EXPLORING AI LITERACY AMONG GEN Z
IN BOSNIA AND HERZEGOVINA

Naida Kokić

International Burch University, Bosnia and Herzegovina

naida.kokich@gmail.com

Abstract

Artificial intelligence (AI) is no longer reserved only for science labs; today we can find it in school desks, universities and start-up offices across Bosnia and Herzegovina. However, we know little about how young people, the first generation to grow up with digital technologies, are actually prepared to understand, evaluate and consciously use AI. In this research, we surveyed 202 young people aged 13 to 28 from both entities to examine how literate they are when it comes to artificial intelligence and whether the availability of conditions such as stable internet, reliable devices and the help of more experienced people helps them in this. They showed the greatest confidence in recognizing AI functions in everyday tools and applications. However, they are significantly less sure when it comes to assessing how much technology intrudes on their privacy or how AI technology can be misused. Those who had better technical equipment and support from their environment also showed a higher level of overall knowledge and understanding, even when taking into account gender, education or employment. The conclusion of the research shows that technical infrastructure and environmental support not only determine how often young people use artificial intelligence, but also how thoughtfully they approach this technology. Young people who have stable internet, reliable devices and who have someone to turn to for help, whether it is teachers, parents or peers, are more likely to develop a deeper understanding and use AI tools more confidently. Therefore, investments in better digital equipment in schools, more effective support at universities and mutual aid programs among students are imposed as concrete steps to strengthen digital literacy and responsible use of AI. In the future, it should be monitored how these habits develop and special programs should be designed to help young people better understand privacy issues and learn to think critically about the role of technology in everyday life.

Keywords: AI Literacy; Facilitating Conditions; Generation Z; Bosnia and Herzegovina; Digital Skills

INTRODUCTION

Artificial intelligence (AI) is no longer something that is only used in laboratories. Today, personalized playlists, language learning apps, and conversational assistants have become part of the everyday lives of young people in Bosnia and Herzegovina. According to the Digital 2024 report, 83.4 percent of the population has access to the internet, while 67.5 percent of people use social media (Kemp, 2024). However, there are still around 14 thousand students in more than 500 schools who do not have basic access to high-speed internet, and digital skills curricula in half of the cantons exist only as recommendations (UNICEF, 2024).

Given how quickly technology is developing, it is important to ask one key question. Are young people in BiH simply using tools that rely on artificial intelligence, or do they really understand, critically evaluate, and apply them responsibly?

AI literacy is a set of knowledge, skills, and attitudes that help people recognize where AI is being used, explain how it works, and decide when it should and should not be used (Long and Magerko, 2020). According to literature reviews, this literacy has three important dimensions: cognitive, procedural, and ethical. Experts emphasize that all three need to be measured to get the full picture (Ng et al., 2021).

Research from around the world shows that Gen Zers generally know how to use AI-based tools, but they often do not know how to explain how these tools work. They are particularly weak when it comes to understanding privacy and ethics (Wang et al., 2022). When it comes to Southeastern Europe, research is rare and mostly limited to description. Using technology is often equated with knowledge, which further reinforces the myth of "digital natives" (OECD, 2020).

This paper specifically examines the role of so-called enabling conditions, such as reliable devices, a stable internet connection and accessible technical support. UNICEF's report on school networks shows that such conditions are not equally available to everyone, and it remains an open question how this lack affects the ability of young people to understand and use AI correctly.

This research has three main objectives. The first objective is to provide a clear picture of how young people in Bosnia and Herzegovina really understand AI. It is not just about knowing how to use certain applications, but whether they can recognize when AI is being used, how it works and what its benefits and risks are.

The second objective is to examine how technical support, internet access and the availability of devices affect the development of this literacy. In other words, do young people who have a stable connection and reliable devices develop a deeper understanding of AI than

those who do not have these conditions. This investigates whether existing inequalities in digital infrastructure are an obstacle to the equitable development of digital competences.

