

Improving Digital Literacy through Chromebook-based Learning Management

Hikmah Dewi Febriyanti¹, Umi Sumbulah², Alfiana Yuli Efiyanti³
Universitas Islam Negeri Maulana Malik Ibrahim Malang^{1,2,3}
febriyantidewi151@gmail.com¹, umisumbulah@uin-mlg.ac.id²,
alfi_huda@gmail.pips.uin-malang.ac.id³

Abstrak: *Improving Digital Literacy at Excellent Islamic Junior High School PPM Nurul Adzimiyah. This study aims to examine the planning, implementation, and evaluation of improving digital literacy through Chromebook-based learning management at Excellent Islamic Junior High School PPM Nurul Adzimiyah Probolinggo Regency. Using a qualitative approach with descriptive methods, this research involved the Head of the Foundation, Head of Curriculum, Head of Student Affairs, IT Teacher, and students as resource persons. Data collection was done through interviews, observation, and documentation. The results show that planning involves aligning the school's vision and mission with digital literacy, integrating Islamic values and digital character building, and designing curriculum and lesson plans. Implementation includes curriculum implementation, digital ethics and safety programs, technical support, and basic guidance for students. Evaluation was conducted comprehensively through various indicators covering Chromebook utilization, skills improvement, and students' digital character, which showed the success of the program in significantly improving students' digital literacy.*

Keywords: *Digital Literacy, Learning Management, Chromebook*

Introduction

Advances in information and communication technology have brought significant changes in various aspects of life, including in education. One of the demands of the digital era is digital literacy, which includes the ability to search, understand and use information through digital devices effectively and responsibly.¹ Digital literacy is now an essential skill that students must have to face the challenges of the 21st century. In this increasingly digitized era, a technology-based learning management approach is one of the relevant strategies to improve the quality of education.

However, in reality, the challenges in improving students' digital literacy are still quite significant. Based on the latest data, around 47% of schools in Indonesia have adequate digital infrastructure, up from 30% in

¹ "UNESCO: Building Peace through Education, Science and Culture, Communication and Information," accessed December 5, 2024, <https://www.unesco.org/en>.

2022.² However, the 3T (Frontier, Outermost, and Disadvantaged) regions still face major obstacles, with less than 25% of schools in these areas having adequate access to digital technology.³ According to the World Digital Competitiveness Ranking (WDCR) 2023 report, Indonesia's digital competitiveness rose to 45th out of 64 countries, but is still inferior to neighboring countries such as Singapore (3rd) and Malaysia (33rd), indicating the need to improve digital literacy to compete globally.⁴ Based on data from the Ministry of Communication and Informatics (Kominfo), Indonesia's Digital Literacy Index (ILDI) in 2022 stood at 3.54, which although improving, still shows gaps in the four main pillars of digital literacy: skills, ethics, security, and digital culture.⁵ The survey shows that Indonesia's digital literacy has only reached 62 percent, still below the ASEAN average of 70 percent, so greater efforts are needed to improve the digital skills of the community to be able to face the era of digital transformation.⁶

This confirms that the distribution of infrastructure is uneven, despite the government's efforts through the school digitalization program. This condition is also reflected in many Islamic-based schools, where limited infrastructure and a lack of training in the use of technology are often the main obstacles. Theoretically, digital literacy involves complex cognitive, technical, and social aspects. According to Gilster, digital literacy is the ability to understand and use information from various formats presented through digital devices.⁷ In the context of learning, digital literacy is not only about

² Andri Sahata Sitanggang and A. Nabila, "Peran Teknologi Digital Dalam Membangun Pendidikan Generasi Emas," *Jurnal Pendidikan Tambusai* 8, no. 2 (2024): 30802-9.

³ Anta Ibnul Falah and Agus Heruanto Hadna, "Problematisasi Pendidikan Masa Pandemi Di Indonesia Pada Daerah 3-T (Terluar, Tertinggal, Dan Terdepan)," *Jurnal Pendidikan Dan Kebudayaan* 7, no. 2 (2022): 164-85. <https://doi.org/10.24832/jpnk.v7i2.2997>

⁴ "Indonesia.go.id - Daya Saing Digital Naik, Hati-hati dengan Jempol!," accessed January 23, 2025, <https://indonesia.go.id/kategori/editorial/8878/daya-saing-digital-naik-hati-hati-dengan-jempol?lang=1>.

⁵ GoodStats, "Mengamati Indeks Literasi dan Masyarakat Digital Indonesia, Sudah Berapa?," GoodStats, accessed January 19, 2025, <https://goodstats.id/article/menkomdigi-ajak-pemuda-berperan-aktif-dalam-membangun-literasi-digital-hSKS9>.

⁶ "Literasi Digital Indonesia Baru 62 Persen, Masih Di Bawah Rata-Rata ASEAN," accessed January 23, 2025, <https://rm.id/baca-berita/nasional/234897/literasi-digital-indonesia-baru-62-persen-masih-di-bawah-ratarata-asean>.

⁷ Paul Gilster, "Digital Literacy," *Seoul Heanaem*, 1997, <https://www.academia.edu/download/8413655/diglit.pdf>.

technical skills, but also includes critical thinking skills in sorting out valid and relevant information. This requires a structured learning management approach that is integrated with technology.

Technology-based learning management, such as Chromebooks, offers a practical solution to improve students' digital literacy. Technology-based learning management, such as Chromebooks, offers practical solutions to improve students' digital literacy as these devices are specifically designed to support interactive, efficient, and digital-based learning. *Chromebooks* allow students to easily access a variety of online learning resources and educational apps, helping them to find and utilize information more effectively.⁸ With Google Workspace for Education integration, students can collaborate with teachers and classmates in real-time, encouraging active participation in the learning process. The lightweight and fast Chrome OS operating system makes Chromebooks easy to use, while cloud-based storage minimizes the need for complex hardware.⁹ In addition, the use of this technology makes learning more engaging through multimedia features, thus increasing students' motivation to learn. Through the use of Chromebooks, students are also trained to search, evaluate, and use information wisely in the digital world-important skills in the era of the Industrial Revolution 4.0.¹⁰

According to Robbins and Coulter, effective management includes planning, organizing, controlling, and evaluating in line with learners' needs.¹¹ In the context of Nurul Adzimiyah Excellent Islamic Junior High School, this strategy is also relevant to support the vision and mission of the school which is in line with the boarding school, namely to produce an Islamic generation that is academically superior and adaptive to changing times.

The urgency of this research lies in the pressing need to integrate technology in the Islamic education system to make it more competitive. The UNESCO report confirms that improving digital literacy through technology-

⁸admin, "Pemanfaatan Chromebook Dalam Pembelajaran: Meningkatkan Kualitas Pendidikan Di Era Digital | SMKN1 KOKAP," accessed January 23, 2025, <https://smkn1kokap.sch.id/2024/06/05/30407/>.

