Digital Literacy Integration in Madrasah Ibtidaiyah Learning: Challenges and Implementation Strategies in the Era of Society 5.0

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Abstract: This study aims to examine the integration of digital literacy in learning in Madrasah Ibtidaiyah (MI) through a library research approach with an integrative review method. This study was conducted systematically and comprehensively on national and international scientific articles published between 2015-2024, with data sources coming from Google Scholar, Scispace, DOAJ, and Scopus. The research focuses on identifying challenges and implementing strategies for digital literacy in the context of Islamic basic education in the era of Society 5.0. The results of the study show that digital literacy plays an important role in supporting the strengthening of cognitive, character and spiritual competencies of MI students contextually and relevant to the times. However, its implementation still faces various obstacles, such as limited infrastructure, the readiness of educators, and the lack of policy support and collaboration between stakeholders. Therefore, effective implementation strategies include teacher training, integrated curriculum development, adaptive use of learning technology, and active involvement of parents. This research recommends strengthening collaboration and designing policies that support digital literacy-based learning ecosystems in madrasah. The findings are expected to be the basis for developing relevant and sustainable learning models in the digital era.

Keywords: Digital Literacy, Madrasah Ibtidaiyah, Society 5.0, Islamic Learning.

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A. INTRODUCTION

Digital literacy is an individual's ability to use information technology critically, creatively and ethically to access, understand and disseminate information. In the context of education, digital literacy is an essential skill that supports adaptive and innovative learning. The Society 5.0 era, introduced by the Japanese government, emphasises the integration between cyberspace and physical space to create a human-centred society by utilising advanced technologies such as artificial intelligence (AI) and the Internet of Things (IoT). In education, this concept encourages the transformation of learning towards a more personalised and technology-based approach. Faresta (2023) emphasises that in the era of Society 5.0, teachers are required to have digital literacy competencies to face global challenges and support effective learning activities..

Research by Utaminingsih et al. (2023) showed that digital literacy plays an important role in strengthening students' character values in the Society 5.0 era, emphasising the need for a

balance between technological capabilities and digital literacy competencies to avoid the negative impact of technology use. In Madrasah Ibtidaiyah Riyadlotul Uqul Kediri, Kusuma and Ixfina (2023) found that the integration of digital literacy through the provision of computer laboratories and the use of digital media in learning can improve the quality of Islamic education, both academically and non-academically. In addition, Pratiwi et al. (2024) highlighted that digital literacy as an innovation in Islamic religious education can improve students' independent and collaborative learning skills, although it still faces challenges such as gaps in technology access and limited digital competence of educators.

The integration of technology in basic education has also shown an increase in student literacy. Luthfiyati et al. (2023) reported that the use of digital reading media, such as e-books and interactive platforms, can increase students' literacy skills by 25% at SMP Mambaul Ulum Mayong, Lamongan. In the context of learning evaluation in the Society 5.0 era, Oktaviana et al. (2023) emphasised the importance of adaptive and technology-based evaluation to produce students who think critically and creatively. Meanwhile, Ubaidillah and Ulliyah (2024) highlighted that the application of artificial intelligence in the learning process at Madrasah Ibtidaiyah can improve the personalisation and adaptation of learning, although it still faces challenges such as limited infrastructure and educator readiness..

The application of digital-based curriculum in the implementation of Merdeka Curriculum in madrasah is also the focus of research. Eti et al. (2024) found that the digital curriculum can increase the relevance and adaptability of education to technological developments, but requires attention to teacher training and adequate infrastructure. Faresta (2023) reiterated the urgency of improving digital literacy competencies for educators to face global challenges in the Society 5.0 era. In addition, Utaminingsih et al. (2023) emphasised that schools need to implement digital literacy competencies to strengthen students' character values to remain competitive in the international arena.

In the international context, a report by the Digital Age Teacher Preparation Council (2011) emphasises the importance of modernising professional training for teachers and parents in the appropriate use of technology for children, as well as the need for adequate technological infrastructure to support 21st century learning. In addition, an article in Time (2021) highlighted the importance of cyber citizenship education as an essential skill for responsible participation in a digital society, emphasising the need for national efforts to integrate cyber citizenship education into the curriculum. In Australia, Corbett (2024) advocates for the integration of media literacy into education to combat disinformation, emphasising that media literacy should be a foundational element in education, on par with mathematics

ased on the above studies, it appears that the integration of digital literacy in Madrasah Ibtidaiyah learning has great potential to improve the quality of education and student character in the Society 5.0 era. However, there are still gaps in terms of infrastructure readiness, digital competence of educators, and curriculum that is adaptive to technological developments. This research offers novelty by focusing on contextualised digital literacy implementation strategies in Madrasah Ibtidaiyah, as well as the identification of specific challenges faced by Madrasah Ibtidaiyah.

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B. METHOD

This research uses a library research approach with the type of integrative review, which aims to integrate various previous research results systematically, critically and comprehensively to formulate new understandings related to the integration of digital literacy in Madrasah Ibtidaiyah learning in the era of Society 5.0. Integrative review allows cross-study analysis with a narrative synthesis approach, so that researchers can identify key themes, implementative strategies and challenges faced in implementing digital literacy in the context of Islamic basic education (Whittemore & Knafl, 2005). This study emphasises a deep understanding of the empirical conditions that have been reported in various national and international journals and makes recommendations based on relevant key findings.

The data sources in this study were obtained from several leading scientific databases, namely Google Scholar, Scispace, Directory of Open Access Journals (DOAJ), and Scopus. These four platforms were chosen because they provide open and indexed access to credible, peer-reviewed journals. The search was conducted using keywords such as 'digital literacy,' 'madrasah,' 'Islamic elementary education,' 'Society 5.0,' 'implementation strategy,' and 'digital integration in learning.' The articles searched focussed on the context of Islamic primary education and madrasahs, particularly in relation to digital literacy and the challenges of implementing educational technology in the Society 5.0 era.