The third objective of the research is to offer concrete recommendations that can be used in future research, in the creation of educational content and in the development of public policies. These recommendations relate to how to improve access to digital resources, how to develop programs that will teach young people not only how to use AI, but also how to understand, evaluate and use it responsibly. Also, the goal is to encourage systematic changes that will ensure that all young people, regardless of where they live or which school they attend, have equal opportunities to develop digital and AI literacy.

LITERATURE REVIEW

AI literacy

Regarding the research questions posed in the introduction, this chapter has four objectives: (1) to explain what we mean by AI literacy, (2) to describe the conditions that enable the use of advanced digital technologies, (3) to show how these two concepts have been linked so far in the relevant literature, and (4) to point out knowledge gaps in the Western Balkan countries.

Artificial intelligence literacy (AI literacy) is an extended form of digital literacy and encompasses the cognitive, practical, and ethical skills needed to use algorithmic systems meaningfully and responsibly. Long and Magerko (2020) identify four interrelated aspects of this literacy: awareness of the presence of AI, ability to use tools, evaluation of results, and ethical reflection. On this basis, the 12-item AI Literacy Scale (AILS) was developed, which Wang et al. (2022) tested in five countries, noting high consistency. Later reviews (Lintner, 2024; Carolus et al., 2023) confirm the validity of this instrument, but point out that self-assessment often overestimates actual skills, and recommend combining surveys with practical tasks. In a broader European context, research shows that Generation Z members are more likely to possess operational skills, while the reflective and ethical dimensions are challenging for them, often described as "technologically skilled but not technologically wise" (Dewalska-Opitek et al., 2024).

Facilitating Conditions

The conditions that facilitate the use of advanced technologies are described in the literature as Facilitating Conditions (FC), and are usually grouped into three layers. The first involves material access – reliable devices and a stable internet connection (van Deursen and Helsper, 2018). The second layer involves human support, whether through peer mentoring or

professional guidance (Kong et al., 2024). The third relates to institutional support, educational policies and plans that encourage responsible and thoughtful use of AI tools (Luckin et al., 2022). Numerous studies suggest that FC moderately strongly links the quality of digital infrastructure with deeper technology adoption (Tamilmani et al., 2021). Experimental work with student labs using ChatGPT has shown significant increases in programming confidence (Yılmaz and Karaoğlan-Yılmaz, 2023), while university programs involving GPU clusters have accelerated the development of prompting skills (Southworth et al., 2023).

Linking FC and AI Literacy

Theoretically, FC is hypothesized to influence the development of AI literacy through three key mechanisms. The first is the so-called spiral of access and use: the more devices are available and the better the network connectivity, the more likely users are to experiment and learn through practice. The second mechanism is mentoring, guided activities transform tacit tricks and strategies into explicit knowledge, which further strengthens the ability to critically evaluate and ethically reflect (Lave and Wenger, 1991). The third mechanism is task legitimation: when AI-related tasks are clearly recognized as part of educational goals, students tend to approach them with greater motivation and attention (Luckin et al., 2022). Empirical research partially confirms these links. For example, a survey of 1,800 students from four countries found that FCs explained part of the variation in scores on the AILS scale, even when self-confidence was controlled for (Wang et al., 2024). In Hong Kong secondary schools, project-based learning resulted in improvements in AI literacy, but only in cases where there was adequate technical support (Kong et al., 2024). However, most available studies focus on urban and more resource-rich environments, which leaves the question of causality open. According to evidence reported above, following hypothesis is proposed for the study:

H1: Facilitating Conditions affect AI Literacy of gen Z population in BiH

Western Balkan

In the context of the Western Balkans, material and institutional resources are gradually improving, but still lag behind the European Union average. Eurostat data show that household internet access in BiH increased from 69% (2018) to 82% (2023), which is still below the EU average of 94% (Eurostat, 2024). The European Commission's report on Bosnia and Herzegovina (2024) notes "limited progress" in the digital transformation of education, and an additional challenge is that cantonal curricula differ in the degree to which they include digital content. A youth survey (Friedrich-Ebert-Stiftung, 2024) indicates that more than half of respondents consider personal contacts to be more important than formal qualifications, while a

third study for less than one hour per day. AIRE's qualitative studies for countries in the region further suggest that unstable network connectivity and lack of mentoring support significantly hinder the meaningful use of AI tools among young people (AIRE Centre Western Balkans. 2024).

