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# *Strengthening Students' Mental Health through Responsible AI Literacy: The AIMAH Program at Muthahhari Foundation*

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***Abstract***

*This study aims to explore how responsible artificial intelligence (AI) literacy programs contribute to strengthening students' mental health. Using a qualitative research method with a case study approach at the Muthahhari Foundation, data were collected through in-depth interviews and participatory observation with students from various grade levels, starting from the early years of elementary school. The findings indicate that students are introduced from an early age to the smart use of mobile devices, basic coding, and the creative and productive utilization of AI-based applications. In parallel, the school also implements mental health reinforcement activities such as yoga, regular sports, outdoor learning, and "fun student hours" that support emotional balance and social interaction. The synergy between responsible AI literacy and mental health programs forms a holistic educational approach that prepares students to be not only technologically competent but also mentally resilient in facing the challenges of the digital era. This study recommends the development of an integrated AI literacy curriculum as well as continuous teacher training.*

***Keywords:*** *Artificial Intelligence Literacy, Mental Health, Holistic Education, Digital Era.*

**Abstrak**

Penelitian ini bertujuan untuk mengeksplorasi bagaimana program literasi kecerdasan buatan (AI) yang bertanggung jawab berkontribusi terhadap penguatan kesehatan mental siswa. Menggunakan metode penelitian kualitatif dengan pendekatan studi kasus di Yayasan Muthahhari, data dikumpulkan melalui wawancara mendalam dan observasi partisipatif terhadap siswa dari berbagai jenjang pendidikan, mulai dari kelas awal sekolah dasar. Temuan penelitian menunjukkan bahwa siswa sejak dini diperkenalkan pada penggunaan gawai yang cerdas, pemrograman dasar, serta pemanfaatan aplikasi berbasis AI secara kreatif dan produktif. Secara paralel, sekolah juga melaksanakan kegiatan penguatan kesehatan mental seperti yoga, olahraga teratur, pembelajaran luar ruangan, dan "jam menyenangkan siswa" yang mendukung keseimbangan emosi serta interaksi sosial. Sinergi antara literasi AI yang bertanggung jawab dan program kesehatan mental membentuk pendekatan pendidikan holistik yang mempersiapkan siswa tidak hanya menjadi kompeten secara teknologi tetapi juga tangguh secara mental dalam menghadapi tantangan era digital. Penelitian ini merekomendasikan pengembangan kurikulum literasi AI terintegrasi serta pelatihan guru secara berkelanjutan.

**Kata Kunci:** Literasi Kecerdasan Buatan, Kesehatan Mental, Pendidikan Holistik, Era Digital, Ketahanan Siswa.

## A. Introduction

In recent years, the adoption of Artificial Intelligence (AI) in educational contexts has grown rapidly, offering opportunities to enhance the effectiveness, personalization, and flexibility of learning processes. For example, the integration of AI into adaptive learning, intelligent tutoring systems, and automated assessment is believed to support the improvement of students' digital literacy and critical thinking skills.[1] However, this rapid adoption also presents new challenges. Without sufficient understanding and AI literacy, students including those at the secondary level are at risk of becoming passive, dependent on AI-generated outputs, and less able to develop reflective thinking skills.[2] This issue forms an important rationale for responsible AI literacy initiatives such as the AIMAH program, which seeks to bridge digital transformation while maintaining students' cognitive maturity and ethical awareness.

Furthermore, although AI offers pedagogical benefits, the psychosocial impacts of its integration have begun to surface. Recent studies indicate that the use of AI in educational settings can affect users' mental well-being. For instance, research involving university students shows that AI and social media have an impact on mental well-being and their perceptions of academic workload. While AI can support learning, its excessive use or use without adequate literacy may lead to stress, social pressure, or reduced learning autonomy.[3] Furthermore, a 2025 study indicates that the rapid integration of AI into educational systems may give rise to a phenomenon known as *educational anxiety*, which refers to anxiety associated with shifting roles, heightened demands for adaptation, and digital pressures that pose a tangible risk to the psychological well-being of education stakeholders.[4] These facts indicate that the efficiency and convenience offered by AI do not automatically guarantee mental well-being; without adequate literacy and regulation, AI can instead become a source of anxiety and psychological dysfunction within the school environment.

