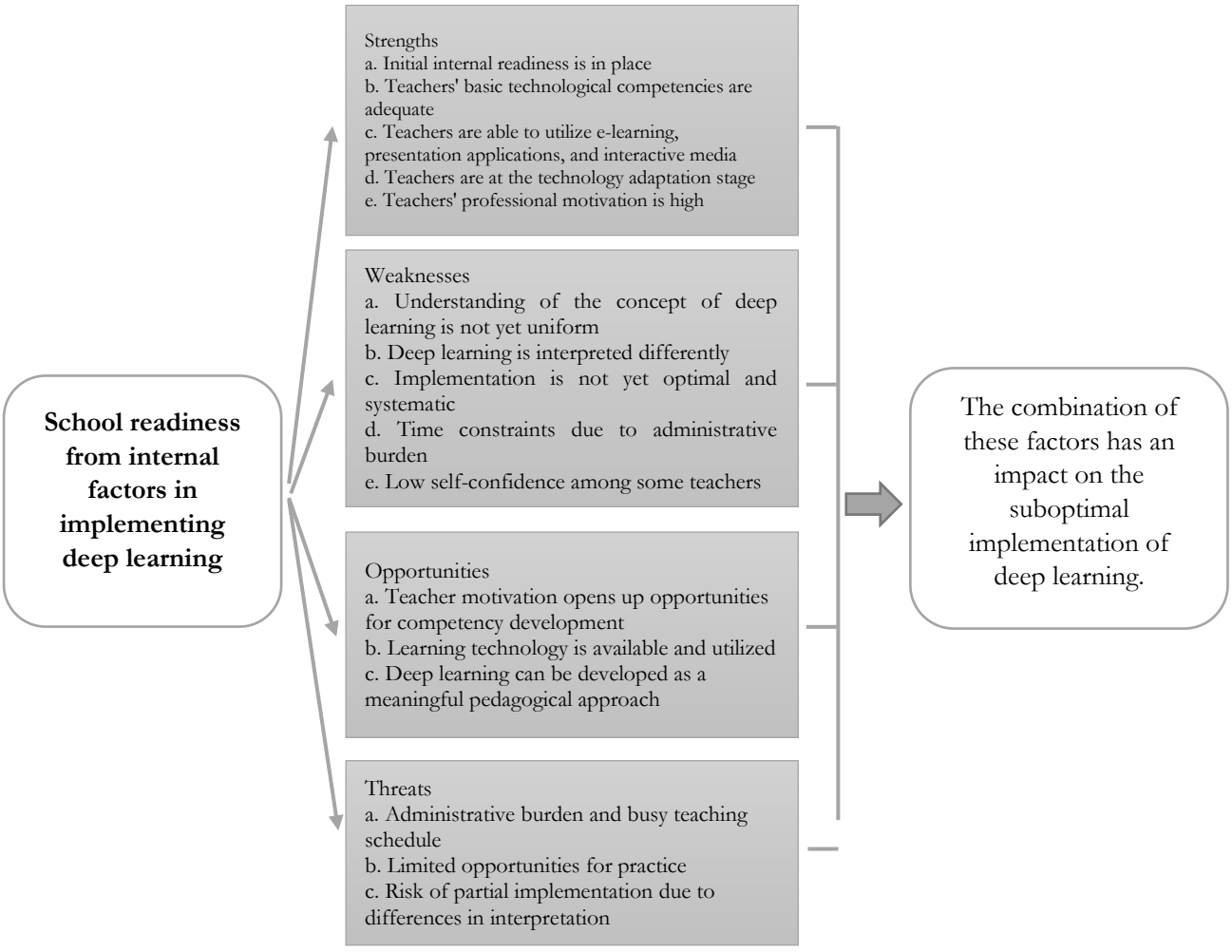


Figure 1. Context diagram of school readiness identification from internal factors in the deep learning approach at SDN Kendek, Banggai Utara District, Banggai Laut Regency

Identifying school readiness from external factors for the deep learning approach at SDN Kendek, North Banggai District, Banggai Laut Regency.

