



Multimedia Strategies for Information Literacy in Islamic Education

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Abstract. General Background: Information literacy is a fundamental competency in the digital era, encompassing the ability to access, evaluate, and use information ethically within technology-supported learning environments. Specific Background: At SMAIT Nurul Islam Tenganan, multimedia-based digital communication has been integrated into Islamic education to support interactive and collaborative learning experiences. Knowledge Gap: Despite this integration, gaps persist in students' critical evaluation skills, teacher competencies in multimedia instructional design, and institutional readiness, including infrastructure and policy support. Aims: This study aims to examine multimedia-based learning practices, identify technical and institutional challenges, and formulate strategies for strengthening information literacy within an Islamic educational context. Results: Findings indicate that multimedia integration supports interactivity, flexibility, and collaboration, while students demonstrate adequate access skills but limited ability in evaluating and responsibly using information. Challenges include cognitive overload from poorly designed multimedia, absence of an independent Learning Management System, uneven infrastructure, and lack of standardized policies. Novelty: The study integrates multimedia learning principles with Islamic ethical values such as *tabayyun* and *amanah*, positioning information literacy as both a technical and moral practice. Implications: A holistic approach is required, combining structured literacy programs, teacher capacity development, infrastructure improvement, and institutional policy alignment to foster critical, creative, and ethically responsible learners in line with quality education objectives.

Keywords: Information Literacy, Multimedia Learning, Islamic Education

1 Introduction

The Sabilul Khoirot Islamic Education Foundation (YPI Sabilul Khoirot) oversees a diverse range of educational institutions, spanning from early childhood education to senior secondary schools and Madrasah Aliyah. In addition to its formal education units, the foundation manages several supporting public service facilities, including a health clinic and an educational minimarket, which contribute to the sustainability of its educational mission [1]. Within this institutional framework, SMAIT Nurul Islam Tenganan operates as a secondary education unit implementing an integrated curriculum that combines the national curriculum with the systematic reinforcement of

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R. Lomotey et al. (eds.), *Proceedings of the 1st International Conference on Communication and Digital Multimedia 2025 (ICCDM 2025)*, Advances in Social Science, Education and Humanities Research 1020, https://doi.org/10.2991/978-2-38476-589-8_8

Islamic values through the Integrated Islamic School Network [2]. This institutional setting provides a relevant context for examining the development of information literacy within faith-based education.

In the contemporary digital era, information literacy has become a fundamental competency for students. Beyond the ability to access information, information literacy encompasses the skills required to evaluate, use, and create information critically and ethically [3], [4]. The increasing presence of digital technologies in educational environments has positioned multimedia as a key medium for supporting learning processes. Previous studies have demonstrated that technology integration can enhance students' literacy skills and learning motivation [5] [6]. Nainggolan et al. (2025), for instance, reported that the use of digital platforms, interactive applications, and social media positively influences students' literacy development and learning interest, although challenges related to digital inequality and limited teacher training remain evident [11]. Similarly, Sary (2023) found that digital literacy activities implemented through habituation, development, and structured instruction encourage students to become more critical and creative in selecting information, thereby fostering curiosity and innovation in classroom learning [12].

The present study draws upon several theoretical perspectives to frame the analysis of information literacy and multimedia use in educational settings. According to the International Federation of Library Associations (IFLA), information literacy refers to the ability to recognize information needs and to locate, evaluate, and use information effectively, positioning it as a core competence for lifelong learning [3]. From a cognitive standpoint, Mayer's Cognitive Theory of Multimedia Learning emphasizes that learning occurs through dual processing channels visual and verbal within limited cognitive capacity, and requires active cognitive engagement. When designed in accordance with these principles, multimedia elements such as videos, infographics, and animations can enhance learners' comprehension and retention of information [5]. In addition, Kotler's theory of promotion highlights the strategic role of communication both conventional and digital in increasing awareness, participation, and engagement with educational programs, including initiatives aimed at strengthening information literacy [13].

Within Islamic educational institutions such as YPI Sabilul Khoirot, information literacy is not merely a technical competence but also an ethical practice. The use and dissemination of information are expected to be guided by Islamic values such as *tabayyun* (verification), *amanah* (trustworthiness), and appropriate digital etiquette [7], [8]. Preliminary observations conducted at SMAIT Nurul Islam Tenganan reveal several challenges in this regard, including uneven implementation of multimedia-based learning among teachers, the absence of formalized digital literacy policies, and limitations in infrastructure and human resource competencies [2]. These conditions suggest a gap between students' growing information literacy needs and the level of institutional support currently available, despite evidence that effective literacy development requires strong organizational readiness and policy support [9], [10].