Considering both the opportunities and risks, it is essential for educational institutionsparticularly those that prioritize holistic student development, such as your foundation to design AI literacy programs that go beyond technical skills and include ethical awareness, critical reflection, and emotional management. Programs such as the AIMAH initiative have the potential to address these needs by strengthening students' AI literacy so they

[1] Sinaga, N. E., Mahardhika Dealova, M., & Nediva, V. (2025). Pengaruh penggunaan Artificial Intelligence terhadap pendidikan anak usia sekolah: Tinjauan literatur. *Jurnal Empati, 13*(6).

[2] Zaini, M., Iskandar, et al. (2025). Integrasi kecerdasan buatan (AI) dalam pembelajaran: Dampaknya pada literasi digital dan berpikir kritis siswa. *Maulana Atsani: Jurnal Pendidikan Multidisipliner*.

[3] Suhaoping, A. A. P., & Patricia, E. (2025). Artificial Intelligence and Social Media on Academic Performance and Mental Well-being: Students' Perceptions of the Impact of the Era of Smart Learning. *Journal of Smart Education & Emerging Technologies*, 2025.

[4] Zhang, H., & Cao, J. (2025). From digital disruption to mental health: the impact of AI-induced educational anxiety on teacher well-being in the era of smart education. *BMC Public Health, 25*, 4010.

can use technology responsibly, while also supporting mental health and fostering independent learning. Thus, integrating AI literacy becomes an important effort to safeguard students' well-being, character, and psychological resilience in the digital era.

**B. ResearchMethod**

This study employed a qualitative case study approach to explore how responsible artificial intelligence literacy contributes to strengthening students' mental health within the context of the AIMAH program at Muthahhari Foundation. This design was selected due to the context-dependent and multifaceted nature of the research problem, which required an in-depth understanding of participants' experiences, perceptions, and meaning-making processes in a natural educational setting.[5] Data were collected through two main techniques: library research and in-depth, semi-structured interviews. Library research was used to examine relevant theories, concepts, and prior empirical findings from scholarly literature, peer-reviewed articles, academic books, and official documents on AI literacy and mental health, thereby forming a robust conceptual framework. Participants were selected through purposive sampling and included ICT teachers, students from elementary to high school levels, and mental health professionals, allowing for a comprehensive perspective on the integration of AI literacy and mental health support.

Data analysis followed a systematic process of data reduction and thematic analysis. Each interview transcript was reduced by selecting, simplifying, and focusing on information directly relevant to the core research themes, while irrelevant content was excluded. The reduced data were then analyzed thematically to identify patterns, relationships, and key concepts concerning the balance between AI literacy and student mental well-being. To ensure data validity and credibility, source triangulation was applied by cross-verifying information obtained from interviews with findings from library research and relevant literature. This rigorous analytical process aimed to generate a trustworthy and academically accountable understanding of how the AIMAH program integrates AI literacy, mental health, and Islamic educational values.[6]

Through this methodological framework, the study sought to produce a comprehensive model of balanced, responsible AI literacy that supports students' psychological resilience. The combination of qualitative inquiry, purposive sampling, thematic analysis, and triangulation allowed the research to capture both the depth and complexity of educational practices at the Muthahhari Foundation. Ultimately, this approach provided a strategic foundation for

[5] Robert K. Yin, *Case Study Research and Applications: Design and Methods*, 6th ed. (Thousand Oaks, CA: Sage Publications, 2018), 15-18.

[6] Matthew B. Miles, A. Michael Huberman, and Johnny Saldaña, *Qualitative Data Analysis: A Methods Sourcebook*, 4th ed. (Thousand Oaks, CA: Sage Publications, 2020), 275-280

formulating sustainable educational policies and practices that harmonize technological competence with mental health preservation in the digital era.

## C. Result and Discussion

### 1. Progressive and Systematic AI Literacy Curriculum as a Foundation for Responsible Technology Use

The findings of this study reveal that the Muthahhari Foundation has implemented an AI literacy curriculum that is not only progressive and tiered from elementary to high school levels but also deeply integrated with ethical awareness and humanistic values. At the elementary level, students are introduced to educational games and Scratch Junior, which aligns with Papert's concept of constructionism, where learning occurs through exploration, manipulation, and direct engagement with digital objects.[7] This approach is developmentally appropriate for children in the concrete operational stage, as described by Piaget, during which learners acquire knowledge most effectively through visualization and hands-on experimentation.[8] By grounding early AI literacy in playful yet structured activities, the school fosters curiosity and basic computational thinking without overwhelming young learners with abstract concepts.