Figure 2. Context diagram of school readiness identification from external factors in the deep learning approach at SDN Kendek, indicate that the school has basic learning facilities, such as laptops, LCD screens, and internet access. However, these facilities do not fully support the implementation of deep learning, primarily due to limited devices, unstable internet connections, and the lack of AI-based platforms or applications specifically supporting deep learning. Researchers also found that policy support and training from the education office exist, but are incidental and not sustainable. The training provided is not accompanied by long-term mentoring, so teachers still experience difficulties in implementing the training outcomes into classroom learning practices.

Furthermore, parental support for the use of learning technology varies. Some parents are supportive, while others remain concerned about the negative impacts of technology use, particularly student use of devices. This presents an external challenge that needs to be managed through ongoing communication and outreach. Other identified threats include the student digital divide, limited resources, curriculum burden, and risks to student data security and privacy. These factors have the potential to hinder the implementation of deep learning if not anticipated with appropriate policies and strategies.

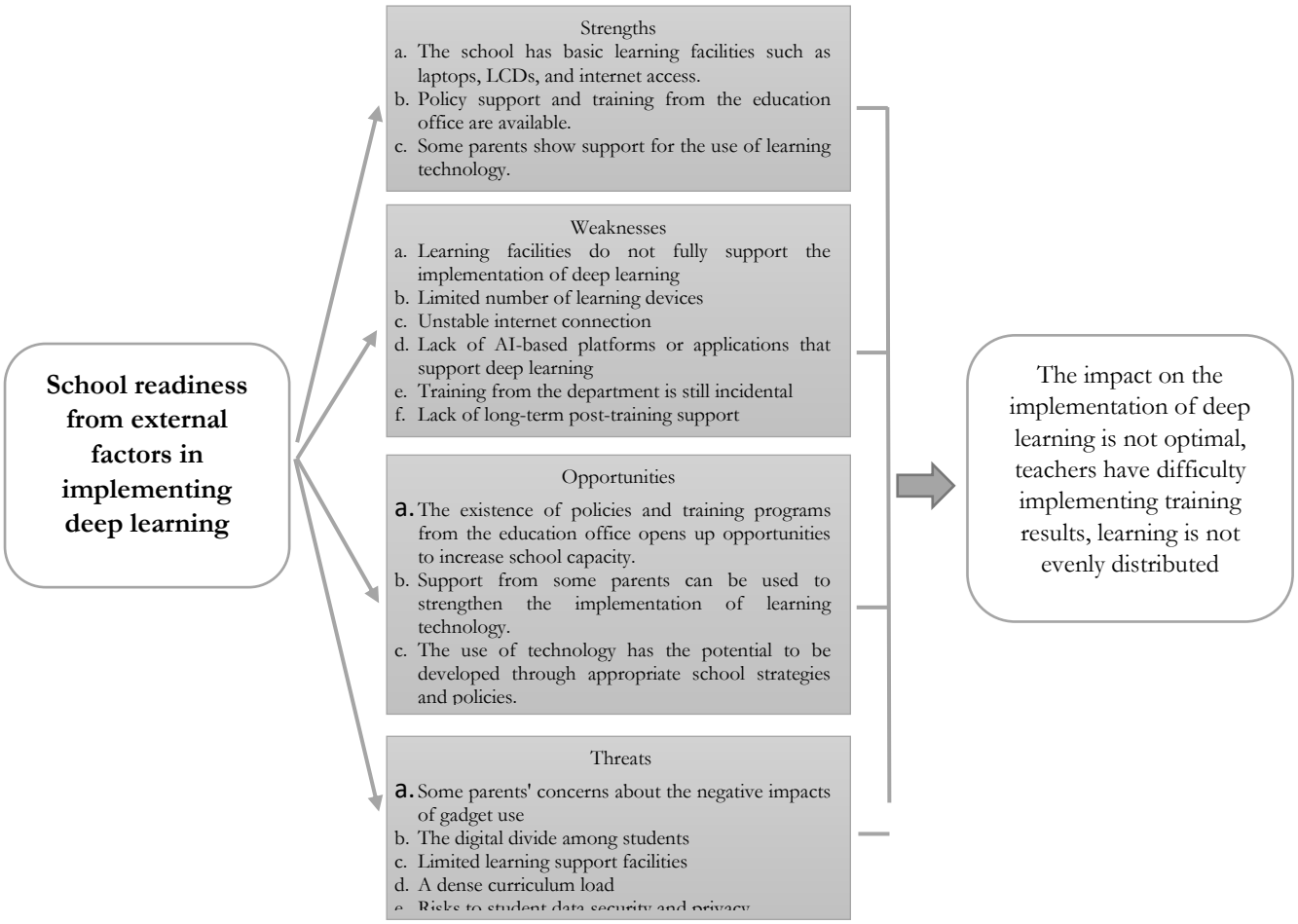


Figure 2. Context diagram of school readiness identification from external factors in the deep learning approach at SDN Kendek, Banggai Utara District, Banggai Laut Regency