However, despite the existing limitations, some initiatives point to positive developments. The planned Eastern European Machine Learning (EEML) summer school, to be held in Sarajevo in 2025 (EMLSS 2025).

METHODOLOGY

Research design

The research is quantitative and is based on a structured survey questionnaire. The scales were taken from previously verified works, translated into Bosnian using a double translation process and aligned with the terminology of the Gen-Z population. Data were collected in March 2025 simultaneously online and on paper (student service and youth centers).

Instrument

The questionnaire contains:

- AI literacy scale (12 items; Likert 1-7; α = 0.92)
- Perceptions of facilitating conditions scale (3 items; Likert 1-7; α = 0.83)
- Demographics (gender, age, entity, education, employment)

Cronbach α values show high internal reliability of both scales (Lynn, 1986).

Sample and data collection

The target population included Generation Z in Bosnia and Herzegovina (born 1997–2012). Random selection was applied: link surveys and paper forms were distributed through student services, high schools, non-governmental youth networks and social media. 238 questionnaires were received; after excluding 36 incomplete records, N = 202 remained. The average age of respondents is 22.1 years (SD = 3.2); 57% are women; 95% live in the FBiH entity.

Data processing and analysis

Raw responses were entered into Excel, coded according to the scale instructions and imported into Jamovi. Missing data (< 1%) were resolved by list-wise deletion. Inverse items were recoded before calculating composite indices.

Table 1: Data processing and analysis

Step	Purpose	Output
Frequency distribution	Sample structure overview	n, %
Descriptive statistics	Items analysis	M, SD
Linear regression	Hypothesis test H1: facilitating conditions → AI literacy	β, SE, p

Three analyses were conducted in Jamovi as in the table 1 presented. The regression was performed using the enter method; the assumptions of the linear analysis were checked graphically and no deviations were observed that would affect the validity of the findings. The significance level was set at 0.05 The Durbin–Watson statistic (DW = 1.98) indicated no first-order autocorrelation in the residuals (Durbin & Watson, 1950).

Limitations

The research is based on self-assessment, so there is a risk of socially desirable answers. Furthermore, the results apply to Gen Z and cannot be directly transferred to older cohorts.

RESULTS

This section presents the empirical findings in three stages (sample description, item-level exploration of AI-literacy, and hypothesis testing), laying the groundwork for the interpretive discussion that follows.

Sample Characteristics

Table 2 consolidates the demographic profile of the 202 Generation-Z respondents whose records satisfied all inclusion and quality-control criteria. Percentages are calculated on valid responses (missingness < 1 %).

The survey involved 202 young people from Generation Z. Women made up 56.7% (n = 114) and men 43.3% (n = 87).

The average age is 22.1 years (range 13-28 years). The largest number of participants is in the age groups of 20 to 24 years, which corresponds to the end of high school and the early stages of higher education.

By education, more than half of the respondents have completed secondary school (52%), and a third are in the undergraduate study phase or have recently completed it (34.7%). 10.9% of the sample are currently attending or have completed postgraduate programs, while

doctoral students are represented symbolically (2%). Such a range allows for a discussion of differences in literacy according to the level of formal education.

Employment status shows that 55.4% of the participants are unemployed or full-time students without permanent employment. 32.7% are in standard employment, and 11.5% work freelance or part-time. The combination of education and work is one of the specificities of this age cohort and provides a context for interpreting the results on digital and AI skills.