At the junior and senior high school levels, the curriculum advances toward more complex competencies, including video editing, blog creation, and even introductory machine learning concepts. This progression reflects the higher-order thinking skills outlined in Bloom's Digital Taxonomy, particularly the categories of creating, evaluating, and analyzing.[9] The use of generative AI tools such as ChatGPT, Gemini, and DeepSeek is framed not as a shortcut to answers but as a stimulus for critical thinking and creative expression. Teachers consistently emphasize that AI must be used to enhance cognitive processes, not replace them, a principle that resonates with metacognition theory, which underscores the importance of self-reflection and conscious control over one's learning processes.[10]

Furthermore, the school integrates digital ethics and legal awareness into every stage of AI literacy instruction. Students are taught about digital codes of conduct, the potential risks of AI, and the moral responsibility that accompanies technology use. This ethical grounding ensures that AI literacy is not reduced to mere technical proficiency but becomes a vehicle for responsible citizenship. Empirical studies support this approach,

[7] Seymour Papert, *Mindstorms: Children, Computers, and Powerful Ideas* (New York: Basic Books, 1980), 8-10.

[8] Jean Piaget, *The Psychology of the Child* (New York: Basic Books, 1972), 45-48.

[9] Andrew Churches, "Bloom's Digital Taxonomy," *Tech & Learning Journal* (2008): 2-4.

[10] John H. Flavell, "Metacognition and Cognitive Monitoring," *American Psychologist* 34, no. 10 (1979): 906-911.

showing that when AI literacy includes ethical components, students demonstrate greater awareness of privacy, bias, and the social implications of AI.[11] The Muthahhari Foundation's model thus offers a practical example of how schools can prepare students for a digital future without compromising their moral and cognitive development.

The systematic nature of this curriculum also allows for continuous reinforcement of key concepts across grade levels. Younger students learn basic digital safety and game-based coding, while older students engage with complex AI tools and ethical dilemmas. This scaffolding effect is crucial for long-term retention and for building what scholars call *critical digital agency* the ability to understand, evaluate, and take responsibility for one's digital actions.[12] In summary, the progressive and ethics-oriented AI literacy curriculum at Muthahhari Foundation serves as a strong foundation for responsible technology use, directly supporting students' cognitive and psychological preparedness for the digital era.

**2. Synergy Between AI Literacy and Mental Health Promotion Activities**

One of the most distinctive findings of this study is the deliberate synergy between AI literacy programs and mental health promotion activities at the Muthahhari Foundation. While many schools focus exclusively on the technical aspects of AI, this foundation integrates practices such as yoga, regular sports, outdoor learning, and "fun student hours" into the weekly schedule. These activities are designed to support emotional balance, reduce stress, and enhance social interaction among students. The underlying principle is that technological competence must be accompanied by psychological resilience, especially in an era where digital pressures and information overload are increasingly linked to anxiety and burnout among young learners.[13]

The school's humanistic blended-learning approach ensures that AI is positioned as a learning partner, not a replacement for human interaction. Teachers report that they intentionally design lessons to balance screen time with collaborative, offline activities that require face-to-face communication and emotional expression. This approach is consistent with Rogers' humanistic education paradigm, which emphasizes the centrality of authentic relationships in the learning process.[14] When students feel emotionally safe and socially connected, they are better equipped to engage with challenging technologies

[11] O. Zawacki-Richter et al., "Systematic Review of Research on Artificial Intelligence in Higher Education," *International Journal of Educational Technology in Higher Education* 16, no. 39 (2019): 12-15.

[12] Juliana Raffaghelli, "Developing Critical Digital Agency in Education," *British Journal of Educational Technology* 51, no. 4 (2020): 1111-1125.

[13] I. S. Nasution, M. C. Susilo, and N. A. Husnan Tengku, *Kesehatan Mental Remaja dan Tantangan Sosial-Digital: Analisis Literatur untuk Rekomendasi Kebijakan Kesehatan* (2025), 7-10.