Based on this context, the present study entitled "Enhancing Students' Information Literacy through Multimedia-Based Digital Communication Strategies in Islamic Education" [11] aims to examine the implementation of multimedia-based learning

practices, identify key technical and institutional barriers, and formulate strategic approaches for strengthening information literacy through the integration of effective multimedia design and Islamic ethical values [12] [13].

2 Method

This study employed a descriptive qualitative approach to gain an in-depth understanding of information literacy practices and the use of multimedia in disseminating information at SMAIT Nurul Islam Tenggara. This approach was chosen because it allows the researcher to examine phenomena contextually based on the direct experiences of informants [14], [15].

Data collection was conducted through observation, in-depth interviews, questionnaires, and documentation. Observation was employed to examine how the school utilizes various forms of digital media, including its official website, Instagram and Facebook accounts, as well as internal communication platforms. This method allowed the researcher to capture actual communication practices and the ways information is presented and disseminated within the school environment. In-depth interviews were conducted with teachers, the school principal, and social media administrators to gain insight into existing communication strategies and to identify challenges encountered in supporting information literacy. In addition, questionnaires were administered to Grade XI students to explore their perceptions of information dissemination effectiveness, the relevance of multimedia content, and their level of engagement in accessing school-related information.

The study involved a total of 76 participants, comprising 10 teachers and 66 students. Interview informants were selected through purposive sampling to ensure their direct involvement and relevance to the school's information system [16]. The questionnaire was distributed to the active student population, which helped strengthen the contextual validity of data related to students' information literacy practices. Documentation analysis complemented the other data collection methods through the examination of visual and digital materials, including social media content, photographs of school activities, and official institutional documents.

Data analysis followed the three stages proposed by Miles, Huberman, and Saldana (2014): data reduction, data display, and conclusion drawing. Data reduction involved organizing information into themes such as the effectiveness of digital media, student responses, challenges in information management, and information literacy strategies. Data display was conducted narratively to visualize relationships among categories of findings. Conclusions were drawn through continuous verification to maintain consistency of meaning and coherence of results [17].

The validity of data was strengthened through source triangulation, which compared findings from teachers, students, social media administrators, field observations, and documentation [18]. This triangulation ensured that the research findings represented actual conditions objectively and could be scientifically justified.

Through this method, the study produced a comprehensive overview of multimedia-based information literacy strategies developed by the school, as well as the reception

and experiences of users (teachers and students) as part of the school's digital information ecosystem.

3 Results and Discussion

3.1 Integration of Multimedia Technology in Learning

Observations revealed that SMAIT Nurul Islam Tengaran has integrated multimedia technology as a supporting tool for information literacy in learning. The use of computer laboratories and students' personal laptops served as the primary media for accessing materials, conducting evaluations, and exploring digital learning resources. This integration enabled students to experience more interactive and flexible learning, while also fostering classroom collaboration. These findings reinforce the view that digital technology enhances student engagement and conceptual understanding [19], [20].

Teachers also played a crucial role as facilitators, guiding students in the use of digital applications for assignments and online assessments. This expanded students' access to information and opportunities for independent exploration, consistent with Putri and Huda (2022), who emphasized that technology-based learning environments progressively strengthen digital literacy skills [21].

Nevertheless, some multimedia practices did not align with effective multimedia design principles. Observations showed that several teachers presented slides overloaded with text, resulting in redundant processing. This contradicts Mayer's Multimedia Learning Theory [5] and increases students' cognitive load [6]. Questionnaire responses confirmed that students perceived difficulties in understanding such materials.

3.2 Students' Information Literacy Based on IFLA and ACRL Models

Questionnaire data from 66 students indicated that their information literacy skills were relatively good in the Access dimension. Most students were able to search for digital information independently and efficiently. However, weaknesses were observed in the Evaluate and Use dimensions, particularly in assessing source credibility and managing information responsibly. Students rarely cross-checked sources and tended to accept the first information encountered.

These findings are consistent with the ACRL Framework (2016), which highlights that Authority Is Constructed and Contextual has not been fully internalized, and with the Big6 model [22], which identifies evaluation as a critical stage in information literacy.

