

The Ontology of Digital Literacy in Evaluating the Credibility of Internet-Based Learning Resources for Elementary School Students

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Abstract

This study aims to analyze the concept of the ontology of digital literacy in helping elementary school students evaluate the accuracy of information from internet-based sources. The method used is qualitative research employing a Systematic Literature Review (SLR) approach. Data were obtained from scientific journals, books, and educational policy documents, the results indicate that ontology-based digital literacy emphasizes understanding the existence of information, its origins, and the criteria of truth, which involve aspects of logic, source credibility, and informational context. These findings suggest that students equipped with ontological understanding tend to be more critical in distinguishing between hoax information and factual content, in conclusion, the integration of an ontological approach in digital literacy is essential for developing critical thinking skills from an early age. The implication is that teachers need to design learning strategies that focus not only on the use of technology but also on the critical evaluation of digital information.

Keywords: Digital Literacy, Ontology, Information Evaluation, Elementary Education

Abstrak

Penelitian ini bertujuan untuk menganalisis konsep ontologi literasi digital dalam membantu siswa sekolah dasar menilai kebenaran informasi dari sumber berbasis internet. Metode yang digunakan adalah penelitian kualitatif dengan metode Systematic Literature Review (SLR). Data diperoleh dari jurnal ilmiah, buku, dan dokumen kebijakan pendidikan yang. Hasil penelitian menunjukkan bahwa literasi digital berbasis

ontologi menekankan pada pemahaman tentang keberadaan informasi, asal-usul, serta kriteria kebenaran yang melibatkan aspek logika, kredibilitas sumber, dan konteks informasi. Temuan ini mengindikasikan bahwa siswa yang dibekali pemahaman ontologis cenderung lebih kritis dalam memilah informasi hoaks dan fakta. Simpulan penelitian ini adalah bahwa integrasi pendekatan ontologi dalam literasi digital sangat penting untuk membentuk kemampuan berpikir kritis sejak dini. Implikasinya, guru perlu mengembangkan strategi pembelajaran yang tidak hanya berfokus pada penggunaan teknologi, tetapi juga pada penilaian kritis terhadap informasi digital
Kata Kunci: Literasi Digital, Ontology, Kredibilitas Informasi, Pendidikan Dasar

A. Introduction

The development of digital technology has transformed the learning paradigm in elementary schools, with the internet becoming the primary source of information. Digital literacy is a crucial competency for students to understand, evaluate, and use information appropriately. Studies show that digital literacy encompasses the ability to access, evaluate, and ethically use digital information.¹ Therefore, this article aims to ontologically examine digital literacy in assessing the accuracy of information. Therefore, the main objective of this research is to understand the nature of digital literacy as the basis for students' critical thinking. Furthermore, the increasing flow of information on the internet requires students to be able not only to read but also to understand the meaning/truth of that information. Digital literacy in the context of basic education is an important foundation in developing critical thinking skills from an early age. This ontological approach is necessary to understand the essence of information and its existence.

This article aims to contribute to the development of a critical digital literacy-based learning model. Through an ontology approach, it is hoped that students' abilities in sorting valid and invalid information on the internet can be strengthened. This is in line with the needs of 21st-century education, which emphasizes critical thinking skills. Therefore, this article produces an ontology-based digital literacy concept that is applicable in learning. Although many articles have discussed digital literacy, most focus on improving technical skills and the use of digital media in the learning process. Articles on ontology-based digital literacy are still very limited, especially at the elementary school level. This indicates a gap between learning practices and philosophical studies of digital literacy. Thus, there is a gap between technical and conceptual approaches in digital literacy. Furthermore, previous studies have focused more on the development of digital learning media than on the ability to evaluate the accuracy of information. For example, digital media development aims to improve

¹Aqilah Salsabila and Rukli Rukli, 'Descriptive Analysis of Learning Analytics in Assessing the Level of Digital Literacy of Elementary School Students', *J-CEKI: Scientific Scholar Journal*, 4.6 (2025), 563–77.

literacy but has not specifically addressed the aspect of information validity.² Thus, there is a gap in the focus of the article which does not emphasize the aspect of information accuracy.