Strategies to improve school readiness for implementing deep learning at SDN Kendek, North Banggai District, Banggai Laut Regency.

Figure 3. Context diagram of strategies to improve school readiness in implementing immersive learning at SDN Kendek, showing that improving school readiness for implementing deep learning requires an integrated and sustainable strategy. This strategy includes strengthening teacher competency through ongoing training accompanied by direct classroom practical assistance, so that teachers not only understand the theory but are also able to implement it contextually; providing learning support facilities in stages according to school needs and priorities, taking into account budget conditions and subject characteristics; strengthening school policies that provide space for innovation, reduce administrative burdens, and allocate dedicated time for teacher professional development; collaborating with external parties, such as universities and

educational technology partners, to open access to more up-to-date knowledge, technology, and support; and strengthening communication with parents through ongoing outreach and dialogue regarding the wise and responsible use of learning technology. These findings indicate that school readiness cannot be improved partially but must be achieved through a systemic approach involving the entire school education ecosystem.

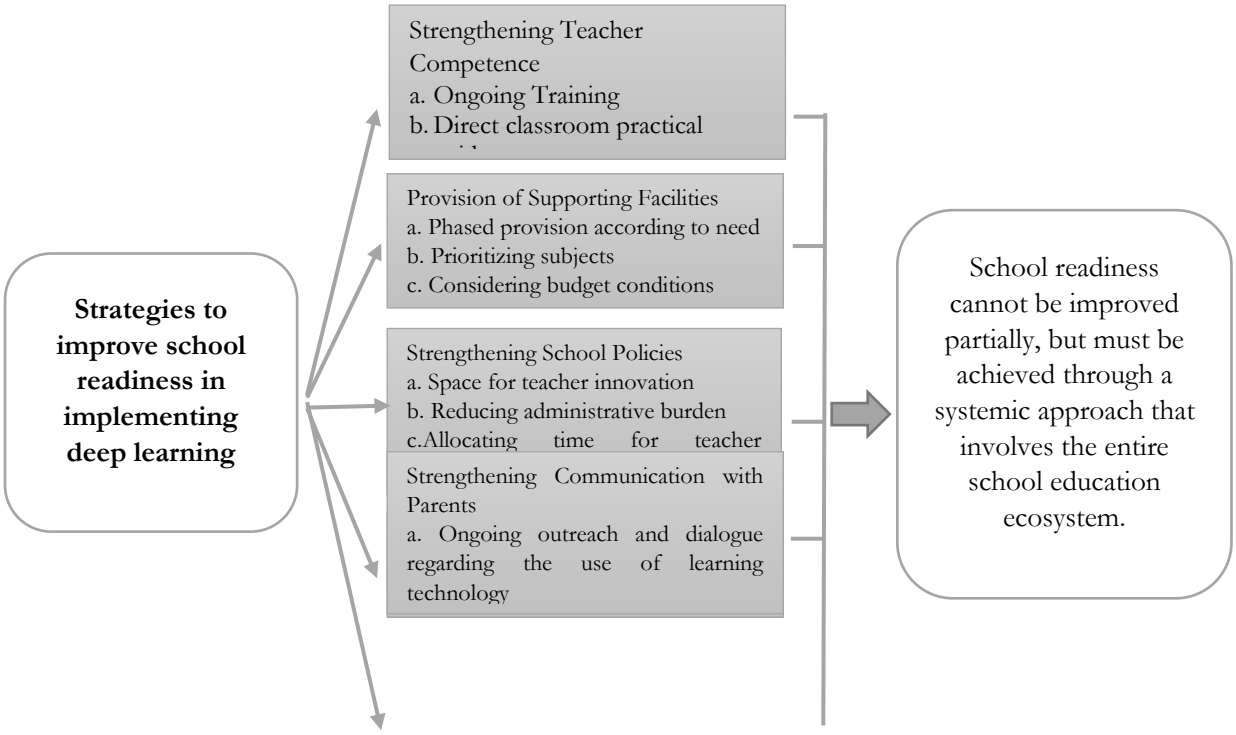


Figure 3. Context diagram of strategies to improve school readiness in implementing deep learning at SDN Kendek, Banggai Utara District, Banggai Laut Regency