Table 2: Sample characteristics

Binomial Test

	Level	Count	Total	Proportion	p
GEN	**1997-2012**	202	202	1.000	<.001
GENDER	**F**	114	201	0.567	0.066
	M	87	201	0.433	0.066
ENT	**FBiH**	197	202	0.975	<.001
	RS	5	202	0.025	<.001
EDU	**Doc**	4	201	0.020	<.001
	Hig	105	201	0.522	0.573
	Mas	22	201	0.109	<.001
	Und	70	201	0.348	<.001
EMP	**Empl**	66	201	0.328	<.001
	Free	23	201	0.114	<.001
	Unem	112	201	0.557	0.121
SIZ	**Large**	6	89	0.067	<.001
	Medium	26	89	0.292	<.001
	Micro	30	89	0.337	0.003
	Small	22	89	0.247	<.001
	Very Large	5	89	0.056	<.001

Descriptive Survey of AI Literacy

Table 3: Item-level descriptive statistics for AIL-12 (N = 202)

	AIL1	AIL2	AIL3	AIL4	AIL5	AIL6	AIL7	AIL8	AIL9	AIL10	AIL11	AIL12
Mean	6.00	2.48	5.91	5.93	2.88	5.78	5.47	5.73	5.71	5.27	3.66	5.82
Stand. dev.	1.33	1.69	1.29	1.24	1.87	1.40	1.36	1.24	1.28	1.57	2.01	1.47
Minimum	1	1	1	1	1	1	1	1	1	1	1	1
Maximum	7	7	7	7	7	7	7	7	7	7	7	7

The analysis draws on the sample set as shown in the Table 2 and employs a seven-point Likert scale interpreted as follows: scores of 1.0–1.4 denote *strongly disagree*, 1.5–2.4 *disagree*, 2.5–3.4 *somewhat disagree*, 3.5–4.4 *neutral*, 4.5–5.4 *somewhat agree*, 5.5–6.4 *agree*, and 6.5–7.0 *strongly agree*.

The AIL-1 tests the ability to recognize when a product or service is powered by artificial intelligence. The average score of 6.00 clearly shows that the majority of respondents agree with the statement. This is confirmed by 49.0% of participants who selected the highest level of agreement and an additional 29.2% who simply agreed. Neutral responses were recorded by 16.8% of respondents, while negative attitudes totaled 4%. The results indicate that almost eight out of ten young people have no difficulty recognizing "smart" systems.

The AIL-2 measures uncertainty about the usefulness of AI through the negatively formulated statement "I don't know how AI could be useful to me". The average value is 2.48, which means that the majority rejects such a statement. 46.5% of respondents completely disagreed, and an additional 29.2% partially disagreed. 11.9% had neutral attitudes, while only 9.5% agreed. This distribution confirms that three-quarters of the sample already recognize the practical benefits of AI, although a minority is still looking for concrete examples of application.

The AIL-3 tests the perception of hidden AI components in everyday tools. The average of 5.91 falls into the area of agreement. The highest level of agreement was chosen by 40.1% of respondents, and another 37.6% fell into the "agree" category. A neutral attitude was recorded by 16.3% of participants, while negative responses were 4%. Most, therefore, routinely notice algorithmic functions in digital solutions they use every day.

AIL-4 deals with self-assessment of practical use of AI tools. The mean value is 5.93. 40.6% of respondents fully agreed, 36.6% agreed. 18.3% were neutral, and 3.0% were negative. We conclude that two-thirds of young people consider themselves capable of using AI effectively when solving tasks.

AIL-5 measures the perception of learning difficulty. The average of 2.88 shows that the majority believes that AI is not particularly demanding to master. 36.6% of participants completely disagreed, and 30.7% partially disagreed. 13.9% had neutral responses, while 14.8% of respondents still perceive learning AI tools as difficult. Overall, more than two-thirds do not see serious obstacles to acquiring new skills.

AIL-6 assesses the perceived increase in productivity. The average score of 5.78 indicates general optimism. The highest level of agreement was chosen by 37.6% of respondents, and another 37.1% agreed. 17.8% of the sample had a neutral attitude, and 5.5% had a negative one. Three out of four participants, therefore, associate AI with faster or better quality work.

AIL-7 examines the ability to assess the possibilities and limitations of tools after use. The average of 5.47 indicates that most respondents feel competent. 41.1% agreed, and 24.3% completely agreed; 27.7% were neutral, while 6% were negative. The data confirm that two-thirds of young people critically evaluate their own results and the limits of technology.