3.3 Infrastructure and Technology Management Challenges

Interviews with school stakeholders revealed that the institution does not yet have an independent Learning Management System (LMS). As a result, digital platforms remain dependent on external services and are not fully integrated into school policy.

Furthermore, technological infrastructure was uneven. Reliance on computer laboratories and inconsistent internet connectivity hindered equitable access. These challenges support Indarti (2022), who argued that the success of technology utilization is highly dependent on the readiness of supporting facilities [23].

3.4 Information Governance and Educational Communication

From a policy perspective, the school lacked standardized procedures for information dissemination and the use of official digital platforms. This absence of clear policies resulted in variations in content quality across teachers and limited strategic communication of information services to students. These findings align with the SCONUL Seven Pillars (2011), which emphasize that information literacy requires not only individual skills but also strong and sustainable institutional support [9].

In terms of educational communication, analysis using Kotler and Keller's marketing theory [13] revealed that the school's information promotion strategies remained passive, failing to build students' attention–interest–desire–action (AIDA). Unlike popular digital platforms with strong promotional algorithms, school services were rarely publicized consistently through social media or digital channels.

From the perspective of Islamic education, ethical dimensions of information were not yet a primary concern among students when seeking and sharing information. Students were not accustomed to practicing *tabayyun* (verification) when receiving digital information, particularly from social media. Yet, ethical information literacy emphasizes the balance between technical competence and moral responsibility [8].

3.5 Strategic Implications

Based on the triangulation of data sources and evidence gathered from the field, the findings of this study point to the importance of strengthening information literacy at SMAIT Nurul Islam Tenganan through strategies that are comprehensive, systematic, and grounded in institutional values. Several strategic directions can be derived from the analysis. First, students' abilities to evaluate and responsibly use information need to be reinforced through the integration of a structured information literacy curriculum. Second, teachers' capacities in designing and implementing multimedia-based learning should be further developed to ensure that digital resources are used effectively and pedagogically. Third, the provision of equitable infrastructure and access to digital facilities across the school remains essential to support inclusive literacy practices. Finally, the formulation of clear institutional policies and progressive digital communication strategies is required to sustain information literacy development at the organizational level.

This strategic orientation is consistent with the Association of College and Research Libraries (ACRL) framework, particularly the concept of Information Creation as a Process [4], which emphasizes the role of students as active producers of digital content. Through such practices, creativity, critical thinking, and collaboration can be fostered more effectively. In this sense, the development of information literacy extends beyond the acquisition of technical skills and contributes to the formation of students' character as competent, critical, and ethically responsible digital citizens.

4 Conclusion

This study examined the strategies for enhancing information literacy through multimedia technology at SMAIT Nurul Islam Tengaran, under the Sabilul Khoirot Islamic Education Foundation. The findings revealed that while multimedia integration has enriched students' learning experiences by making them more interactive and collaborative, challenges remain in aligning practices with effective multimedia design principles, ensuring equitable infrastructure, and establishing clear institutional policies.

The findings indicate that while students generally possess sufficient skills to access digital information, limitations remain in their ability to critically evaluate information and to use it in a responsible manner. This condition points to the necessity of structured information literacy programs that place stronger emphasis on critical evaluation, ethical information practices, and the integration of Islamic values such as *tabayyun* and *amanah*. In this process, teachers play a pivotal role as learning facilitators; however, their competencies in multimedia-based instructional design need to be further strengthened to prevent cognitive overload and to optimize learning outcomes.

At the institutional level, challenges such as the absence of an independent Learning Management System and uneven infrastructure availability further highlight the need for clearer policy direction and more strategic communication planning. In line with established frameworks, including those proposed by IFLA and ACRL, as well as Mayer's Multimedia Learning Theory and Kotler's communication and promotion strategies, this study concludes that the development of information literacy should be approached holistically. Such an approach requires the integration of technical skills, sound pedagogical design, infrastructure readiness, and ethical values to support sustainable and meaningful literacy development.

In summary, strengthening information literacy at SMAIT Nurul Islam Tengaran demands:

- a. A structured curriculum focusing on evaluation and ethical use of information.
- b. Teacher training in effective multimedia design and application.
- c. Equitable access to digital infrastructure and resources.
- d. Institutional policies and proactive communication strategies to promote digital literacy.

By implementing these strategies, the school can foster students who are not only digitally competent but also critical, creative, and ethically responsible citizens.

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