DISCUSSION

Analysis of Research Results

Research findings indicate that teachers at Kendek Elementary School have demonstrated initial internal readiness to implement deep learning, particularly in terms of basic technological competency and professional motivation. Teachers are able to utilize learning technology tools such as e-learning platforms, presentation applications, and interactive digital media in daily learning. This indicates that teachers are at a higher digital adaptation stage than simply basic digital literacy, where technology is not only used instrumentally but has become part of learning practices (Fitrah et al., 2025).

Pedagogical technological competencies, such as the use of e-learning and digital media, align with the Technological Pedagogical and Content Knowledge (TPACK) model, which emphasizes that school readiness to face digital pedagogical innovation depends not only on technical skills but also on integrating these skills with pedagogical understanding and learning content (Bentri et al., 2025). The findings in this study indicate that teachers have reached the adaptive stage, indicating that they have mastered the technological knowledge components and some technological pedagogical knowledge in TPACK. However, they may still need reinforcement for deeper integration with complex learning strategies such as deep learning. Although basic technological competencies are quite strong, teachers' understanding of the concept of deep learning remains heterogeneous and not fully operational in the classroom. This finding indicates a gap between declarative understanding of deep learning and the procedural ability to apply it in learning practices. This is consistent with other research findings showing that although teachers recognize the importance of deep learning, many still struggle to translate it into concrete learning strategies in the classroom (Fitrah et al., 2025).

The difference in interpretation between deep learning as simply the use of technology or artificial intelligence, and deep learning as a pedagogical approach that emphasizes meaningful understanding, reflection, and real-life contexts, indicates a conceptual challenge. The concept of deep learning is typically associated with higher-order thinking skills, problem-solving, collaboration, and contextual integration of knowledge—characteristics also emphasized in 21st-century learning frameworks (Magay et al., 2025). This difference in understanding indicates the need to strengthen teachers' pedagogical competencies for more comprehensive deep learning.

Furthermore, this study found that teachers' motivation for self-development is relatively high, but not fully matched by the availability of time and confidence to consistently implement deep learning. This finding aligns closely with the literature on school readiness, which indicates that motivation and self-efficacy are important predictors of teachers' ability to adopt pedagogical and technological innovations in learning (Fitrah et al., 2025). The imbalance between high motivation and limited time emphasizes that internal readiness must be supported by a work structure that allows teachers to experiment and reflect on their own practices.

The phenomenon of hindered deep learning implementation due to administrative burdens and busy teaching schedules also aligns with findings in various academic contexts that indicate that limited time and practice opportunities are major barriers to effectively integrating innovative learning strategies (Sudirman et al., 2025). These internal barriers indicate that psychological and structural readiness elements need to be strengthened so that teachers are not only prepared technically but also able to translate deep learning concepts into reflective, collaborative, and critical learning practices.

The research findings indicate that external factors play a significant role in the readiness of Kendek Elementary School to implement deep learning in its teaching. Although the school has provided basic learning facilities such as laptops, LCDs, and internet access, these facilities do not fully support the effective implementation of deep learning. Limited devices, unstable internet connections, and the lack of artificial intelligence (AI)-based platforms or applications that support deep learning are significant obstacles. These findings align with research (Rosdiana et al., 2024) which shows that limited infrastructure and the digital divide are major obstacles to the development of technology pedagogy in schools, especially in areas with limited resources.

In the context of readiness to adopt digital pedagogical practices such as deep learning, research shows that access to adequate technology and infrastructure is a crucial factor. Unequal access and inadequate equipment can limit teachers' ability to experiment with innovative learning techniques, preventing the technology's full potential from being fully realized in daily learning (Fitrah et al., 2025). In addition to infrastructure, policy support and training from educational institutions are also external factors influencing school readiness. Research findings at SDN Kendek indicate that although training from the education office is available, this support is incidental and not sustainable. The training provided is not accompanied by long-term mentoring, so teachers still experience difficulties in implementing training outcomes into classroom learning practices. This is supported by literature findings by Dewi & Sunarni, (2024) who stated that discontinuous teacher training without practical mentoring tends not to produce significant changes in learning practices, as teachers revert to old classroom habits after the training is completed.

