

ORIGINAL ARTICLE

Cultural Approach to Artificial Intelligence Literacy in Gen Z Students

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Receive Date: 05/Oct/2025
Revise Date: 10/Dec/2025
Accept Date: 05/Jan/2026
Publish Date: 21/Mar/2026

How to cite:

Talaei, M. Dortaj, F. Toofaninejad, E. Sharifi, S. Yousefi, Z. (2026). Cultural Approach to Artificial Intelligence Literacy in Gen Z Students, *Technology and Scholarship in Education*, 6 (1), 20, 1-4. <https://doi.org/10.30473/t-edu.2026.76040.1344>

ABSTRACT

The present study purposed to identify the components of artificial intelligence literacy in Generation Z students with a cultural approach and within the framework of qualitative research using the inductive qualitative content analysis method based on the Braun & Clarke (2006) model. Based on the principle of theoretical saturation, 10 experts in the field of study were interviewed using a purposive sampling method dependent on the semi-structured interview criterion. To assess data validation, two methods were used: double-coder review, review by experts not participating in the research, and return to the interviewees. The data were analyzed through several stages of open and axial coding. To analyze the qualitative research data, the content analysis form was used through the MAXQDA₂₀₂₂ software. The results showed that the components of AI literacy in Generation Z students with a cultural approach include 6 categories of components: awareness of cultural orientation, sensitivity to cultural differences, caring literacy, cultural responsibility, cultural future-building with AI, and cultural flexibility. The findings show that AI literacy for Generation Z should not be limited to technical skills but should also have a socio-cultural approach.

KEYWORDS

AI literacy, Generation Z, Cultural Approach.



Introduction

AI literacy is a notable topic in education, especially with the rise of information technology. Integrating AI into classrooms raises pedagogical and ethical concerns for Generation Z. AI literacy initiatives have significantly increased in primary and secondary education over the past five years (Goenka et al., 2024). For Generation Z, AI literacy is not just an educational need but a response to cultural challenges. Teaching it requires a cultural approach that incorporates value-based, identity-related, and local contexts. This ensures students understand AI's cultural, ethical, and social implications and take responsibility. Evidence, particularly outside Iran, highlights the importance of culture in AI literacy (Sultan et al., 2025; Kong et al., 2023). This cultural approach adapts materials to students' cultural characteristics, improving self-image and socio-cultural awareness (Gay, 2018). It bridges learners' culture and computer science (Miller, 2014). Key issues algorithmic bias, privacy threats, declining deep thinking and creativity, and AI-driven consumer culture stem from a lack of cultural AI literacy. Addressing this is essential for AI education in Iranian society. This research aims to examine AI literacy among Iran's Generation Z students from a cultural perspective, identify key components, and provide a framework. It can inform educational and cultural policymaking in emerging technologies.

Method

This study employed inductive qualitative content analysis based on Braun and Clarke's (2006) model. The population included university professors, AI engineers, and programmers. Using criterion-based purposive sampling, theoretical saturation was achieved with 10 participants, selected for their expertise in AI education and cultural diversity. Heterogeneous sampling maximized diversity of ideas. Validity and reliability were assessed through intercoder agreement, participant feedback, and external auditing. Data were analyzed using MAXQDA 2022.

Results

The cultural approach to AI literacy for Generation Z yielded six components:

1. **Awareness of Cultural Orientation** – Understanding how training data may reflect cultural, ethnic, or gender biases.
2. **Sensitivity to Cultural Differences** – Recognizing how AI algorithms may behave differently across cultures.
3. **Care Literacy of Culture** – The ability to recognize, predict, and mitigate AI's asymmetric impacts on different cultural lifeworlds, acknowledging AI as a "culture-maker."
4. **Cultural Responsibility** – Recognizing cultural principles in AI design and use, including privacy, transparency, fairness, and awareness of cultural laws and norms.
5. **Cultural Future-Making with AI** – Acknowledging the undeniable role of educational institutions, media, and families in guiding youth toward responsible AI use.
6. **Cultural Flexibility** – Understanding cultural dynamics and their reciprocal influence on AI advancement, despite unequal access to resources and infrastructure.

Discussion and conclusion

The findings indicate that for effective AI literacy education among Generation Z students, administrators, curriculum developers, and educators should prioritize six cultural components: cultural flexibility, future-making, cultural responsibility, care literacy, sensitivity to cultural differences, and awareness of cultural orientation.

AI literacy for Generation Z must extend beyond technical skills to adopt a socio-cultural approach. These components help students become responsible creators of technology, not just consumers, enabling a more just and inclusive future. Teaching this literacy requires an integrated curriculum combining computer science, social sciences, and technology ethics.

This article's cultural approach to AI literacy has innovative applications in education, technology, and policy. It supports interdisciplinary curricula, multicultural AI systems that avoid bias, and ethical-legal frameworks for responsible AI use.

The main innovation is integrating AI literacy with often-overlooked cultural concepts. Introducing ideas like cultural future-making and care literacy positions AI as a socially transformative tool. Emphasis on cultural flexibility and sensitivity suggests algorithmic designs that avoid stereotypes. This opens future research on AI's impact on youth cultural identity and human-centered technology.

A practical educational suggestion is designing "multicultural interactive stories" using AI, allowing students to create digital narratives reflecting diverse cultures, fostering creativity and critical literacy.

This study did not assess the current state of cultural AI literacy in the educational system. Due to its qualitative nature, generalizability is limited, and the study is restricted to 2024–2025. Caution is advised when generalizing findings.

Funding

This research received no specific funding from any public, commercial, or not-for-profit agency.

Authors' Contribution

The sole author was responsible for the study's conceptualization, methodology, data collection, analysis, writing, and final approval of the manuscript.

Conflict of Interest

The author declares no conflict of interest regarding the publication of this article.

Reference

- Eguchi, A., Okada, H., & Muto, Y. (2021). Contextualizing AI education for K-12 students to enhance their learning of AI literacy through culturally responsive approaches. *KI-Künstliche Intelligenz*, 35(2), 153-161.
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice*. teachers college press.
- Goenka, N., Patnaik, D., & Pradhan, B. B. (2024). Impact of Artificial Intelligence on Virtual Teacher Learner Engagement: Redefining Educational Dynamics. In *AI Algorithms and ChatGPT for Student Engagement in Online Learning* (pp. 192-207). IGI Global.

- Kong, S. C., Korte, S. M., & Cheung, W. M. Y. (2023). Nurturing Artificial Intelligence Literacy in Students with Diverse Cultural Backgrounds. In *International Conference on Innovative Technologies and Learning* (pp. 13-21). Cham: Springer Nature Switzerland.
- Miller, O. (2014). It's deeper than rap, toward culturally responsive CS. *XRDS: Crossroads, The ACM Magazine for Students*, 20(4), 28-30.
- Sultan, Y., Dautova, G., & Dalle, J. (2025). Examining the Relationship Among Artificial Intelligence Literacy, Cultural Literacy, and Intercultural Communication Proficiency of Philology Students. *Journal of Ethnic and Cultural Studies*, 12(5), 345-362.