⁹ Ika Purwanti et al., "Pengenalan Dasar Chromebook Sebagai Digitalisasi Pembelajaran," *Ahmad Dahlan Mengabdi* 2, no. 1 (2023): 6-10. <https://doi.org/10.58906/abadi.v2i1.87>

¹⁰ Janesya Nesya, Hery Kresnadi, and Rio Pranata, "Pemanfaatan Fitur Chromebook Untuk Meningkatkan Keterampilan Membaca Pemahaman Siswa Kelas V Sekolah Dasar Negeri 18 Sungai Kakap," *Innovative: Journal Of Social Science Research* 4, no. 4 (2024): 10893-901. <https://doi.org/10.31004/innovative.v4i4.12342>

¹¹ Stephen P. Robbins et al., *Management* (Pearson Australia, 2014), [https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+\(2012\).+Management.+Pearson.&ots=FMP3MNIiTtB&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo](https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+(2012).+Management.+Pearson.&ots=FMP3MNIiTtB&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo).

based learning is an important step to prepare the younger generation for the industrial revolution 4.0.¹² In this context, research by M Choirul Muzaini and his colleagues shows that the integration of technology in Islamic education not only improves the quality and accessibility of learning but also helps students to adapt to the demands of globalization and rapid technological advances.¹³ In addition, Muchamad Suradji in his research, emphasizes that the use of learning technology can facilitate student understanding and increase the effectiveness of the teaching and learning process in the Islamic education environment.¹⁴

Related to this, there have been many studies conducted by several previous researchers that provide a rationale for this research. One of them is a model conducted by Zairida Isra Alifa, Susanti Sufyadi, and Agus Hadi Utama in 2024 with the theme "Utilization of Chromebooks as Learning Support for Students." This research highlights how Chromebooks are used to facilitate access to learning and improve students' technology skills.¹⁵ Then the research conducted by Siti Rohmah, Ismatul Izzah, and Arifia Retna Yunita in 2024 with the theme "Chromebook Learning Management in Improving Student Achievement" provides an overview of the management of Chromebook-based learning to improve the quality of education.¹⁶ Another research from Nikmawati in 2023 with the theme "Implementation of Education Digitalization on Learning" also provides insights related to the impact of digitalization on the quality of learning.¹⁷ Santi Arum Puspita Lestari, Dwi Sulistya Kusumaningrum, and Fitria Nurapriani studied

¹² "UNESCO."

¹³ M. Choirul Muzaini, Andi Prastowo, and Umi Salamah, "Peran Teknologi Pendidikan Dalam Kemajuan Pendidikan Islam Di Abad 21," *IHSAN: Jurnal Pendidikan Islam* 2, no. 2 (2024): 70–81. <https://doi.org/10.61104/ihsan.v2i2.214>

¹⁴ Muchamad Suradji, "Teknologi Pembelajaran Dalam Pendidikan Islam," *Dar El-Ilmi: Jurnal Studi Keagamaan, Pendidikan Dan Humaniora* 3, no. 1 (2016): 67–78. <https://ejurnal.unisda.ac.id/index.php/dar/article/view/1219>

¹⁵ Zairida Isra Alifa, Susanti Sufyadi, and Agus Hadi Utama, "Pemanfaatan Chromebook Sebagai Penunjang Pembelajaran Bagi Siswa Di SMPN 1 Banjarmasin," *EDUTECH* 23, no. 2 (2024): 116–27. <https://doi.org/10.17509/e.v23i2.69560>

¹⁶ Siti Rohmah, Ismatul Izzah, and Arifia Retna Yunita, "Manajemen Pembelajaran Chromebook Dalam Meningkatkan Prestasi Siswa Di SMP Ma'rif Kraksaan," *Indonesian Journal of Islamic Educational Management* 7, no. 1 (2024): 15–21. <http://dx.doi.org/10.24014/ijiem.v7i1.29562>

¹⁷ nikmawati Nikmawati, "Implementasi Digitalisasi Pendidikan Terhadap Pembelajaran Di Smp Permata Insani Pasarkemis Tangerang," *Jurnal Tahsinia* 4, no. 2 (2023): 350–61. <https://doi.org/10.57171/jt.v4i2.257>

"Implementation of Digitalization of Education towards Learning," which emphasizes the importance of the application of technology in effective learning.¹⁸ Almaskur et al, in their research entitled "Implementation of School Digitalization in Improving Learning Quality," also discussed digitalization efforts in schools to improve student learning outcomes.¹⁹

Based on the existing literature review, although there are many studies that discuss the application of technology in education, not many have specifically examined Chromebook-based learning in boarding schools. This is an interesting gap for researchers to dig deeper into how the use of Chromebook devices can be applied in a boarding school environment, which generally still relies on traditional methods in education. Given this gap, this research seeks to answer how Chromebook-based technology can make a real contribution to the learning process in Islamic boarding schools, especially in improving the quality of education and students' digital skills which are increasingly important in this global era.

Based on initial observations made by researchers at the Excellent Islamic Junior High School PPM Nurul Adzimiyah, it is known that this school has begun to implement digital-based learning using Chromebook devices provided through government assistance. The use of Chromebooks is the first step in digitizing learning in the pesantren environment, which previously still predominantly used conventional methods. However, in its implementation, there are still various obstacles that show that this process has not run optimally and has not been managed with systematic management.

According to information from IT teachers, before the implementation of digital learning, students experienced limitations in understanding digital technology, with a relatively low level of digital literacy. This had an impact on the learning process and the low academic performance of students. Students lack familiarity with information technology, are unable to access or

¹⁸ Dwi Sulistya Kusumaningrum and Fitria Nurapriani, "Implementasi Digitalisasi Pendidikan Terhadap Pembelajaran Di SDN Ciptamargi I," *Prosiding Konferensi Nasional Penelitian Dan Pengabdian Universitas Buana Perjuangan Karawang* 3, no. 1 (2023): 718-25. <https://journal.ubpkarawang.ac.id/index.php/ProsidingKNPP/article/view/4964>

¹⁹ Almaskur Almaskur, Lestari Lestari, Dwi Sukaningsih, Istama Istama, and Nur Ngazizah, "Implementasi Digitalisasi Sekolah Dalam Meningkatkan Kualitas Pembelajaran Di SD Negeri Bulusari 01 Gandrungmangu," in *Social, Humanities, and Educational Studies (SHES): Conference Series*, vol. 7, accessed December 5, 2024, <https://jurnal.uns.ac.id/SHES/article/view/91536>. <https://doi.org/10.20961/shes.v7i3.91536>

utilize digital learning resources, and have not demonstrated critical or collaborative thinking skills in a digital context.

Once the Chromebooks started to be used in teaching and learning activities, there were significant changes. Students showed high enthusiasm for digital learning models, such as working on assignments using dare quizzes, collaborating through digital platforms, and exploring multimedia-based learning content. This has contributed to an increase in students' digital literacy, classroom engagement, and creativity in completing academic tasks. However, this process of change does not happen instantly. Adjustment time, continuous training for teachers, infrastructure improvement, and structured learning management evaluation are needed for technology integration to have maximum impact on improving learning quality.

The findings of this observation indicate the urgency of further research on how Chromebook-based management learning can be effectively designed and implemented to improve students' digital literacy in a pesantren environment. This research is expected to provide a comprehensive overview and practical recommendations for Islamic education institutions in managing the learning digitization process in a sustainable and directed manner.²⁰

Based on these initial findings, researchers are interested in conducting further research on Improving Digital Literacy Through Chromebook-Based Learning Management at Excellent Islamic Junior High School PPM Nurul Adzimiyah. This research is expected to provide deeper insights into how technology can improve the quality of education in pesantren, as well as provide recommendations for other educational institutions that want to apply similar technology in their learning process.

Method

This research uses a qualitative approach with a descriptive study type to gain an in-depth understanding of the management of improving digital literacy through Chromebook-based learning at Excellent Islamic Junior High School PPM Nurul Adzimiyah, Probolinggo Regency. The main focus of this study is to analyze the planning, implementation, and evaluation of digital literacy improvement programs that accommodate 21st-century skills. Data were collected through in-depth interviews, direct observation, and document study. Interviews were conducted with the Head of the Foundation, Vice Principal for Curriculum, Vice Principal for Student Affairs, IT teachers, and students. Observations were conducted in the classroom and school environment to observe the implementation of the digital literacy program and learning activities, while the document study included an analysis of curriculum documents, lesson plans, and policies related to digital

²⁰ Observasi Awal Peneliti, SMP Islam Excellent PPM Nurul Adzimiyah, Probolinggo, 01 November 2024.

literacy implemented at Excellent Islamic Junior High School PPM Nurul Adzimiyah.