Furthermore, other research has noted that a school's readiness to adopt innovative pedagogies such as deep learning is influenced not only by individual competency but also by institutional support, policy consistency, and ongoing professional orientation.

According to research by Fitrah et al., (2025), the integration of technology and modern pedagogy requires coordinated policies that include training, mentoring, and ongoing evaluation guided by 21st-century learning principles. The findings of this study also revealed that parental support for the use of learning technology is diverse. Some parents expressed support, while others remained concerned about the negative impacts of technology use on students. This condition reflects the social dynamics that often arise in the implementation of technology-based educational innovations. Community support is crucial for the legitimacy and sustainability of innovative learning practices. However, social concerns regarding the effects of technology, such as excessive device use, need to be managed through communication and technological literacy for parents. The study discussed the importance of school-parent collaboration in building a learning ecosystem that supports the holistic development of students (Rosdiana et al., 2024).

Furthermore, threats such as the digital divide among students, a dense curriculum, and data security and privacy risks were also identified as external factors that could hinder the implementation of deep learning. This is consistent with literature stating that unequal digital access and concerns regarding the ethical use of data are global issues affecting the readiness of educational institutions to adopt advanced technology (Rosdiana et al., 2024). Thus, the discussion of these external factors confirms that school readiness to implement deep learning is greatly influenced by the availability and adequacy of infrastructure, consistent policy support and training, social support from the parent community, and anticipatory efforts to address external threats such as the digital divide and data privacy. This readiness is not simply a matter of individual teacher capabilities but the result of complex interactions between teachers, schools, education policies, and the wider community.

The research findings indicate that improving school readiness for implementing deep learning at SDN Kendek requires an integrated and sustainable strategy. This strategy aligns with current views in educational studies, which emphasize that school readiness for pedagogical innovation cannot be built in isolation but must encompass the dimensions of individual competency, institutional support, policies, and the involvement of external stakeholders. Strengthening teacher competency through ongoing training accompanied by direct classroom practical guidance is a key strategy for improving school readiness. Research shows that effective training is continuous professional development (CPD), practice-based, and contextualized to teachers' needs in the classroom. Research conducted

by Fitrah et al., (2025) confirms that teachers will be better prepared to implement deep learning if the training goes beyond theoretical knowledge transfer and includes ongoing guidance, reflection, and feedback. This approach also aligns with the job-embedded professional learning model, which places teacher learning as part of daily teaching practice.

The strategy of gradually providing learning support facilities according to school needs and priorities reflects the principle of equitable digital transformation in education. Recent research emphasizes that the availability of relevant and functional technology is a key prerequisite for successful deep learning. However, budget constraints require schools to implement phased planning based on the actual needs of the subject matter. According to Thomson & Hillman, (2020) and supported by a study by Holmes & Miao, (2023), effective digital transformation is not about technological luxury, but rather about the alignment between tools, learning objectives, and user capacity.

Strengthening school policies that provide space for innovation, reduce administrative burdens, and allocate dedicated time for teacher professional development are key factors in school readiness. Recent literature indicates that high administrative burdens negatively impact teacher agency and school readiness to innovate. Research by Sudirman et al., (2025) shows that teachers are better able to implement deep learning when schools provide policies that support a culture of innovation and collaborative professional learning. Therefore, school policies need to be directed at creating a work climate that encourages reflection, experimentation, and learning development. Collaboration with universities and educational technology partners is a crucial strategy for expanding the learning ecosystem. The theory of educational partnerships emphasizes that schools cannot work alone in navigating the complexities of technology-based and deep learning. Collaboration enables knowledge transfer, access to cutting-edge technology, and research-based mentoring. Fitrah et al., (2025) stated that partnerships with external institutions contribute significantly to increasing teacher confidence and the quality of innovative pedagogy implementation.