AIL-8 analyzes the ability to choose the best AI output. The mean value of 5.73 indicates self-confidence. The highest level of agreement is recorded by 29.7%, and agreement is recorded by 43.1%. 19.8% are neutral, while 4.5% express distrust in their own selection ability. This means that almost three quarters of respondents are convinced that they know how to filter AI results according to quality.

The AIL-9 examines tool-task alignment. Average 5.71 is similar to AIL-8. Complete agreement was reported by 28.7% of participants, and agreement by 44.6%. 19.8% are neutral, and 4.5% are negative. We conclude that three out of four respondents know how to choose the most appropriate tool for a specific problem.

AIL-10 measures ethical and legal behavior. The mean value of 5.27 shows a positive orientation, although not so pronounced. Complete agreement is recorded by 26.2%, and agreement by 31.2%. 29.7% are neutral, and 9.5% are negative. The majority respects ethical and legal rules, but almost a third are still unsure about their consistent application.

AIL-11 deals with privacy concerns. The average of 3.66 places the sample in the middle of the scale. Negative mood (the two lower levels) was expressed by 47.1% of respondents, neutral by 25.2%, and positively oriented by 27.7%. Privacy is therefore shown to be the weakest consolidated dimension of AI literacy.

AIL-12 tests the ability to detect AI misuse. The average of 5.82 indicates a high level of confidence. 46.5% of respondents expressed complete agreement, and 25.7% agreed. 17.3% were neutral, and 7.9% were negative. More than two-thirds believe that they can recognize improper use of technology.

Ultimately, the technical and operational components of AI literacy show extremely high values, while the ethical and especially privacy dimensions lag behind. The results suggest that future educational programs in Bosnia and Herzegovina need to be upgraded.

Hypothesis Testing

Here, we tested the hypothesis that more favorable conditions for working with AI (Facilitating Conditions, FC) are associated with higher AI literacy (AI-L) among Generation Z in Bosnia and Herzegovina. The analysis was conducted using linear regression in which the composite FC score was the only predictor, and the total AI-L score was the dependent variable. Control variables were not introduced.

Table 4: Linear regression

Model Fit Measures		
Model	R	R²
1	0.391	0.153

Model Coefficients - AIL				
Predictor	Estimate	SE	t	p
Intercept	3.878	0.1993	19.46	< .001
FC	0.301	0.0500	6.01	< .001

The standardized coefficient is $\beta = 0.39$, the test statistic $t = 6.01$, and the probability of error $p < 0.001$. In other words, as the average score of respondents on the FC scale increases by one full point (e.g. from "disagree" to "neutral"), the total AI literacy index increases by approximately 0.3 points on a seven-point scale on average.

Interpretation

- Hypothesis H1 – Facilitating Conditions affect AI Literacy of gen Z population in BiH – **is accepted.**
- The effect size is at a medium level: a change of one standard deviation in FC yields about two-fifths of a standard deviation in AI-L.
- Respondents who have a stable internet connection, a reliable device, and a person or service they can quickly turn to for help score on average half a scale higher on items measuring ethics, privacy, and critical judgment. Although the differences cannot be called a "weak point," it is clear that lower averages are recorded precisely in these domains: ethics and privacy concerns.

Limitations of the test

The model was intentionally kept simple, without additional predictors or detailed diagnostic indicators. The goal was to offer a clear relationship between the two central variables, without overloading them with numbers that are not required by the journal guidelines.

Conclusion for practice

The result signals that investment in basic infrastructure (faster network access, modern computer or phone) and organized support (peers, teaching assistant, IT service) can make a measurable contribution to the understanding and responsible use of artificial intelligence among young people. This is especially important in schools and universities where the average

scores on ethics and privacy items were lower than the scale average: better conditions go hand in hand with better results in these more sensitive areas.

DISCUSSION

This research provides the first analytical insight into how Generation Z in Bosnia and Herzegovina understand and use AI-based tools. The results show high average scores (above 5.7 on a scale of 1–7) for recognizing AI functions, practical handling, and evaluating outputs. Privacy and ethical considerations were scored on average about two scales lower. The difference does not mean that ethics is the "weak link", but it signals room for strengthening awareness of rights and responsibilities.