[14] Carl Rogers, *Freedom to Learn* (Columbus, OH: Merrill, 1969), 103-105.

like AI without experiencing fear, dependency, or alienation. The school's mental health activities thus function as a protective buffer against the potential psychosocial risks of AI use.

Moreover, interviews with students revealed that they prefer sharing personal stories and emotional concerns with friends or teachers rather than with AI systems. This finding challenges the assumption that young people are eager to anthropomorphize AI or use it for emotional support. Instead, students demonstrated a clear distinction between using AI for information-seeking and relying on human relationships for emotional well-being. This distinction is crucial because it indicates that the school's emphasis on human-centered values has been internalized by students. Research has shown that when adolescents lack such distinctions, they may become vulnerable to social comparison, digital isolation, and even depression.[15]

The integration of outdoor learning and physical activities also contributes to cognitive benefits. Studies have consistently demonstrated that physical exercise and exposure to natural environments improve executive function, reduce stress hormones, and enhance mood.[16] By embedding these activities within the same weekly schedule as AI literacy lessons, the school creates a holistic rhythm that prevents digital fatigue and supports sustained attention. Students reported that they enjoy "fun student hours" as a time to relax, play, and interact without screens, which they perceived as a necessary break from technology-intensive learning.

In conclusion, the synergy between responsible AI literacy and structured mental health activities at the Muthahhari Foundation represents a best practice for holistic education in the digital age. This integrated model ensures that students are not only digitally competent but also emotionally resilient, socially connected, and physically healthy. Other educational institutions seeking to implement AI literacy should consider adopting similar complementary mental health strategies to mitigate the risks of technological overuse and to foster well-rounded development.

**3. Critical Digital Agency and Self-Regulation as Protective Factors Against AI Dependency**

The findings demonstrate that students at the Muthahhari Foundation are not passive consumers of AI-generated content but active, critical users who cross-check information across multiple AI applications. All 35 students surveyed reported using AI

[15] N. A. Shofiyyah and M. Ulum, *Digital Literacy and Critical Thinking in Adolescents: A Literature Review* (2025), 14-17.

[16] W. Holmes, M. Bialik, and C. Fadel, *Artificial Intelligence in Education* (Boston: Center for Curriculum Redesign, 2019), 55-58.

tools such as ChatGPT, Gemini, and Meta AI, yet they also indicated that they verify AI responses by comparing them with outputs from other sources. This behavior reflects the development of *critical digital agency*, a concept that refers to the ability to understand, evaluate, and take responsibility for one's interactions with digital technologies.[17] Students are taught that AI is a neutral tool capable of producing both accurate and misleading information and that final responsibility for any decision or assignment rests with the human user.

This critical stance is reinforced by the school's emphasis on self-regulated learning (SRL). Research has shown that students who maintain a healthy balance between SRL and AI literacy are better able to use AI effectively without becoming overly dependent.[18] Those who are "too AI-inclined" risk losing their ability to think independently, while those with strong SRL but weak AI literacy may fail to leverage AI's benefits. At Muthahhari Foundation, teachers explicitly train students to set learning goals, monitor their own understanding, and reflect on how AI tools either support or hinder those goals. This metacognitive training is woven into ICT lessons and reinforced across subjects.

Importantly, the study found that students use AI primarily for informational purposes—such as preparing religious mini-lectures, finding recipes, seeking life tips, or answering general knowledge questions—rather than for emotional support or completing high-stakes assignments without oversight. This pattern of use suggests that students have internalized the principle that AI should function as a supportive tool, not a substitute for personal effort or critical thinking. One student noted that they enjoy interacting with AI for entertainment or "sharing stories," but this was described as casual amusement, not as a meaningful emotional exchange. Such discernment is a key indicator of healthy AI literacy.

From a theoretical perspective, these findings align with Flavell's metacognition theory, which emphasizes that effective learners monitor and regulate their cognitive processes.[19] When students apply these metacognitive skills to AI use, they are less likely to experience the educational anxiety described in recent literature, which arises when learners feel overwhelmed by the demands of adapting to AI or fear that they cannot keep pace with technological change.[20] By fostering critical digital agency and self-regulation,

[17] Raffaghelli, "Developing Critical Digital Agency," 1115-1117.

[18] Long, Zhang, Shijun, and Chen, *Synergizing Self-Regulation and Artificial-Intelligence Literacy Towards Future Human-AI Integrative Learning* (2025), 22-25.