C. RESULTS AND DISCUSSION

1. The Urgency of Digital Literacy in the Context of Madrasah Ibtidaiyah Education in the Era of Society 5.0

The urgency of digital literacy in the context of Madrasah Ibtidaiyah (MI) education in the era of Society 5.0 is crucial, given the rapid development of information technology. Digital literacy, as defined by Naufal, is the ability to access, understand and utilise digital-based information, which is becoming increasingly important in the teaching and learning process in MI and basic education in general (Naufal, 2021). In the era of Society 5.0, where technology and humans interact harmoniously, it is important for MI students to not only have technical skills, but also critical literacy in filtering the information they receive (Bali & Rohmah, 2023).

The implementation of digital literacy curriculum at the primary level, including MI, is one of the important aspects that must be considered. Kailani et al. explained that digital literacy covers a wide range of skills, from information literacy to economic and multicultural literacy, all of which are relevant in the context of early learning (Kailani et al., 2021). By equipping MI students with these skills, they will be better prepared to face information challenges in an increasingly complex world (Saleh & Solihin, 2023). In addition, Sari et al. also emphasised that a culture of digital literacy should be instilled through thematic teaching, where students are taught to be critical and creative in using technology (Sari et al., 2022).

From the research conducted, there are supporting factors that influence the effectiveness of digital literacy in MI, such as infrastructure and the involvement of stakeholders, including teachers and parents. Hidayat et al. argued that collective spirit in improving digital literacy among students and the community is very important, especially in utilising available technological devices for learning (Hidayat et al., 2022). Commitment from all parties

including parents also contributes to the success of digital literacy initiatives implemented in MI (Pentianasari et al., 2022).

2. Challenges in Implementing Digital Literacy in Madrasah Ibtidaiyah

The implementation of digital literacy in Madrasah Ibtidaiyah (MI) faces a number of significant challenges, especially in the context of current social and technological changes. These challenges include technical aspects, curriculum, as well as parental involvement in their children's digital education. One of the main challenges is the level of teacher competence in digital literacy. Many teachers in MI are not yet fully skilled in using digital technology as a teaching tool. Research conducted by Afifulloh and Sulistiono shows the need for training and mentoring to improve teachers' skills in creating digital-based learning media, such as audio visual, so that it can be effectively applied in the teaching process in the classroom Afifulloh & Sulistiono (2023). This is in line with the findings of Kailani et al. who emphasised the importance of implementing technology at all levels of education to develop digital literacy skills for students (Kailani et al., 2021).

In addition, there are challenges related to the curriculum that does not support the development of digital literacy. Curriculum areas in MI often do not include digital literacy as an important part of the teaching and learning process. This creates a gap where students are not adequately educated in the effective and responsible use of digital technology. Kailani et al. mentioned that strengthening the digital literacy curriculum is needed to help students adapt to the changing digital age (Kailani et al., 2021).

Parental involvement is also a key factor in digital literacy implementation. Research shows that parents' understanding of digital literacy can influence how they support their children in using technology. Mulya et al. illustrate that parents' lack of knowledge about digital literacy can hinder children in getting proper guidance in using technology (Mulya et al., 2023). Therefore, it is important for schools to organise training programmes for parents so that they can provide better support for their children in developing digital literacy skills.

3. Effective Strategies for Integrating Digital Literacy in Madrasah Learning

The integration of digital literacy in learning in Madrasah Ibtidaiyah (MI) needs to be done effectively to keep up with the times and fulfil the needs of education in the digital era. The strategy should include teacher training, curriculum development and the utilisation of relevant technology to support the teaching and learning process.First, teacher training is an important step in the integration of digital literacy. According to Afifulloh and Sulistiono, improving teachers' ability to create digital-based learning media is crucial to creating an enjoyable learning environment that meets the demands of era 4.0 (Naufal, 2021). Teachers must be equipped with the knowledge and skills to create interactive and engaging learning content, which in turn can motivate students to learn.

Second, curriculum development that integrates digital literacy is also needed. Herianingtyas et al. note that the introduction of digital literacy in the education curriculum must be done systematically and integrated (Saleh & Solihin, 2023). This includes the preparation of teaching materials that include elements of digital literacy, so that students not only learn academic content, but also how to use information technology wisely. In addition,

the use of multimedia and technology in learning can increase the effectiveness of the learning process. Sari et al. suggested that the use of digital tools in Indonesian language learning can enrich the learning experience and increase student interest (Bali & Rohmah, 2023). This strategy can be applied in various subjects to strengthen students' understanding of the material and improve their digital skills (Hidayat et al., 2022).

The development of critical thinking skills is also an important part of the digital literacy integration strategy. In the age of fast-paced information, students' ability to analyse and evaluate digital information is crucial. Akbar and Fahlevvi emphasise that skills such as critical thinking, media literacy and digital citizenship should be the focus of digital literacy education to counter misinformation on social media (Kailani et al., 2021). This shows that it is important for students to have skills that are not only technical, but also to think critically in filtering information.

D. CONCLUSIONS AND SUGGESTIONS

The integration of digital literacy in learning in Madrasah Ibtidaiyah is an urgent need in the era of Society 5.0. Digital literacy not only strengthens students' cognitive aspects, but also supports character building and contextualised spiritual understanding through learning approaches that are relevant to technological developments. Effective implementation requires a comprehensive strategy, such as teacher training, curriculum development integrated with Islamic values, optimal utilisation of educational technology, and collaboration with parents. Thus, learning in MI will be able to create a generation that is digitally proficient, religious, and ready to face global challenges.

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