Another gap lies in the lack of integration between information literacy theories and learning practices in elementary schools. While information literacy strongly emphasizes the importance of critical thinking skills in assessing information from an early age, there is a gap between information literacy theory and its implementation in elementary education. To address these issues, a new approach is needed that integrates digital literacy with ontology studies. This approach emphasizes understanding the nature of information, its sources, and the criteria for truth. This ensures that students not only use technology but also understand the essence of the information they obtain. Therefore, the solution offered is strengthening ontology-based digital literacy.

Furthermore, this article proposes a learning model that combines technical and critical skills in digital literacy. This model is expected to improve students' ability to evaluate information logically and systematically. This article is relevant to the needs of modern education, which demands higher-order thinking skills. The research solution is the development of a critical and reflective digital literacy model. Furthermore, this research is expected to provide theoretical and practical contributions to the development of digital literacy in elementary schools. Theoretically, this research will enrich the study of ontology in education. Practically, this research will serve as a reference for teachers in designing digital literacy-based learning. Thus, the proposed solution is the integration of ontology into digital literacy practices in elementary schools.

B. Literature Review

I. The Concept of Digital Literacy

Digital literacy is an individual's ability to access, understand, evaluate, and utilize information through digital technology effectively and responsibly. In the context of basic education, digital literacy extends beyond technical skills in using devices to include critical thinking skills regarding information obtained from various digital sources. Digital literacy is a crucial skill because technology can provide both benefits and risks for students if not used wisely.³ Therefore, students need to be equipped with the ability to understand and evaluate information critically from an early age, furthermore, digital literacy encompasses several key components:

²Maulidiya Rahma Prastiti and Banu Setyo Adi, 'Science Digital Library: Innovation in Improving Science Literacy of Elementary School Students', *Prima Edukasia Journal*, 12.2 (2024), 216–27 <<https://doi.org/10.21831/jpe.v12i2.69478>>.

³Ishmatun Naila, Muhammad Ridwan, and Muhammad Amirul Haq, 'Digital Literacy for Elementary School Teachers and Students: Content Analysis in Learning', *Journal of Elementary Education Review: Journal of Educational Studies and Research Results*, 7.2 (2021), 166–122 <<https://doi.org/10.26740/jrpd.v7n2.p166-122>>.

information literacy, media literacy, and technological literacy. These three aspects play a role in shaping students' abilities to think, communicate, and collaborate effectively in a digital environment. Therefore, digital literacy in basic education is a crucial foundation for developing a generation that is not only capable of using technology but also of filtering and critically evaluating information.

2. Digital Literacy in Elementary School Students

Elementary school students are an age group that is particularly vulnerable to digital information because they are still in the early stages of cognitive development. They tend to receive information directly without thorough verification. Therefore, strengthening digital literacy is essential. Research in *Improving Students' Digital Literacy in Elementary Schools* stated that increasing digital literacy in students is influenced by several factors, such as curriculum, teacher competence, and the availability of technological infrastructure.⁴

In addition, digital literacy also plays a role in shaping students' character. The *Role of Digital Literacy in Character Education* has been explained that digital literacy skills can help students develop wise, responsible, and ethical attitudes in using technology. However, the main challenge in implementing digital literacy in elementary schools is students' poor ability to distinguish between valid and invalid information, as well as a tendency to use technology for entertainment rather than learning.⁵ Therefore, a learning strategy is needed that is able to integrate digital literacy with students' critical thinking skills.