The strategy of strengthening communication with parents through ongoing outreach and dialogue regarding the wise use of learning technology aligns with the concept of school-family partnerships. Recent educational literature confirms that parental support is an external factor influencing the sustainability of technology-based learning innovations. Holmes & Miao, (2023) emphasize the importance of family digital literacy to

reduce social resistance to technology use and ensure its ethical and responsible use. Based on the discussion above, it can be concluded that strategies to increase school readiness for implementing deep learning must be implemented through a systemic approach involving strengthening teacher competencies, supporting facilities, conducive school policies, external collaboration, and parental involvement. This strategy emphasizes that school readiness is the result of interactions between individual teachers and the overall educational ecosystem, not simply the result of technical training alone.

Literature Comparison

The findings of this study align with those of Rosdiana et al., (2024) which showed that limited infrastructure and the digital divide are major obstacles to the development of technology pedagogy in schools, especially in areas with limited resources. These findings also reinforce the findings of Fitrah et al., (2025) which emphasized that the integration of technology and modern pedagogy requires coordinated policy support, ongoing training, and systematic mentoring. These findings are also consistent with those of Dewi & Sunarni, (2024) who stated that discontinuous teacher training without practical support tends not to produce significant changes in teaching practices. Furthermore, the findings related to administrative burden and time constraints align with the research of Sudirman et al., (2025) which emphasized that teacher agency and readiness for innovation are strongly influenced by internal school policies.

Implications of Research Findings

The implications of this study's findings indicate that improving school readiness for implementing deep learning requires an integrated and sustainable strategy. Strengthening teacher competencies through ongoing training accompanied by direct classroom practical support is a key strategy. The strategy of gradually providing learning support facilities according to school needs and priorities reflects the principle of equitable digital transformation in education. Strengthening school policies that provide space for innovation, reducing administrative burdens, and allocating dedicated time for teacher professional development are key factors in improving school readiness. Furthermore, collaboration with universities and educational technology partners, as well as strengthening communication with parents through ongoing outreach and dialogue, are important strategies in building a sustainable deep learning ecosystem.

Research Limitations

This research is limited by its scope, which focused on a single elementary education unit, so the results cannot be broadly generalized. Furthermore, this study used a qualitative approach, so findings are highly dependent on the depth of data and the local context of the schools studied. Therefore, future research is recommended to involve more schools and use a mixed-methods approach to broaden perspectives and strengthen the generalizability of the findings.

CONCLUSION

This study concludes that the school's readiness to implement deep learning at SDN Kendek is considered adequate, but not optimal. This readiness is reflected in the initial capital of basic technological competency among teachers, relatively high professional motivation, and the availability of basic learning facilities that support the use of technology in the learning process. However, this readiness still faces various obstacles, both internal and external to the school, preventing the implementation of deep learning from being systematically and sustainably implemented in classroom practice. From an internal perspective, teachers' limited conceptual understanding of deep learning, differing interpretations of the meaning and implementation of deep learning, and time constraints due to administrative burdens and busy teaching schedules are the main obstacles. Meanwhile, from an external perspective, limited supporting infrastructure, the lack of ongoing training and mentoring from relevant institutions, and varying levels of parental support also influence the level of school readiness. These findings confirm that school readiness to implement deep learning cannot be understood solely as individual teacher readiness, but rather as a systemic readiness involving the entire educational ecosystem within the school.

This research contributes to enriching the study of school readiness through a SWOT analysis approach in the context of elementary education. The use of a SWOT analysis allows for a comprehensive mapping of school conditions by identifying strengths, weaknesses, opportunities, and threats that influence the implementation of deep learning. Thus, this study not only provides a descriptive overview of the level of school readiness but also generates strategy formulations that are contextual, applicable, and relevant for decision-making at the school level and for education policymakers. Theoretically, this

study strengthens the understanding that school readiness is a multidimensional construct influenced by the interaction of pedagogical, technological, policy, and social factors.

Future research is recommended to expand the research locations to include more elementary education units with different characteristics, including geography, social factors, and resource availability. Furthermore, the use of a mixed methods approach is recommended to obtain a more comprehensive and in-depth picture of school readiness, combining the strengths of qualitative and quantitative data. Further research could also examine the effectiveness of the proposed strategies for improving school readiness more specifically, as well as the impact of deep learning implementation on the quality of the process and student learning outcomes in the long term.

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