Data analysis followed the Miles and Huberman model, which consists of data collection, data condensation, data presentation, and conclusion drawing. The analysis process began with data collection through interviews, observation, and documentation, followed by data selection and categorization. The categorized data were then presented descriptively to identify patterns in the management of digital literacy improvement. Conclusions were drawn by linking the research findings with management theory and digital literacy concepts. To ensure data validity, this research applies triangulation of sources and methods (member checking), to ensure that the findings provide an accurate picture of the management of improving digital literacy at Excellent Islamic Junior High School PPM Nurul Adzimiyah Probolinggo Regency.

Table 1: Research Informants and Interview Themes

No.	Speaker	Interview Theme
1.	Chairman of the Foundation (Kyai Abdul Adim)	- School vision and mission regarding digital literacy - Foundation policy and commitment to the digital literacy program - Resource allocation and infrastructure support
2.	Vice Head of Curriculum (Bu Endah Putri Rahayu)	- Digital literacy curriculum planning and development - Implementation of lesson plans and Chromebook integration in learning - Evaluation of the effectiveness of lesson plans and teacher training programs
3.	Vice Head of Student Affairs (Bapak Moh Ainul Yaqin)	- Implementation of digital ethics and safety program - Socialization of rules and handling of student digital character issues - Policies related to student digital behavior
4.	IT Teacher (Bapak Moh. Masyriqi)	- Planning and execution of technical infrastructure support - Chromebook device maintenance and technical troubleshooting - Planning and implementation of Chromebook basic training for teachers and students

5.	Students (Rossa, Julia, Mila, Vindya)	- Perceptions and learning experiences with Chromebooks - Improved digital literacy skills (search, collaboration, content creation) - Understanding of digital ethics and safety, and guidance received
----	---------------------------------------	--

Results and Discussion

1. Planning for Improving Digital Literacy Through Chromebook-Based Learning Management at Excellent Islamic Junior High School PP M Nurul Adzimiyah, Probolinggo Regency

Planning is a fundamental stage in the management cycle, which involves setting direction and strategy. In the context of the Chromebook-based digital literacy program at PPM Nurul Adzimiyah Excellent Islamic Junior High School, researchers identified systematic and structured planning efforts from various parties.

a. Formulation of Vision and Mission and Alignment with Digital Literacy

The planning of the digital literacy program at Excellent Islamic Junior High School PPM Nurul Adzimiyah begins with the formulation of a vision and mission that explicitly integrates the goal of mastering technology. The Head of the Foundation emphasized that the school's vision to "create a generation that excels in science and technology, and has noble character" serves as the strategic foundation of this program. This vision is then translated into the curriculum and lesson plans by the Head of Curriculum, showing the school's commitment to integrating digital literacy holistically.

This phenomenon is in line with the concept of strategic planning in management theory.²¹ According to Robbins and Coulter, strategic planning involves setting the organization's general goals and formulating strategies to achieve those goals.²² The school's vision here serves as a long-term goal that guides all initiatives, including the digital literacy program. It also reflects

²¹ Stephen P. Robbins et al., *Management* (Pearson Australia, 2014), [https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+\(2012\).+Management.+Pearson.&ots=FMP3MNIITb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo](https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+(2012).+Management.+Pearson.&ots=FMP3MNIITb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo).

²² Stephen P. Robbins et al., *Management* (Pearson Australia, 2014), [https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+\(2012\).+Management.+Pearson.&ots=FMP3MNIITb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo](https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+(2012).+Management.+Pearson.&ots=FMP3MNIITb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo).

Mintzberg's view of strategy as a "position" or "perspective" that guides organizational action, where the school consciously positions itself as an institution that develops excellence in technology and morals.²³

Furthermore, the alignment of vision with digital literacy indicates a planned change strategy.²⁴ Lewin proposed three stages of change: unfreezing, changing, and refreezing.²⁵ Formulating a new vision and mission that includes digital literacy is the first step of unfreezing and setting the direction for change, communicating the new values that will be embedded in the school culture. This shows that the school is not just reacting to the demands of the times, but proactively planning for educational transformation.

The involvement of vision and mission as the foundation of the digital literacy program also reflects the concept of transformational leadership from the Head of the Foundation and the Head of Curriculum. They are able to inspire and motivate all stakeholders to move towards a common vision that includes mastery of technology and development of noble morals. A clear vision provides direction and meaning to every planning and implementation effort, ensuring all program components contribute to the larger goal.

b. Integration of Islamic Values and Digital Character Building

The planning of the digital literacy program at Excellent Islamic Junior High School PPM Nurul Adzimiyah explicitly integrates Islamic values and responsible digital character building. The Head of the Foundation explained the foundation's commitment to ensuring that these values are at the core of the program, reflected in the insertion of digital ethics material in the Education Unit Curriculum (KSP) and teacher lesson plans. The deputy head of Student Affairs also plans a regular socialization program on digital ethics and safety, including maintaining privacy and avoiding cyberbullying.

²³ Henry Mintzberg, "The Strategy Concept I: Five Ps for Strategy," *California Management Review* 30, no. 1 (October 1987): 11-24, <https://doi.org/10.2307/41165263>.

²⁴ Departments of the University (ANN ARBOR) Research Center for Group Dynamics, Dorwin Philip CARTWRIGHT, and Curt LEWIN, *Field Theory in Social Science. Selected Theoretical Papers by Kurt Lewin... Edited by Dorwin Cartwright* (Harper & Bros., 1951).

²⁵ Departments of the University (ANN ARBOR) Research Center for Group Dynamics, Dorwin Philip CARTWRIGHT, and Curt LEWIN, *Field Theory in Social Science. Selected Theoretical Papers by Kurt Lewin... Edited by Dorwin Cartwright* (Harper & Bros., 1951).

This approach is in line with the concept of digital citizenship digital citizenship.²⁶ Ribble and Park identified nine elements of digital citizenship, including digital ethics, digital security, and digital rights and responsibilities.²⁷ School planning to emphasize honesty, civility, and responsibility in digital interactions directly engage these elements, suggesting that digital literacy is not only about technical skills, but also about ethical behavior in cyberspace. The integration of Islamic values provides a strong moral foundation for this dimension of digital ethics, forming a digital character that is in line with the school's identity.

From a character education perspective, this effort also reflects the importance of a comprehensive approach to education that does not only focus on cognitive or skills, but also on affective and psychomotor skills. Cognitive social learning theory can also explain how students learn digital ethical behavior through observation, guidance, and planned socialization.²⁸ A school environment that consistently emphasizes digital ethics through rules and special sessions will shape students' self-regulation in technology use.