3. Ontology in Digital Literacy

In the context of philosophy, ontology is the study of the nature of existence, including the nature of information, reality, and truth. In digital literacy, an ontological approach emphasizes a deep understanding of what information is, where it comes from, and how its truth can be determined. An ontological approach in digital literacy helps students not only passively receive information but also question its existence and validity. This aligns with the view that digital literacy is not merely technical but must also encompass a critical understanding of the meaning and context of information. In literature reviews, digital literacy is viewed as the ability to critically understand and utilize information from various sources, including evaluating the credibility and relevance of information.⁶ Thus, the integration of ontology in digital

⁴Adien Inayah and others, 'Improving Students' Digital Literacy in Elementary Schools', *Journal of Education and Social Sciences (Jupendis)*, 2.3 (2024), 247–58 <<https://doi.org/10.54066/jupendis.v2i3.2039>>.

⁵Naimah, Muhammad Fauzan Muttaqin, and Meilina, 'Implementation of Digital Literacy in Elementary School Students', *Scientific Journal of Teacher Professional Education*, 7.1 (2024), 85–94 <<https://doi.org/10.23887/jippg.v7i1.75992>>.

⁶Ari Metalin Ika Puspita Khristi Rosika Dewi I, Heru Subrata2, 'Implementation of Digital Literacy in Schools': Systematic Literature Review', *Hangs: Scientific Journal of Elementary Education*, 10.01 (2025), 213–23.

literacy strengthens students' analytical abilities in understanding the complex information reality in the digital era.

4. Accuracy of Information in Internet-Based Learning Resources

Internet-based learning resources provide a vast amount of information, but not all of it can be verified. Therefore, the ability to assess the veracity of information is a crucial part of digital literacy. According to research in improving digital literacy of elementary school children, high internet access is not always balanced with an understanding of safe and educational use, so students are vulnerable to incorrect or misleading information.⁷ The accuracy of information can be assessed using several indicators, including: source credibility, content accuracy, contextual relevance, and consistency with other sources. These skills are crucial for preventing students from being exposed to hoaxes and misinformation, which are increasingly prevalent in the digital age.

5. The Role of Teachers in Developing Ontology-Based Digital Literacy

Teachers play a strategic role in developing ontology-based digital literacy in elementary school students. They serve not only as technology facilitators but also as mentors in instilling critical thinking skills regarding information. Digital literacy-based learning needs to be systematically designed by integrating technology use, information analysis, and critical reflection. In this regard, teachers need to develop active learning methods, such as discussions, problem-based learning, and inquiry learning. Research shows that effective implementation of digital literacy requires a supportive school environment, a relevant curriculum, and teacher competence in utilizing technology pedagogically.⁸ Thus, the role of teachers is very important in shaping students who are not only digitally literate, but also have ontological awareness of information.

C. Method

This research uses the method Systematic Literature Review (SLR) to comprehensively examine the concept of digital literacy ontology in assessing the accuracy of information in internet-based learning resources for elementary school students. The SLR method was chosen because it can produce a systematic, transparent, and replicable synthesis of knowledge from various relevant scientific literature sources.⁹ Data sources come from international journals, national journals, academic books, and policy documents.

⁷S Eniyati and others, 'Improving Digital Literacy of Elementary School Children Through Safe and Educational Internet Use', *ARSY: Research Applications to Society*, 6.2 (2025), 514–19 <<http://journal.al-matani.com/index.php/arsy>>.

⁸Adien Inayah and others.

⁹Evi Triandini and others, 'Systematic Literature Review Method for Identifying Platforms and Methods for Information System Development in Indonesia', *Indonesian Journal of Information Systems*, 1.2 (2019), 63 <<https://doi.org/10.24002/ijis.v1i2.1916>>.

Data collection using the method Systematic Literature Review (SLR) implemented through several main stages, namely: formulation of research questions, identification of literature, selection of studies, data extraction, and analysis and synthesis of data. By using the SLR method, this research is expected to be able to provide an in-depth picture of the integration of ontology in digital literacy and its contribution in forming the critical thinking skills of elementary school students in assessing the truth of information logically, reflectively, and contextually.¹⁰