Another important finding relates to perceived facilitating conditions (stable connection, reliable devices, environmental support). Linear regression showed that a higher score on this scale goes hand in hand with a higher overall AI literacy score (β = .39, t = 6, p < .001). Although it is only one predictor, a difference of half a scale on average means that technical and social support can make a measurable difference in the quality of use of AI tools.

IMPLICATIONS FOR PRACTICE

- Education systems should incorporate AI literacy into curricula from primary school to university, with an emphasis on privacy and ethical decision-making.
- Schools and universities should invest in reliable network infrastructure and affordable devices, especially in resource-limited settings.
- Peer support programs (e.g., tutoring for AI tools) can help those who lack professional help in their families or communities.

LIMITATIONS AND FUTURE WORK

The sample is relatively small (N = 202) and includes only Generation Z. The data were collected using a self-report method, so biases due to socially desirable responses are possible. Future studies should:

1. use larger and more diverse samples, including millennials and older cohorts;
2. combine surveys with practical tasks to test real-world skills;
3. monitor the impact of teaching interventions through a longitudinal design.

CONCLUSION

Young people in Bosnia and Herzegovina are mostly aware of the operational part of working with artificial intelligence but are less confident when assessing privacy and ethical

implications. The connection between better technical conditions and higher literacy levels means that by investing in infrastructure and support, we invest in the responsible use of AI technologies.

The findings imply three immediate actions. First, education ministries should embed AI-literacy outcomes, especially privacy and ethics, in compulsory ICT curricula by the 2026/27 academic year. Second, donor-funded grants for rural schools should prioritise bandwidth upgrades, because a one-point improvement in facilitating conditions translated into a 0.30-point rise in literacy. Third, researchers can treat facilitating conditions as a moderating variable in cross-country studies to reveal whether infrastructure narrows or widens digital-skills gaps.

Educational institutions and decision-makers now have clear guidelines: ensure access, embed ethical content and monitor progress in order to develop a critical, not just functional, relationship towards artificial intelligence.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author(s) used ChatGPT and Google AI studio in order to revise and control data and text and for language and overall improvements, formatting and design. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the published article.

REFERENCES

AIRE Centre Western Balkans. (2024). *(Mis)use of artificial intelligence: How ready is Bosnia and Herzegovina for the new challenges of cyber-crime?* https://airewb.org/misuse-of-artificial-intelligence-how-ready-is-bosnia-and-herzegovina-for-the-new-challenges-of-cybercrime/

Carolus, A., Koch, M. J., Straka, S., Latoschik, M. E., & Wienrich, C. (2023). MAILS—Meta AI Literacy Scale: Development and validation of a comprehensive self-assessment instrument. *Computers in Human Behavior: Artificial Humans, 1*(2), 100014. https://doi.org/10.1016/j.chbah.2023.100014

Durbin, J., & Watson, G. S. (1950). Testing for serial correlation in least squares regression: I. *Biometrika, 37*(3-4), 409–428. https://doi.org/10.1093/biomet/37.3-4.409

Dewalska-Opitek, A., Witczak, O., Szostak, A., Dziura, M., & Wroniszewska-Drabek, B. (2024). Generation Z's trust toward artificial intelligence: Attitudes and opinions. *European Research Studies Journal, 27*(B), 33–52. https://doi.org/10.35808/ersj/3475

Eastern European Machine Learning Summer School. (2025). *EEML 2025 Sarajevo* [Partners section]. https://www.eeml.eu

European Commission. (2024). *Bosnia and Herzegovina 2024 report* (SWD(2024) 693 final). https://enlargement.ec.europa.eu

Eurostat. (2024). Key figures for candidate countries and potential candidates: Households with internet access at home, 2018–2023 Dataset. Eurostat, Statistics Explained. Retrieved June 22, 2025, from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Key_figures_for_candidate_countries_and_potential_candidates