In addition, this plan also dialogues with the noble akhlaq dimension of the Pancasila Learner Profile, which is relevant to the Merdeka Curriculum. Although not a specific digital management or literacy theory, the Profil Pelajar Pancasila underlines the importance of students having religious morals and personal morals that are reflected in their daily lives, including in the digital realm. Planning that integrates Islamic values with digital ethics is the

²⁶ Mike Ribble, *Digital Citizenship in Schools: Nine Elements All Students Should Know* (International Society for technology in Education, 2015),

[https://books.google.com/books?hl=id&lr=&id=z6WpCgAAQBAJ&oi=fnd&pg=PA1&dq=Ribble,+M.,+%26+Park,+M.+\(2013\).+Digital+Citizenship+in+Schools:+Nine+Elements+All+Students+Should+Know.+International+Society+for+Technology+in+Education+\(ISTE\).&ots=opY_2oemzo&sig=8KEiS3Lx9eyhH67Dbzn7_tXW0Qo](https://books.google.com/books?hl=id&lr=&id=z6WpCgAAQBAJ&oi=fnd&pg=PA1&dq=Ribble,+M.,+%26+Park,+M.+(2013).+Digital+Citizenship+in+Schools:+Nine+Elements+All+Students+Should+Know.+International+Society+for+Technology+in+Education+(ISTE).&ots=opY_2oemzo&sig=8KEiS3Lx9eyhH67Dbzn7_tXW0Qo).

²⁷ Mike Ribble, *Digital Citizenship in Schools: Nine Elements All Students Should Know* (International Society for Technology in Education, 2015),

[https://books.google.com/books?hl=id&lr=&id=z6WpCgAAQBAJ&oi=fnd&pg=PA1&dq=Ribble,+M.,+%26+Park,+M.+\(2013\).+Digital+Citizenship+in+Schools:+Nine+Elements+All+Students+Should+Know.+International+Society+for+Technology+in+Education+\(ISTE\).&ots=opY_2oemzo&sig=8KEiS3Lx9eyhH67Dbzn7_tXW0Qo](https://books.google.com/books?hl=id&lr=&id=z6WpCgAAQBAJ&oi=fnd&pg=PA1&dq=Ribble,+M.,+%26+Park,+M.+(2013).+Digital+Citizenship+in+Schools:+Nine+Elements+All+Students+Should+Know.+International+Society+for+Technology+in+Education+(ISTE).&ots=opY_2oemzo&sig=8KEiS3Lx9eyhH67Dbzn7_tXW0Qo).

²⁸ Albert Bandura, "Social Foundations of Thought and Action," *Englewood Cliffs, NJ* 1986, no. 23-28 (1986): 2.

school's concrete attempt to achieve this profile, ensuring that students' digital competence is balanced with moral integrity.

c. Curriculum and lesson plan planning for digital literacy skills

Curriculum planning and lesson plans are the core of digital literacy integration in learning. The Head of Curriculum explained the process of analyzing the Learning Outcomes of Merdeka Curriculum and mapping the use of Chromebooks as the main tool to achieve digital literacy targets. The lesson plans are designed to develop specific skills such as information search and evaluation, digital collaboration, and digital content creation.

This approach is very relevant to the concept of Technological Pedagogical Content Knowledge (TPACK).²⁹ TPACK emphasizes that effective technology integration requires teachers' understanding of subject content Content Knowledge, teaching methods (Pedagogical Knowledge), and the use of technology (Technological Knowledge) interdependently. Curriculum planning that integrates Learning Outcome targets with Chromebook utilization shows an effort to develop TPACK at the institutional level.³⁰ Teachers are not only taught how to use Chromebooks, but how they pedagogically support the learning of specific content to achieve digital literacy skills.

Furthermore, this planning is also in line with Bloom's revised taxonomy which places higher order thinking skills such as analyzing, evaluating, and creating.³¹ By designing tasks that involve finding information from various digital sources and teaching techniques to verify its credibility, as well as creating presentations, infographics or short videos, schools consciously encourage students to engage in more complex cognitive activities supported by technology. This goes beyond using technology as a substitute, but as a tool for learning transformation.

In addition, this planning is also in dialogue with the principles of student-centered curriculum design. With a focus on developing active skills such as collaboration and content creation,

²⁹ Matthew Koehler and Punya Mishra, "What Is Technological Pedagogical Content Knowledge (TPACK)?," *Contemporary Issues in Technology and Teacher Education* 9, no. 1 (2009): 60-70.

³⁰ Matthew Koehler and Punya Mishra, "What Is Technological Pedagogical Content Knowledge (TPACK)?," *Contemporary Issues in Technology and Teacher Education* 9, no. 1 (2009): 60-70.

³¹ Lorin W. Anderson and David R. Krathwohl, *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives: Complete Edition* (Addison Wesley Longman, Inc., 2001), <https://eduq.info/xmlui/handle/11515/18824>.

the curriculum is designed to engage students directly in the learning process, promoting their agency and independence. This approach supports active learning where students are not only consumers of information, but also producers of digital knowledge.

d. Resource Allocation Management and Infrastructure Support

Resource allocation management and infrastructure support are crucial aspects in planning a Chromebook-based digital literacy program. The Foundation Chair outlined the allocation of dedicated funds and proactive efforts to seek device support from the government. IT teacher plans installation of Wi-Fi access, management of Google Workspace accounts, and implementation of content filters, though recognizes challenges such as power outages in rural locations.

From a management point of view, this reflects the organizing function, particularly in terms of the structure of resources.³² Funding allocation, equipment procurement, and technical infrastructure planning demonstrate how material and financial resources are organized to support program objectives. It also demonstrates operational management that focuses on the efficient and effective use of resources to provide services.³³

Infrastructure planning, such as Wi-Fi access and software management, also relates to innovation adoption theory.³⁴ Rogers emphasized the importance of supporting infrastructure in the diffusion of technological innovation.³⁵ Without careful planning for connectivity and software, the adoption of Chromebooks as a learning innovation will be hampered. The challenges identified, such as power outages, are environmental barriers that need to be anticipated in strategic planning and risk mitigation.

In addition, this planning also dialogues with the resource-based view of capitalization theory in organizations. The school recognizes that Chromebooks and their supporting infrastructure are valuable assets that, if managed well, can create a competitive

³² Stephen P. Robbins et al., *Management* (Pearson Australia, 2014), [https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coultter,+M.+\(2012\).+Management.+Pearson.&ots=FMP3MNIrTb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo](https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coultter,+M.+(2012).+Management.+Pearson.&ots=FMP3MNIrTb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo).

³³ Boris B. Baltes et al., "Flexible and Compressed Workweek Schedules: A Meta-Analysis of Their Effects on Work-Related Criteria.," *Journal of Applied Psychology* 84, no. 4 (1999): 496. <https://psycnet.apa.org/buy/1999-11038-003>

³⁴ E. M. Rogers, "Diffusion of Innovations, 5th Edn Tampa," FL: Free Press.[Google Scholar], 2003.

³⁵ E. M. Rogers, "Diffusion of Innovations, 5th Edn Tampa," FL: Free Press.[Google Scholar], 2003.

advantage in the development of students' digital literacy. The procurement and maintenance of these resources strategically support the school's capacity to achieve its educational goals.

e. Teacher Training Planning and Student Engagement

The planning of the digital literacy program also places attention on human resource capacity building through teacher training and student involvement in the planning process. The Head of the Foundation emphasized the priority of continuous teacher training to facilitate the use of Chromebooks. The IT teacher also planned basic Chromebook operation training for teachers and students. Students confirmed their involvement through online surveys and discussions.

The planning of teacher training is in line with the concept of teacher professional development. Guskey emphasizes that effective professional development must be systematically planned, relevant to teachers' needs, and oriented towards improving teaching practices.³⁶ Training plans on Google Classroom features, third-party apps and mentoring demonstrate the school's efforts to improve teachers' pedagogical and technological competencies.

The involvement of students in planning, even if it is in the form of input such as filling out surveys or discussions, reflects the student-centered learning approach that began to be integrated from the planning stage. This is in line with the principle of student empowerment, where students are given a voice and a sense of ownership in their educational process. Although they are not the final arbiters, the opportunity to express their ideas and needs can increase their motivation and involvement in the program.