D. Results and Discussion

I. Ontology of Digital Literacy in the Perspective of Elementary Education

The ontology of digital literacy stems from fundamental questions about the nature of information in digital space, and how that reality is understood by those accessing it, specifically elementary school students. Ontology, as a branch of the philosophy of science, focuses on existence and reality. Therefore, in the context of digital literacy, ontology plays a role in explaining what is meant by "information," how it exists, and how its truth can be accounted for. In the digital era, information is an identity with a specific existence, structure, and meaning that students need to understand deeply. In the context of elementary education, digital literacy focuses not only on technical skills but also on understanding the nature of information and its truth.¹¹

According to Tinmaz et al., in their systematic review, digital literacy encompasses multiple dimensions, including cognitive, social, and critical skills in understanding and evaluating digital information. This confirms that digital literacy is not only about technical skills but also involves a deep understanding of the structure and existence of information itself.¹²

This approach emphasizes the need for students to understand the origins of information and how it is constructed and disseminated in the digital space. This provides a strong philosophical foundation for developing students' critical awareness of digital information. Digital literacy ontology serves as a conceptual foundation for understanding the truth of information.. In the context of elementary education, this ontological understanding is crucial because students are at a stage of cognitive development that is still concrete. They tend to accept information as it is without questioning its validity or source.¹³ Thus, digital literacy needs to be directed at

¹⁰Barbara Kitchenham, 'Guidelines for Performing Systematic Literature Reviews in Software Engineering', *Technical Report, Ver. 2.3 EBSE Technical Report. EBSE*, 2007.

¹¹Luz Chourio-Acevedo and others, 'Information Literacy Development and Assessment at School Level: A Systematic Review of the Literature', 1201610, 2024 <<http://arxiv.org/abs/2404.19020>>.

¹²Hasan Tinmaz and others, 'A Systematic Review on Digital Literacy', *Hasan Tinmaz, Yoo-Taek Lee Mina Fanea-Ivanovici Hasnan Baber*, 9.1 (2022) <<https://doi.org/10.1186/s40561-022-00204-y>>.

¹³Aulia Damayanti and others, 'The Nature of Human Education in the Digital Era': Ontological Review of Philosophy of Education', 11 (2025), 225–43.

developing ontological awareness from an early age, namely the ability to understand that information has different layers of meaning, context, and levels of truth.

Ontology-based digital literacy enables students to develop reflective thinking skills regarding information obtained from the internet. Research shows that digital literacy integrated with conceptual understanding can improve the quality of students' comprehension of information. This is important because elementary school students are at an early stage of cognitive development and require guidance in understanding the reality of information. Therefore, an ontology approach strengthens the reflective dimension of digital literacy. student.

It can be further understood that the ontology of digital literacy not only discusses the existence of information as an object, but also the relationship between information, subjects, and the social context that surrounds it. In basic education, this has important implications, namely the need for a learning approach that not only teaches "how to use technology," but also "how to understand the reality shaped by technology." As a conceptual implication, ontology-based digital literacy learning must be able to: Develop awareness that information is a construction, not an absolute reality; Form the ability to distinguish between facts, opinions, and information manipulation; Instill a critical attitude towards the source and context of information. Encourage reflection on how information influences ways of thinking and understanding the world.¹⁴ Thus, digital literacy ontology serves as an important philosophical foundation for developing elementary school students' digital literacy competencies. This understanding not only helps students access information but also assess, interpret, and use information critically and responsibly in the digital age.

2. Ability to Assess the Truth of Information on Internet Sources.

The ability to assess the accuracy of information from internet sources is a fundamental aspect of digital literacy, playing a crucial role in developing students' critical thinking. In the educational context, particularly at the elementary school level, this skill is not only related to technical skills in accessing information but also involves complex cognitive processes that include analysis, evaluation, and reflection on information obtained from various digital sources. Students need to be equipped with the skills to evaluate the credibility of sources, the accuracy of content, and the relevance of the information obtained.¹⁵

The development of information technology has led to an increase in the volume of information available online, so students are required to have the ability to select and evaluate the quality of information. In this study, Learning and Individual Differences, it is stated that internet-based learning requires the ability to "understand,

¹⁴Resti Resti and others, 'Utilization of Technology-Based Learning Media as a Tool to Improve Elementary School Students' Digital Literacy Skills', *Al Madrasah Journal of Elementary Madrasah Education*, 8.3 (2024), 1145 <<https://doi.org/10.35931/am.v8i3.3563>>.