[19] Flavell, "Metacognition and Cognitive Monitoring," 908.

[20] H. Zhang and J. Cao, "From Digital Disruption to Mental Health: The Impact of AI-Induced Educational Anxiety on Teacher Well-Being in the Era of Smart Education," *BMC Public Health* 25 (2025): 4010.

the school proactively prevents the development of dependency, plagiarism, and the erosion of higher-order thinking skills.

In summary, the combination of critical digital agency and self-regulated learning serves as a powerful protective factor against the risks of AI dependency. Students at Muthahhari Foundation are equipped not only with technical skills but also with the cognitive and ethical frameworks necessary to use AI wisely. This balanced approach should be considered a model for other schools aiming to integrate AI literacy without compromising students' intellectual independence or mental well-being.

**4. Humanistic Blended Learning: Preserving the Teacher-Student Relationship in the Age of AI**

A central theme emerging from the discussion is the school's deliberate effort to preserve the human essence of education while leveraging AI's computational power. The Muthahhari Foundation adopts a humanistic blended-learning model that positions AI as a learning partner but ensures that teachers remain the primary guides, mentors, and emotional anchors for students. This approach directly addresses a concern raised by Biesta (2015), who warns against the reduction of education to a technocratic process focused solely on efficiency and measurable outcomes.[21] According to Biesta, good education requires attention to three domains: qualification (knowledge and skills), socialization (becoming part of traditions and communities), and subjectification (becoming an autonomous, responsible person). The school's model attends to all three, with AI supporting qualification while teachers and peers facilitate socialization and subjectification.

Interviews with ICT teachers, Mr. Azhar and Mr. Yogi, revealed that prompt-engineering training for educators is a key component of this model. Teachers are trained not only to use AI tools themselves but also to guide students in asking better questions, evaluating AI outputs critically, and recognizing when human judgment is required. This professional development aligns with research by Gudmundsdottir & Hatlevik (2018), who found that teachers' digital readiness is a critical factor in successful technology integration.[22] Without such training, teachers may feel threatened by AI or, conversely, become overly reliant on it for lesson planning and assessment, thereby diminishing their own professional agency.

[21] Gert Biesta, *Good Education in an Age of Measurement: Ethics, Politics, Democracy* (London: Routledge, 2015), 16-19.

[22] G. B. Gudmundsdottir and O. Hatlevik, "Newly Qualified Teachers' Professional Digital Competence," *European Journal of Teacher Education* 41, no. 2 (2018): 214-231.

The school's philosophy is also informed by the perspective of KH. Jalaluddin Rakhmat, who asserts that education is an inner transformation rather than a mere transfer of information. This spiritual and humanistic lens ensures that technology serves human flourishing rather than replacing it. Students reported that they value their teachers' guidance and emotional support, stating that they prefer to share personal stories and concerns with teachers rather than with AI. This finding challenges the notion that AI chatbots could or should replace human mentors. Instead, it supports the concept of *human-centered AI*, which emphasizes that technology should be designed to augment human capacities, not replace human relationships.[23]

Furthermore, the humanistic blended-learning model prevents what might be called "dehumanized learning" a state where students interact primarily with screens and algorithms, losing the social and emotional dimensions of education. Research has shown that when students feel emotionally connected to their teachers and peers, they demonstrate higher motivation, better academic performance, and lower rates of anxiety and depression.[24] By maintaining small group discussions, outdoor activities, and "fun student hours," the school ensures that AI use is embedded within a rich social context. Students learn that while AI can provide information quickly, it cannot offer empathy, moral guidance, or genuine encouragement.

In conclusion, the humanistic blended-learning model adopted by the Muthahhari Foundation offers a sustainable and psychologically safe approach to AI integration. It recognizes that technology is a tool, not a teacher, and that the heart of education remains the relationship between learners and caring adults. This model provides a valuable counterbalance to the prevailing discourse of AI-driven educational efficiency and should be replicated by other institutions seeking to protect students' mental health in the digital era.