This aspect also dialogues with the theory of stakeholder participation in project management.³⁷ Including input from students as one of the key stakeholders ensures that program

³⁶ Thomas R. Guskey, *Evaluating Professional Development*, vol. 1 (Corwin press, 2000), [https://books.google.com/books?hl=id&lr=&id=CklqX4zgDtgc&oi=fnd&pg=PR9&dq=Guskey,+T.+R.+\(2000\).+Evaluating+Professional+Development.+Corwin+Press.&ots=gV4AII-vcw&sig=mBmQRhLgvM1-eDjEny8oCzoDnw](https://books.google.com/books?hl=id&lr=&id=CklqX4zgDtgc&oi=fnd&pg=PR9&dq=Guskey,+T.+R.+(2000).+Evaluating+Professional+Development.+Corwin+Press.&ots=gV4AII-vcw&sig=mBmQRhLgvM1-eDjEny8oCzoDnw).

³⁷ R. Edward Freeman, *Strategic Management: A Stakeholder Approach* (Cambridge University Press, 2010), [https://books.google.com/books?hl=id&lr=&id=NpmA_qEiOpkC&oi=fnd&pg=PR5&dq=Freeman,+R.+E.+\(1984\).+Strategic+Management:+A+Stakeholder+Approach.+Pitman.&ots=62fnL7J2QO&sig=1X-_jjl7vTKLLComfjhLZRao2qk](https://books.google.com/books?hl=id&lr=&id=NpmA_qEiOpkC&oi=fnd&pg=PR5&dq=Freeman,+R.+E.+(1984).+Strategic+Management:+A+Stakeholder+Approach.+Pitman.&ots=62fnL7J2QO&sig=1X-_jjl7vTKLLComfjhLZRao2qk).

planning is not only top-down based but also considers the end-user perspective. Despite the limited number of IT personnel, the planning of basic training and troubleshooting guides shows an effort to empower teachers and students to solve basic technical problems independently, reducing dependence on external support.

2. Implementation of Improving Digital Literacy Through Chromebook-Based Learning Management at Excellent Islamic Junior High School PPM Nurul Adzimiyah, Probolinggo Regency.

The implementation stage is the implementation of the plan that has been drawn up, where various activities and resources are mobilized to achieve goals. The research findings show a systematic effort in implementing this digital literacy program. At PPM Nurul Adzimiyah Excellent Islamic Junior High School, the implementation of the Chromebook-based digital literacy program shows clear coordination and consistent efforts in implementing the strategies that have been set.

a. Curriculum Implementation and RPP Implementation in Learning

The implementation of the curriculum and lesson plans in learning is closely monitored by the Waka Kurikulum through regular supervision and feedback. Teachers are encouraged to integrate the use of Chromebooks in various subjects, such as information retrieval in Bahasa Indonesia and simulation in Science, with a focus on developing digital literacy skills.

This directly reflects the implementing or leading function in management theory.³⁸ Waka Curriculum's leadership in consistently supervising teachers demonstrates a directive and motivational function to ensure plans are realized. Supervision and feedback are important forms of coaching and mentoring in teachers' professional development, helping them adapt teaching practices to new technologies.³⁹

The application of Chromebooks in learning activities such as information retrieval and simulation shows the transition of technology use beyond mere substitution. Through the SAMR

³⁸ Stephen P. Robbins et al., *Management* (Pearson Australia, 2014), [https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+\(2012\).+Management.+Pearson.&ots=FMP3MNIITb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo](https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+(2012).+Management.+Pearson.&ots=FMP3MNIITb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo).

³⁹ Bruce R. Joyce and Beverly Showers, *Student Achievement through Staff Development*, vol. 3 (Association for Supervision and Curriculum Development Alexandria, VA, 2002), https://www.unrwa.org/sites/default/files/joyce_and_showers_coaching_as_cpd.pdf.

model, these activities can be classified at the Augmentation or Modification level, where the technology functionally enhances the task and enables tasks that were previously impossible without the technology (e.g., immersive interactive simulations).⁴⁰ Learning that requires students to actively seek information from various digital sources develops students' information literacy and critical thinking skills in evaluating the credibility of sources, in accordance with ACRL (Association of College & Research Libraries) standards.⁴¹

In addition, this implementation also demonstrated the application of active and project-based learning principles, where students were engaged in authentic tasks that required them to use Chromebooks as the main tool. This encourages deeper student engagement and the development of skills relevant to 21st-century skills, such as communication, collaboration, and critical thinking.⁴²

b. Implementation of Digital Ethics and Security Program

The implementation of the digital ethics and security program is carried out continuously through the socialization of rules, special sessions in BK hours or morning roll call, and enforcement of consequences. This is an important part of student digital character building.

This implementation is very relevant to the concept of character education and digital citizenship.⁴³ The school not only sets the rules, but also actively socializes them and provides coaching through case studies on data privacy, cyberbullying and responsible internet use. This shows a comprehensive approach in shaping ethical behavior in the digital realm, not just a ban.

From a management perspective, this implementation also involves a controlling function that is preventive and corrective in

⁴⁰ Ruben R. Puentedura, "Transformation, Technology, and Education [Presentation]," *Strengthening Your District Through Technology*, 2006.

⁴¹ Association of College, Research Libraries, and American Library Association, *Information Literacy Competency Standards for Higher Education* (ACRL, 2000).

⁴² B. Kids, "For.(2019). Framework for 21st Century Learning Definitions," *Partnership for 21st Century Learning*, n.d.

⁴³ Mike Ribble, *Digital Citizenship in Schools: Nine Elements All Students Should Know* (International Society for Technology in Education, 2015)

[https://books.google.com/books?hl=id&lr=&id=z6WpCgAAQBAJ&oi=fnd&pg=PA1&dq=Ribble,+M.,+%26+Park,+M.+\(2013\).+Digital+Citizenship+in+Schools:+Nine+Elements+All+Students+Should+Know.+International+Society+for+Technology+in+Education+\(ISTE\).&ots=opY_2oemzo&sig=8KEiS3Lx9eyhH67Dbzn7_tXW0Qo](https://books.google.com/books?hl=id&lr=&id=z6WpCgAAQBAJ&oi=fnd&pg=PA1&dq=Ribble,+M.,+%26+Park,+M.+(2013).+Digital+Citizenship+in+Schools:+Nine+Elements+All+Students+Should+Know.+International+Society+for+Technology+in+Education+(ISTE).&ots=opY_2oemzo&sig=8KEiS3Lx9eyhH67Dbzn7_tXW0Qo).

nature.⁴⁴ Establishing clear rules and consequences for violations is a form of control to ensure compliance. Socialization and counseling sessions are preventive efforts to instill awareness, while incident handling is a corrective measure.

In addition, these efforts support the development of students' emotional and social intelligence in a digital context. Students are taught to empathize, respect privacy, and report negative behavior, which are crucial aspects of healthy social interaction online. This highlights that digital literacy goes beyond technical skills to include social and moral competencies that are essential to being a responsible digital citizen.

c. Implementation of Technical Support and Maintenance of Devices

Technical support and device maintenance are important operational aspects that ensure program sustainability. IT teachers perform regular maintenance of Chromebooks, respond to problem reports, and coordinate with service providers, despite facing challenges such as limited spare parts and repair time.

Managerially, this is part of operations management, which focuses on designing, operating and improving systems to deliver products or services. In this case, the resulting service is the availability of optimally functioning Chromebook devices for learning. Regular maintenance and response to issues are standard practices in asset management to ensure efficiency and reliability.