¹⁵Dicky Hidayat and others, 'Digital Literacy of Elementary School Students Based on Sundanese Culture', *Event: Journal of Educational Management Studies*, 8.2 (2024), 437–56 <<https://doi.org/10.29240/jsmp.v8i2.11720>>.

evaluate, and integrate information from various sources with varying degrees of credibility.” This shows that the ability to evaluate information is an essential skill in digital reading (digital reading literacy), which not only focuses on understanding the text, but also on assessing the quality and accuracy of the information.¹⁶

Without these skills, students will be easily influenced by invalid information or hoaxes that circulate widely on the internet. Therefore, digital literacy learning must emphasize evaluative skills, not just information access. The ability to evaluate information should be a core competency in students' digital literacy. Furthermore, the process of evaluating information involves critical thinking skills, including the analysis, synthesis, and evaluation of various information sources. Research shows that students with critical thinking skills are better able to distinguish between fact and opinion in digital information.¹⁷This shows the importance of integrating digital literacy with higher-level thinking skills in learning. Thus, assessing the truth of information requires strengthening students' critical thinking skills.

Despite its importance, elementary school students' ability to assess the accuracy of information still faces various challenges. One of the main challenges is a low level of literacy and limited ability to access and understand information in depth. Research shows that elementary school students still tend to use technology for entertainment rather than learning, and they struggle to develop ideas and critically understand information. This results in poor ability to evaluate information obtained from the internet.

Furthermore, teachers' limited knowledge of digital literacy is also a hindering factor in developing students' information evaluation skills. Teachers play a crucial role in guiding students in understanding how to select and critically evaluate information. However, research shows that teachers' competency in information evaluation still needs improvement.¹⁸

Thus, the challenges in evaluating information do not only come from students, but also from the learning environment which does not fully support the optimal development of digital literacy.

Developing elementary school students' ability to assess the accuracy of information requires a systematic and contextual approach. One strategy is to integrate digital literacy into learning. Research shows that improving digital literacy can be achieved through curriculum development, teacher training, and the use of technology as a learning medium. Furthermore, the use of multimedia in learning has been shown to improve students' ability to understand and evaluate information more

¹⁶Anggi Anggraini and others, 'Technology Integration in Learning Evaluation': Technological Pedagogical Content Knowledge (TPACK) Model to Develop Digital Competence', *Pedagogik Journal of Islamic Elementary School*, 8.2 (2025), 722–35.

¹⁷Salsabila and Rukli.

¹⁸Rina Nurhidayati and Argi Thaufani, 'Encouraging Teacher Digital Literacy Through Educational Management: A Literature Review', *Journal of Educational Management*, 10.3 (2025), 1705–13 <<https://ejournal.stkip-pessel.ac.id/index.php/jmp/article/view/926/593>>.

effectively. Furthermore, digital literacy-based learning should emphasize: the ability to compare various sources of information; the ability to identify the truth and bias of information; strengthening critical and reflective thinking; and active mentoring by teachers in the information evaluation process.¹⁹

Thus, developing information evaluation skills not only depends on students but also requires the support of a comprehensive education system. The ability to assess the accuracy of information from internet sources is a crucial competency in digital literacy, involving complex cognitive processes such as analysis, evaluation, and critical reflection. In the context of elementary school students, this skill is still developing and faces various challenges, both cognitively and in the learning environment. Therefore, a systematic and integrative learning strategy is needed to optimally develop information evaluation skills.