**5. Implications for Educational Policy and Future Practice**

The findings of this study carry significant implications for educational policy at both institutional and systemic levels. First, the Muthahhari Foundation's model demonstrates that AI literacy cannot be taught as an isolated technical subject; it must be embedded within a broader curriculum that includes digital ethics, self-regulation, and mental health support. Policymakers should consider developing national or regional guidelines for AI literacy that explicitly include these components, moving beyond the

[23] Ben Shneiderman, "Human-Centered AI," *International Journal of Human-Computer Interaction* 36, no. 6 (2020): 495-504.

[24] Holmes, Bialik, and Fadel, *Artificial Intelligence in Education*, 67-70.

narrow focus on coding and data science that currently dominates many K-12 AI initiatives.[25] Without such guidelines, schools may inadvertently produce students who are technically proficient but lack the critical awareness and emotional resilience needed to navigate the digital world safely.

Second, the study highlights the urgent need for intensive, ongoing professional development for teachers. Educators at Muthahhari Foundation received training in prompt engineering, AI ethics, and the psychosocial impacts of technology. This training enabled them to guide students effectively and to model responsible AI use. Unfortunately, many schools globally have rushed to adopt AI tools without adequately preparing teachers, leading to confusion, anxiety, and inconsistent implementation.[26] Policymakers and school administrators must allocate resources for teacher training programs that address both the technical and pedagogical dimensions of AI literacy, as well as strategies for safeguarding student mental health.

Third, the integration of mental health activities such as yoga, sports, outdoor learning, and social hours should be considered a standard complement to any technology-intensive curriculum. The findings suggest that these activities are not merely optional "extras" but essential components that prevent digital fatigue, reduce stress, and promote emotional balance. Schools that increase screen time and AI use without corresponding investments in physical and social activities risk exacerbating the adolescent mental health crisis already documented in the literature.[27] A balanced weekly schedule that alternates between technology-based learning and offline, interactive, or physical activities appears to be a protective factor against educational anxiety.

Fourth, the study underscores the importance of assessing not only academic outcomes but also psychological well-being when evaluating AI literacy programs. Schools should regularly survey students about their digital habits, emotional responses to AI use, and perceptions of dependency or anxiety. These data can inform continuous improvement and early intervention for at-risk students. The Muthahhari Foundation's practice of conducting student interviews and surveys provides a replicable model for other institutions seeking to monitor the mental health implications of AI integration.

Finally, comparative research across different schools, regions, and age groups is needed to identify which specific configurations of AI literacy and mental health support are most effective. While this case study provides rich qualitative insights, larger-scale

[25] X. Gu and B. J. Ericson, *AI Literacy in K-12 and Higher Education in the Wake of Generative AI: An Integrative Review* (2025), 30-33.

[26] Zhang and Cao, "From Digital Disruption to Mental Health," 4015-4017.

[27] Nasution, Susilo, and Husnan Tengku, *Kesehatan Mental Remaja*, 18-20.

quantitative studies could examine correlations between specific AI literacy practices and measurable mental health outcomes such as anxiety scales, self-esteem scores, or social connectedness metrics. Such research would provide an evidence base for policymakers and educators seeking to implement best practices. In the meantime, the Muthahhari Foundation's holistic, humanistic, and ethics-oriented approach offers a compelling blueprint for education in the age of artificial intelligence.

**D. Conclusion**

This study concludes that the Muthahhari Foundation has successfully implemented a progressive, tiered, and ethically grounded AI literacy curriculum from elementary to high school levels, which significantly contributes to strengthening students' mental health. The findings demonstrate that when AI literacy is taught not merely as a technical skill but as an integrated framework encompassing digital ethics, critical thinking, and self-regulation, students develop what scholars term *critical digital agency* the ability to understand, evaluate, and take responsibility for their interactions with AI technologies. Students at the foundation actively cross-check AI-generated information, distinguish between using AI for informational purposes and relying on human relationships for emotional support, and avoid over-dependence on automated outputs. This responsible approach to AI use directly prevents the emergence of educational anxiety, digital dependency, and the erosion of higher-order thinking skills, all of which have been identified in recent literature as growing psychosocial risks in technology-intensive learning environments.