The challenges faced, such as limited spare parts and repair time, indicate the need for more proactive risk management in the planning and procurement phases.⁴⁵ Nonetheless, the efforts made by IT Teachers show a commitment to predictive and reactive maintenance to minimize device downtime.

The availability of functioning devices also directly affects digital accessibility for students. Without adequate technical support, the digital divide can widen even when devices are provided. The implementation of technical support is therefore an important foundation to ensure that all students have equal

⁴⁴ Stephen P. Robbins et al., *Management* (Pearson Australia, 2014), [https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coultter,+M.+\(2012\).+Management.+Pearson.&ots=FMP3MNIiTb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo](https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coultter,+M.+(2012).+Management.+Pearson.&ots=FMP3MNIiTb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo).

⁴⁵ Gregory Hutchins, *ISO 31000: 2018 Enterprise Risk Management* (Greg Hutchins, 2018), [https://books.google.com/books?hl=id&lr=&id=csx7DwAAQBAJ&oi=fnd&pg=PT5&dq=International+Organization+for+Standardization+\(ISO\).+\(2018\).+ISO+31000:+Risk+management+%E2%80%93+Guidelines.+ISO.&ots=WaKrJINiaM&sig=E37XgkJOrzKBqhyUaRqAtCmaM4s](https://books.google.com/books?hl=id&lr=&id=csx7DwAAQBAJ&oi=fnd&pg=PT5&dq=International+Organization+for+Standardization+(ISO).+(2018).+ISO+31000:+Risk+management+%E2%80%93+Guidelines.+ISO.&ots=WaKrJINiaM&sig=E37XgkJOrzKBqhyUaRqAtCmaM4s).

opportunities to develop their digital literacy without significant technical barriers.

d. **Implementation of Basic Guidance and Training for Students**

Students receive mentorship and basic training directly from IT and subject teachers from the start of the program. This training includes basic Chromebook operation, use of apps such as Google Classroom, as well as tips for troubleshooting minor technical issues.

The implementation of guidance and training is essential in developing students' digital competencies. Although the students are children, the hands-on and problem-solving approach oriented to their needs ("if the Wi-Fi goes out," "if the app crashes") shows that learning is tailored to be relevant and practical. Students actively "learn by doing," which is an effective method for mastering new skills. In addition, it also fosters students' self-efficacy in using technology.⁴⁶ With patient and continuous guidance, students feel more confident to operate Chromebooks and overcome minor obstacles. Rossa felt "better at using computers," and Vindya felt "smarter," which is an indicator of increased self-efficacy in digital literacy.

Direct guidance by subject teachers in specific learning contexts such as sourcing in Bahasa Indonesia also applies the principle of curriculum integration, where digital literacy skills are not taught separately but are integrated with subject content. This is in line with the view that digital literacy is not just a skill in itself, but a set of competencies that must be integrated across disciplines.

3. Evaluation of Digital Literacy Improvement through Chromebook-Based Learning Management at Excellent Islamic Junior High School PPM Nurul Adzimiyah Probolinggo Regency

Evaluation is the last management function that closes the cycle and provides input for subsequent planning. The implementation of evaluation at Excellent Islamic Junior High School PPM Nurul Adzimiyah shows a systematic effort to measure the success of the program.

a. **Overall Program Evaluation Indicators and Methods**

Program evaluation is conducted comprehensively by the foundation and school team using various indicators and methods. Kyai Abdul Adim mentioned indicators such as the level of Chromebook utilization, improved digital literacy skills, and digital character. The deputy head of Curriculum uses classroom supervision, observation, and portfolios of students' digital

⁴⁶ Albert Bandura, *Self-Efficacy: The Exercise of Control* (Macmillan, 1997).

assignments, while the Deputy head of Student Affairs monitors incident reports and student surveys. IT teachers conduct network monitoring and collect feedback.

This evaluation approach is closely aligned with the controlling function in management theory, which involves setting standards, measuring performance, and taking corrective action.⁴⁷ The indicators used are the performance standards set by the school for the digital literacy program.

The various evaluation methods can also be linked to Stufflebeam's CIPP Model (Context, Input, Process, Product), although it was not explicitly mentioned by the interviewees.⁴⁸ Evaluation of device utilization and infrastructure availability covers the input aspect; supervision of lesson plan implementation and teacher training measures the process; and assessment of student skill improvement and digital character is the product or outcome evaluation. This indicates a multi-dimensional evaluation, focusing not only on the end result but also on the process and input components.

In addition, this evaluation process also has elements of formative and summative evaluation.⁴⁹ Supervision and feedback by the Waka Curriculum are formative, providing input for continuous improvement throughout the program. Meanwhile, portfolio collection and incident monitoring can serve as data for summative evaluation, measuring the overall impact of the program.

b. Improving students' digital literacy skills

Evaluation results supported by direct student perceptions showed significant improvements in digital literacy skills. Students reported improvements in Rossa's information seeking and evaluation, Julia's digital collaboration, Mila's digital content creation, and Vindya's digital safety and ethics awareness.

⁴⁷ Stephen P. Robbins et al., *Management* (Pearson Australia, 2014), [https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+\(2012\).+Management.+Pearson.&ots=FMP3MNIITb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo](https://books.google.com/books?hl=id&lr=&id=hLGaBQAAQBAJ&oi=fnd&pg=PP1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+(2012).+Management.+Pearson.&ots=FMP3MNIITb&sig=UjRq8MHTuKdNE9PJEXWUHcogtlo).

⁴⁸ Daniel L. Stufflebeam, "The CIPP Model for Program Evaluation," in *Evaluation Models*, by George F. Madaus, Michael S. Scriven, and Daniel L. Stufflebeam (Dordrecht: Springer Netherlands, 1983), 117-41, https://doi.org/10.1007/978-94-009-6669-7_7.

⁴⁹ Blaine R. Worthen, James R. Sanders, and Jody L. Fitzpatrick, "Program Evaluation: Alternative Approaches and Practical Guidelines," (*No Title*), 1997,

<https://cir.nii.ac.jp/crid/1130282271604841216>.

This improvement directly confirms the achievement of digital literacy objectives relevant to Bawden's framework.⁵⁰ Improving the ability to find and evaluate digital information is very much in line with the concept of information literacy, which is at the core of digital literacy. Digital collaboration capabilities indicate the development of communication and collaboration skills that are vital in the 21st century. Meanwhile, the ability to create digital content shows mastery of aspects of digital media production and creativity. Increased awareness of digital ethics and safety is evidence of success in embedding the dimensions of responsible digital citizenship.

More importantly, the researcher's findings regarding the use of attitudinal and skills assessment documents aligned with aspects of the Pancasila Learner Profile (Independent, Critical Reasoning, and Creative) are strong evidence that evaluation measures not only technical ability, but also broader dimensions of character and competence. The Independent dimension is seen in students' ability to solve basic technical problems or search for information independently; Critical Reasoning is reflected in the ability to evaluate the credibility of information; and Creative is shown through the creation of digital content. This alignment confirms that the digital literacy program at Excellent Islamic Junior High School PPM Nurul Adzimiyah has succeeded in supporting the objectives of the Merdeka Curriculum in forming a graduate profile that is holistic and relevant to global challenges.