3. Integration of Ontology in Digital Literacy Learning

Integrating an ontological approach into digital literacy learning can be achieved through contextual and experience-based learning strategies. Teachers can use discussion methods, case studies, and simple analyses of digital information to help students understand the validity of the information.²⁰ This approach enables students to learn actively and critically by evaluating the information they encounter. Furthermore, the use of interactive digital learning media can also support the development of ontology-based digital literacy. Well-designed media can help students understand abstract concepts like the veracity of information more concretely.²¹ This shows that technology can be used not only as a tool, but also as a means to build students' conceptual understanding. Integration of technology and ontology is an effective strategy in digital literacy learning.

Ontology in digital literacy serves as a foundation for understanding the nature of information in the digital environment. Information is not viewed as something neutral, but rather as a result of social construction influenced by various factors, such as technology, culture, and specific interests. In learning, an ontological approach encourages students not only to receive information, but also to question the origin, purpose, and validity of that information. Thus, students become not only consumers of information, but also individuals capable of critically understanding digital reality. Digital literacy in elementary schools demonstrates that the use of technology in learning must be balanced with critical thinking skills so that students do not fall into the trap of passive use of technology. This emphasizes the importance of ontological aspects in shaping students' awareness of the nature of information.

¹⁹Mazi'idah Salsabilah Suryono and Tia Purniati, 'Systematic Literature Review: Learning Models to Improve Mathematical Problem-Solving Skills', *Journal of Mathematics Education*, 3.1 (2025), 9–21 <<https://doi.org/10.70115/notasi.v3i1.274>>.

²⁰Prastiti and Adi.

²¹Dalia Susilawati, Prana Dwija Iswara, and Ani Nur Aeni, 'Development of Digital Literacy Educational Game for Elementary School Students to Be Wise in Using the Internet', *Journal of Education Research*, 5.1 (2024), 525–36 <<https://doi.org/10.37985/jer.v5i1.896>>.

The integration of ontology into digital literacy learning can be achieved through a pedagogical approach that emphasizes critical understanding of information. In this context, learning is not only oriented toward outcomes but also focuses on students' thought processes in understanding information. Research shows that improving digital literacy in elementary schools is influenced by various factors, such as curriculum development, teacher training, and the use of technology in learning. This suggests that integrating ontology into learning requires a systematic and planned approach.

Teachers play a strategic role in integrating digital literacy ontology into learning. They serve not only as conveyors of information but also as facilitators, guiding students in understanding the nature of information and how to evaluate it. Research shows that the success of digital literacy is greatly influenced by the teacher's role in designing innovative and contextual learning. Teachers must be able to integrate technology with pedagogical approaches that encourage students to think critically and reflectively. Furthermore, teachers must possess adequate digital literacy competencies to guide students in facing the various information challenges of the digital age. Without these competencies, digital literacy learning tends to be purely technical and neglects ontological aspects.²²

The integration of ontology into digital literacy learning is a crucial approach to fostering students' in-depth understanding of the nature of information in the digital age. This approach not only enhances students' technical skills in using technology but also fosters critical thinking and reflective thinking skills, as well as an awareness of the reality of information. Therefore, the integration of ontology into learning is a strategic step in developing a generation that is intelligent, critical, and responsible in navigating the flow of digital information.

4. Implications of Ontology-Based Digital Literacy for Learning

The implementation of ontology-based digital literacy has significant implications for student competency development in elementary schools. Students who possess an ontological understanding of information tend to be more critical, selective, and responsible in using digital information. This is crucial in facing the challenges of the digital era, which is filled with diverse and not always valid information. Therefore, ontology-based digital literacy contributes to the development of critical and wise student character. This approach also supports the achievement of 21st-century educational goals, which emphasize critical thinking, creativity, and problem-solving skills. Ontology-based digital literacy not only enhances students' cognitive abilities but also fosters a reflective attitude toward the information they

²²Abd. Rahman Hamdan and others, "Teacher Strategies in Improving Elementary School Student Literacy in the Digital Era": Systematic Literacy Review', 11 (2026), 760–73.

receive.²³ Thus, ontology-based digital literacy has strategic implications in improving the quality of education.