Furthermore, the deliberate synergy between AI literacy programs and structured mental health promotion activities including yoga, regular sports, outdoor learning, and "fun student hours" creates a holistic educational rhythm that supports emotional balance, social connection, and physical health. The foundation's humanistic blended-learning model ensures that AI is positioned as a learning partner rather than a replacement for human interaction, preserving the centrality of the teacher-student relationship as the heart of the educational process. Students reported feeling emotionally safe, valuing their teachers' guidance, and preferring to share personal concerns with friends and teachers rather than with AI systems. This finding challenges the notion that AI chatbots could or should replace human mentors and instead supports the concept of human-centered AI, which emphasizes that technology should augment human capacities without diminishing the relational and spiritual dimensions of education. By embedding AI literacy within a rich social and emotional context, the foundation effectively prevents dehumanized learning, digital isolation, and the loss of authentic human connection.

In conclusion, the Muthahhari Foundation's holistic, humanistic, and ethics-oriented approach to AI literacy offers a compelling and replicable model for other educational

institutions seeking to prepare students for the digital era without compromising their psychological well-being. The study's implications for educational policy are clear: AI literacy curricula must go beyond coding and data science to include digital ethics, self-regulation, and mental health support; teachers require intensive, ongoing professional development in prompt engineering, AI ethics, and the psychosocial impacts of technology; and schools must integrate physical activities, outdoor learning, and social hours as essential complements to technology-intensive learning. Comparative and longitudinal research is needed to further validate this model across different contexts and to measure its long-term effects on both academic outcomes and mental health indicators. Nevertheless, this study provides strong evidence that responsible AI literacy, when implemented synergistically with mental health promotion and humanistic values, equips students to become not only technologically competent but also mentally resilient, emotionally balanced, and ethically responsible citizens of the digital age.

## Referensi


Biesta, G. (2015). *Good education in an age of measurement: Ethics, politics, democracy*. Routledge.

Churches, A. (2008). Bloom's Digital Taxonomy. *Tech & Learning Journal*, 1-4.

Flavell, J. H. (1979). Metacognition and cognitive monitoring. *American Psychologist*, 34(10), 906-911.

Gu, X., & Ericson, B. J. (2025). *AI literacy in K-12 and higher education in the wake of generative AI: An integrative review*.

Gudmundsdottir, G. B., & Hatlevik, O. (2018). Newly qualified teachers' professional digital competence. *European Journal of Teacher Education*, 41(2), 214-231.

Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education*. Center for Curriculum Redesign.

Long, Zhang, Shijun, & Chen. (2025). *Synergizing self-regulation and artificial-intelligence literacy towards future human-AI integrative learning*.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). Sage Publications.

Nasution, I. S., Susilo, M. C., & Husnan Tengku, N. A. (2025). *Kesehatan mental remaja dan tantangan sosial-digital: Analisis literatur untuk rekomendasi kebijakan kesehatan*.

Papert, S. (1980). *Mindstorms: Children, computers, and powerful ideas*. Basic Books.

Piaget, J. (1972). *The psychology of the child*. Basic Books.

Raffaghelli, J. (2020). Developing critical digital agency in education. *British Journal of Educational Technology*, 51(4), 1111-1125.

Rogers, C. (1969). *Freedom to learn*. Merrill.

Shneiderman, B. (2020). Human-centered AI. *International Journal of Human-Computer Interaction*, 36(6), 495-504.

Shofiyyah, N. A., & Ulum, M. (2025). *Digital literacy and critical thinking in adolescents: A literature review*.

Sinaga, N. E., Mahardhika Dealova, M., & Nediva, V. (2025). Pengaruh penggunaan artificial intelligence terhadap pendidikan anak usia sekolah: Tinjauan literatur. *Jurnal Empati*, 13(6).

Suhaoping, A. A. P., & Patricia, E. (2025). Artificial intelligence and social media on academic performance and mental well-being: Students' perceptions of the impact of the era of smart learning. *Journal of Smart Education & Emerging Technologies*, 2025.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.

Zaini, M., Iskandar, et al. (2025). Integrasi kecerdasan buatan (AI) dalam pembelajaran: Dampaknya pada literasi digital dan berpikir kritis siswa. *Maulana Atsani: Jurnal Pendidikan Multidisipliner*.

Zawacki-Richter, O., et al. (2019). Systematic review of research on artificial intelligence in higher education. *International Journal of Educational Technology in Higher Education*, 16(39), 1-27.

Zhang, H., & Cao, J. (2025). From digital disruption to mental health: The impact of AI-induced educational anxiety on teacher well-being in the era of smart education. *BMC Public Health*, 25, Article 4010.