Conclusion

This study found that improving digital literacy at Excellent Islamic Junior High School PPM Nurul Adzimiyah Probolinggo Regency through Chromebook-based learning management is carried out systematically through comprehensive planning, interactive and collaborative implementation, and continuous evaluation. An important finding that addresses the research gap is that the implementation of Chromebook-based learning management, specifically in the pesantren environment, does not only contribute to the improvement of students' digital literacy in technical and cognitive aspects (seen from the improvement of the ability to use collaboration applications such as Google Docs/Slides and online quiz platforms such as Quizizz), but also successfully integrates Islamic digital values and ethics (such as awareness of responsibility and ethics in online information seeking). This distinguishes it from general digital literacy studies that rarely highlight the context of religious education. The adaptive

⁵⁰ David Bawden, "Information and Digital Literacies: A Review of Concepts," *Journal of Documentation* 57, no. 2 (2001): 218-59. <https://doi.org/10.1108/EUM0000000007083>

management process, which includes analyzing the unique needs of the pesantren, adapting the curriculum to incorporate digital ethics, and implementing Chromebooks for collaborative tasks based on local values, shows how the school successfully bridges the gap between tradition and modernization of education in the pesantren environment.

As a concrete recommendation for further improvement, the school could strengthen a more stable internet infrastructure and provide backup power sources to overcome existing constraints. In addition, teacher training could focus on creative content development and utilizing the advanced features of Chromebooks for more complex projects (e.g., simple graphic design or video editing). It is also recommended that schools periodically organize internal digital literacy competitions or festivals using Chromebooks as the main medium to further motivate and appreciate student progress.

Nonetheless, this study has limitations in scope as it focuses only on the management (planning, implementation, evaluation) of digital literacy improvement and uses Chromebooks as the main media, so other aspects of digital literacy beyond the use of these devices or the long-term impact on changing students' digital behavior outside the school environment are not the main focus. In addition, the management theories used are general, and there may be more specific Islamic education management theories that could be explored. For future research, it is recommended to examine in more depth the internal and external factors that influence teachers' and students' resistance to technology adoption in a pesantren environment, or to examine the long-term impact of the Chromebook-based digital literacy program on students' academic achievement and character development after they graduate. Future research can also consider developing a digital learning management model that is more integrated with the distinctiveness of pesantren culture and curriculum comprehensively.

Bibliografi

- Admin. (T.T.). *Pemanfaatan Chromebook Dalam Pembelajaran: Meningkatkan Kualitas Pendidikan Di Era Digital | Smkn1 Kokap*. Diambil 23 Januari 2025, Dari <https://Smkn1kokap.Sch.Id/2024/06/05/30407/>
- Alifa, Z. I., Sufyadi, S., & Utama, A. H. (2024). Pemanfaatan Chromebook Sebagai Penunjang Pembelajaran Bagi Siswa Di Smpn 1 Banjarmasin. *Edutech*, 23(2), 116–127. <https://doi.org/10.17509/E.V23i2.69560>
- Almaskur, A., Lestari, L., Sukaningsih, D., Istama, I., & Ngazizah, N. (T.T.). Implementasi Digitalisasi Sekolah Dalam Meningkatkan Kualitas Pembelajaran Di Sd Negeri Bulusari 01 Gandrungmangu. *Social, Humanities, And Educational Studies (Shes): Conference Series*, 7(3). Diambil 5 Desember 2024, Dari <https://jurnal.uns.ac.id/shes/article/view/91536>
<https://doi.org/10.20961/shes.V7i3.91536>

- Anderson, L. W., & Krathwohl, D. R. (2001). *A Taxonomy For Learning, Teaching, And Assessing: A Revision Of Bloom's Taxonomy Of Educational Objectives: Complete Edition*. Addison Wesley Longman, Inc.
<https://Eduq.Info/Xmlui/Handle/11515/18824>
- Baltes, B. B., Briggs, T. E., Huff, J. W., Wright, J. A., & Neuman, G. A. (1999). Flexible And Compressed Workweek Schedules: A Meta-Analysis Of Their Effects On Work-Related Criteria. *Journal Of Applied Psychology*, 84(4), 496.
- Bandura, A. (1986). *Social Foundations Of Thought And Action*. Englewood Cliffs, Nj, 1986(23-28), 2.
- Bandura, A. (1997). *Self-Efficacy: The Exercise Of Control*. Macmillan.
- Bawden, D. (2001). Information And Digital Literacies: A Review Of Concepts. *Journal Of Documentation*, 57(2), 218-259.
<https://doi.org/10.1108/Eum0000000007083>
- College, A. Of, Libraries, R., & Association, A. L. (2000). *Information Literacy Competency Standards For Higher Education*. Acrl.
- Dynamics, D. Of The U. (Ann A. R. C. For G., Cartwright, D. P., & Lewin, C. (1951). *Field Theory In Social Science. Selected Theoretical Papers By Kurt Lewin... Edited By Dorwin Cartwright*. Harper & Bros.
- Falah, A. I., & Hadna, A. H. (2022). Problematika Pendidikan Masa Pandemi Di Indonesia Pada Daerah 3-T (Terluar, Tertinggal, Dan Terdepan). *Jurnal Pendidikan Dan Kebudayaan*, 7(2), 164-185.
- Freeman, R. E. (2010). *Strategic Management: A Stakeholder Approach*. Cambridge University Press.
[https://books.google.com/books?hl=id&lr=&id=Npma_Qeiopkc&oi=fnd&pg=pr5&dq=Freeman,+R.+E.+\(1984\).+Strategic+Management:+A+Stakeholder+Approach.+Pitman.&ots=62fnl7j2qo&sig=1x-Jjl7vtkllcomfjhlzrao2qk](https://books.google.com/books?hl=id&lr=&id=Npma_Qeiopkc&oi=fnd&pg=pr5&dq=Freeman,+R.+E.+(1984).+Strategic+Management:+A+Stakeholder+Approach.+Pitman.&ots=62fnl7j2qo&sig=1x-Jjl7vtkllcomfjhlzrao2qk)
- Gilster, P. (1997). *Digital Literacy*. Seoul Heanaem.
<https://www.academia.edu/download/8413655/Diglit.pdf>
- Goodstats. (T.T.). *Mengamati Indeks Literasi Dan Masyarakat Digital Indonesia, Sudah Berapa?* Goodstats. Diambil 19 Januari 2025, Dari
<https://goodstats.id/article/menkomdigi-ajak-pemuda-berperan-aktif-dalam-membangun-literasi-digital-hsks9>
- Guskey, T. R. (2000). *Evaluating Professional Development* (Vol. 1). Corwin Press.
[https://books.google.com/books?hl=id&lr=&id=Cklqx4zgdgtgc&oi=fnd&pg=pr9&dq=Guskey,+T.+R.+\(2000\).+Evaluating+Professional+Development.+Corwin+Press.&ots=Gv4aii-Vcw&sig=Mbmqurhlgvml-Edjeny8oczodnw](https://books.google.com/books?hl=id&lr=&id=Cklqx4zgdgtgc&oi=fnd&pg=pr9&dq=Guskey,+T.+R.+(2000).+Evaluating+Professional+Development.+Corwin+Press.&ots=Gv4aii-Vcw&sig=Mbmqurhlgvml-Edjeny8oczodnw)