One of the main implications of ontology-based digital literacy is strengthening students' critical and reflective thinking skills. This approach encourages students to not only understand information but also to question its truth, source, and context. Research shows that digital literacy contributes to improving students' critical thinking skills, particularly in evaluating information and making decisions. This aligns with 21st-century educational goals, which emphasize the importance of higher-order thinking skills (higher-order thinking skills). Furthermore, reflective skills are also an important part of ontology-based digital literacy. Students are trained to reflect on the information they acquire, relate it to their existing knowledge, and understand the implications of that information.²⁴ Thus, learning is not only cognitive, but also metacognitive.

The integration of ontology-based digital literacy also improves the quality of learning resources and the learning process. Learning resources are no longer limited to textbooks, but include a wider variety of digital sources that are more varied and interactive. However, this diversity of sources also demands students' ability to evaluate the quality of information. Therefore, learning must be designed to help students understand how to select credible and relevant sources. Research shows that the use of digital media in learning can improve conceptual understanding and student engagement in the learning process. Furthermore, learning design also needs to be adapted to the characteristics of ontology-based digital literacy, namely by emphasizing: Information analysis and evaluation activities, Problem-based learning (problem-based learning), Data-based discussion and argumentation, Use of diverse and credible learning resources.²⁵

In addition to cognitive aspects, ontology-based digital literacy also has implications for character development and students' digital ethics. Understanding the nature of information helps students be wiser in using and disseminating information. Research shows that digital literacy plays a role in shaping students' character, particularly in aspects of responsibility, honesty, and ethics in technology use. This suggests that digital literacy is not only related to technical skills but also to values and attitudes in technology use. Thus, the integration of ontology into digital literacy can help students understand the consequences of their actions in the digital world and encourage the ethical and responsible use of technology.

²³Muhammad Alwan and Nailatul Alawiyah, 'Collaborative Learning as a Strategy to Strengthen Digital Literacy in Elementary School Students', *Jimad: Scientific Journal of Educational Pearls*, 2.1 (2024), 31–43 <<https://doi.org/10.61404/jimad.v3i3.430>>.

²⁴Adien Inayah and others.

²⁵Lovita Marcheilla, Winda Oktaviana, and Berta Oriyani, 'The Effectiveness of Project-Based Learning in Improving Digital Literacy Skills and Creativity of Elementary School Students', *PENDIS (Journal of Social Science Education)*, 4.1 (2025), 15–21.

Ontology-based digital literacy has had broad implications for learning, in terms of paradigms, processes, and outcomes. This approach encourages a transformation in learning that is more critical and reflective, and oriented toward developing higher-order thinking skills. Furthermore, ontology-based digital literacy plays a role in improving the quality of learning, strengthening the role of teachers as facilitators, and shaping students' digital character and ethics.

Conclusion

Based on the results of the ontological study, digital literacy is an approach that emphasizes a fundamental understanding of the nature of information, its sources, and its truth in the context of elementary school learning. Digital literacy is not only limited to technical skills in using technology, but also encompasses critical thinking skills in evaluating information obtained from the internet. With an ontological approach, students are able to understand that information has different structures, contexts, and levels of truth. Thus, digital literacy ontology is an important foundation for developing students' critical thinking skills from an early age. Furthermore, the ability to assess the accuracy of information is a key competency that must be developed in digital literacy. Students need to be guided to recognize credible sources of information, distinguish between fact and opinion, and understand the context of information. Integrating an ontological approach into learning has been shown to strengthen students' reflective and analytical skills regarding digital information.

The implementation of ontology-based digital literacy in learning has positive implications for the development of 21st-century competencies, particularly critical thinking and problem-solving. This approach not only improves cognitive abilities but also shapes students' character, making them more selective and responsible in using digital information. Teachers urgently need to design learning activities that encourage students not only to seek information but also to evaluate and reflect on its truth through discussions, simple analyses, and case studies. Thus, digital literacy learning is expected to be more oriented towards strengthening students' critical thinking. This integration can be achieved through the development of teaching materials, teacher training, and the use of interactive and educational digital media. This way, digital literacy can be implemented systematically and sustainably in primary education.

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