- Hutchins, G. (2018). *Iso 31000: 2018 Enterprise Risk Management*. Greg Hutchins.
[https://Books.Google.Com/Books?Hl=Id&Lr=&Id=Csx7dwaaqbaj&Oi=Fnd&Pg=Pt5&Dq=International+Organization+For+Standardization+\(Iso\).+\(2018\).+Iso+31000:+Risk+Management+%E2%80%93+Guidelines.+Iso.&Ots=Wakrjiniam&Sig=E37xgkjorzkqbhyuarqatcmam4s](https://Books.Google.Com/Books?Hl=Id&Lr=&Id=Csx7dwaaqbaj&Oi=Fnd&Pg=Pt5&Dq=International+Organization+For+Standardization+(Iso).+(2018).+Iso+31000:+Risk+Management+%E2%80%93+Guidelines.+Iso.&Ots=Wakrjiniam&Sig=E37xgkjorzkqbhyuarqatcmam4s)
- Indonesia.Go.Id – Daya Saing Digital Naik, Hati-Hati Dengan Jempol! (T.T.). Diambil 23 Januari 2025, Dari <https://Indonesia.Go.Id/Kategori/Editorial/8878/Daya-Saing-Digital-Naik-Hati-Hati-Dengan-Jempol?Lang=1>
- Joyce, B. R., & Showers, B. (2002). *Student Achievement Through Staff Development* (Vol. 3). Association For Supervision And Curriculum Development Alexandria, Va.
https://Www.Unrwa.Org/Sites/Default/Files/Joyce_And_Showers_Coaching_As_Cpd.Pdf
- Kids, B. (T.T.). For.(2019). Framework For 21st Century Learning Definitions. Partnership For 21st Century Learning.
<https://Eric.Ed.Gov/?Id=Ej1272867>
- Koehler, M., & Mishra, P. (2009). What Is Technological Pedagogical Content Knowledge (Tpack)? *Contemporary Issues In Technology And Teacher Education*, 9(1), 60–70.
- Kusumaningrum, D. S., & Nurapriani, F. (2023). Implementasi Digitalisasi Pendidikan Terhadap Pembelajaran Di Sdn Ciptamargi I. *Prosiding Konferensi Nasional Penelitian Dan Pengabdian Universitas Buana Perjuangan Karawang*, 3(1), 718–725.
- Literasi Digital Indonesia Baru 62 Persen, Masih Di Bawah Rata-Rata Asean. (T.T.). Diambil 23 Januari 2025, Dari <https://Rm.Id/Baca-Berita/Nasional/234897/Literasi-Digital-Indonesia-Baru-62-Persen-Masih-Di-Bawah-Ratarata-Asean>
- Mintzberg, H. (1987). The Strategy Concept I: Five Ps For Strategy. *California Management Review*, 30(1), 11–24. <https://Doi.Org/10.2307/41165263>
- Muzaini, M. C., Prastowo, A., & Salamah, U. (2024). Peran Teknologi Pendidikan Dalam Kemajuan Pendidikan Islam Di Abad 21. *Ihsan: Jurnal Pendidikan Islam*, 2(2), 70–81.
<https://Doi.Org/10.61104/Ihsan.V2i2.214>
- Nesya, J., Kresnadi, H., & Pranata, R. (2024). Pemanfaatan Fitur Chromebook Untuk Meningkatkan Keterampilan Membaca Pemahaman Siswa Kelas V Sekolah Dasar Negeri 18 Sungai Kakap. *Innovative: Journal Of Social Science Research*, 4(4), 10893–10901.
<https://Doi.Org/10.31004/Innovative.V4i4.12342>

- Nikmawati, N. (2023). Implementasi Digitalisasi Pendidikan Terhadap Pembelajaran Di Smp Permata Insani Pasarkemis Tangerang. *Jurnal Tahsinia*, 4(2), 350–361.
- Puenedura, R. R. (2006). Transformation, Technology, And Education [Presentation]. *Strengthening Your District Through Technology*.
- Purwanti, I., Indira, I., Sulistyowati, R., Isfadia, H., & Santoso, S. (2023). Pengenalan Dasar Chromebook Sebagai Digitalisasi Pembelajaran. *Ahmad Dahlan Mengabdi*, 2(1), 6–10. <https://doi.org/10.58906/Abadi.V2i1.87>
- Ribble, M. (2015). *Digital Citizenship In Schools: Nine Elements All Students Should Know*. International Society For Technology In Education. [https://books.google.com/books?hl=id&lr=&id=Z6wpcgaqbaj&oi=fnd&pg=pa1&dq=Ribble,+M.,+%26+Park,+M.+\(2013\).+Digital+Citizenship+In+Schools:+Nine+Elements+All+Students+Should+Know.+International+Society+For+Technology+In+Education+\(Iste\).&ots=Opy_2oemzo&sig=8keis3lx9eyhh67dbzn7_Txw0qo](https://books.google.com/books?hl=id&lr=&id=Z6wpcgaqbaj&oi=fnd&pg=pa1&dq=Ribble,+M.,+%26+Park,+M.+(2013).+Digital+Citizenship+In+Schools:+Nine+Elements+All+Students+Should+Know.+International+Society+For+Technology+In+Education+(Iste).&ots=Opy_2oemzo&sig=8keis3lx9eyhh67dbzn7_Txw0qo)
- Robbins, S. P., Bergman, R., Stagg, I., & Coulter, M. (2014). *Management*. Pearson Australia. [https://books.google.com/books?hl=id&lr=&id=Hlgabqaaqbaj&oi=fnd&pg=pp1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+\(2012\).+Management.+Pearson.&ots=Fmp3mnittb&sig=Ujrj8mhtukdne9pjexwuhcogtlo](https://books.google.com/books?hl=id&lr=&id=Hlgabqaaqbaj&oi=fnd&pg=pp1&dq=Robbins,+S.+P.,+%26+Coulter,+M.+(2012).+Management.+Pearson.&ots=Fmp3mnittb&sig=Ujrj8mhtukdne9pjexwuhcogtlo)
- Rogers, E. M. (2003). *Diffusion Of Innovations*, 5th Edn Tampa. FL: Free Press.[Google Scholar].
- Rohmah, S., Izzah, I., & Yunita, A. R. (2024). Manajemen Pembelajaran Chromebook Dalam Meningkatkan Prestasi Siswa Di Smp Ma'rif Kraksaan. *Indonesian Journal Of Islamic Educational Management*, 7(1), 15–21. <http://dx.doi.org/10.24014/Ijiem.V7i1.29562>
- Sitanggang, A. S., & Nabila, A. (2024). Peran Teknologi Digital Dalam Membangun Pendidikan Generasi Emas. *Jurnal Pendidikan Tambusai*, 8(2), 30802–30809. https://www.researchgate.net/publication/382916341_Peran_Teknologi_Digital_Dalam_Membangun_Pendidikan_Generasi_Emas?enrichid=Rgreg-Da7d1f40047219c82ed6f8a6d8e39ff6-Xxx&enrichsource=Y292zxjqywdlozm4mjknjm0mttbuzoxmtqzmti4mti3mdexmdy2oeaxnzizmda0mtawntc2&el=1_X_2&_esc=Publicationcoverpdf
- Stufflebeam, D. L. (1983). The Cipp Model For Program Evaluation. Dalam G. F. Madaus, M. S. Scriven, & D. L. Stufflebeam, *Evaluation Models* (Hlm. 117–141). Springer Netherlands. https://doi.org/10.1007/978-94-009-6669-7_7

- Suradji, M. (2016). Teknologi Pembelajaran Dalam Pendidikan Islam. *Dar El-Ilmi: Jurnal Studi Keagamaan, Pendidikan Dan Humaniora*, 3(1), 67–78.
<https://E-Jurnal.Unisda.Ac.Id/Index.Php/Dar/Article/View/1219>
- Unesco: *Building Peace Through Education, Science And Culture, Communication And Information*. (T.T.). Diambil 5 Desember 2024, Dari <https://Www.Unesco.Org/En>
- Worthen, B. R., Sanders, J. R., & Fitzpatrick, J. L. (1997). Program Evaluation: Alternative Approaches And Practical Guidelines. (No Title).
<https://Cir.Nii.Ac.Jp/Crid/1130282271604841216>