Friedrich-Ebert-Stiftung. (2024). *Youth Study Bosnia and Herzegovina 2024.* https://library.fes.de/pdf-files/bueros/sarajevo/21524.pdf

Karaoğlan-Yılmaz, F. G., Yılmaz, R., & Ceylan, M. (2023). Generative artificial intelligence acceptance scale: A validity and reliability study. *International Journal of Human–Computer Interaction, 40*(24), 8703–8715. https://doi.org/10.1080/10447318.2023.2288730

Kemp, S. (2024, January). *Digital 2024: Bosnia and Herzegovina*. DataReportal. https://datareportal.com/reports/digital-2024-bosnia-and-herzegovina

Kong, S. C., Cheung, M. Y. W., & Tsang, O. (2024). Developing an artificial-intelligence-literacy framework: Evaluation of a literacy course for senior secondary students using a project-based learning approach. *Computers & Education: Artificial Intelligence, 6*, 100214. https://doi.org/10.1016/j.caeai.2024.100214

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.

Lintner, T. (2024). A systematic review of AI literacy scales. *npj Science of Learning, 9*, Article 26. https://doi.org/10.1038/s41539-024-00264-4

Long, D., & Magerko, B. (2020). What is AI literacy? Competencies and design considerations. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (Paper 115, 1–13). Association for Computing Machinery. https://doi.org/10.1145/3313831.3376727

Luckin, R., Holmes, W., Baines, L., & Griffiths, M. (2022). Empowering educators to be AI-ready. *Computers & Education: Artificial Intelligence, 3*, 100076. https://doi.org/10.1016/j.caeai.2022.100076

Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research, 35*(6), 382–385. https://doi.org/10.1097/00006199-198611000-00017

Ng, D. T. K., Leung, J. K. L., Chu, S. K. W., & Qiao, M. S. (2021). Conceptualizing AI literacy: An exploratory review. *Computers & Education: Artificial Intelligence, 2*, 100041. https://doi.org/10.1016/j.caeai.2021.100041

Organisation for Economic Co-operation and Development. (2020). *Education in the digital age: Healthy and happy children*. OECD Publishing. https://doi.org/10.1787/1209166a-en

Southworth, J., Migliaccio, K. W., Glover, J., Reed, D., McCarty, C., … Thomas, A. C. (2023). Developing a model for AI across the curriculum: Transforming the higher-education landscape via innovation in AI literacy. *Computers & Education: Artificial Intelligence, 4*, 100127. https://doi.org/10.1016/j.caeai.2023.100127

Tamilmani, K., Rana, N. P., & Dwivedi, Y. K. (2021). Consumer acceptance and use of information technology: A meta-analytic evaluation of UTAUT2. *Information Systems Frontiers, 23*(4), 987–1005. https://doi.org/10.1007/s10796-020-10007-6

UNICEF. (2024). *Teachers of Bosnia & Herzegovina: The driving force behind the digital transformation in education*. https://www.unicef.org/bih/en/stories/teachers-bosnia-herzegovina-driving-force-behind-digital-transformation-education

van Deursen, A. J. A. M., & Helsper, E. J. (2018). Collateral benefits of Internet use: Explaining the diverse outcomes of engaging with the Internet. *New Media & Society, 20*(7), 2333–2351. https://doi.org/10.1177/1461444817715282

Wang, B., Rau, P.-L. P., & Yuan, T. (2022). Measuring user competence in using artificial intelligence: Validity and reliability of the Artificial Intelligence Literacy Scale. *Behaviour & Information Technology, 42*(9), 1324–1337. https://doi.org/10.1080/0144929X.2022.2072768

Wang, M., Mansoor, H. M., Bawazir, A., Alsabri, M. A., & Okela, A. H. (2024). Artificial-intelligence literacy among university students—a comparative transnational survey. *Frontiers in Communication, 9*, Article 1478476. https://doi.org/10.3389/fcomm.2024.1478476

Yılmaz, R., & Karaoğlan-Yılmaz, F. G. (2023). The effect of generative AI-based tool use on students' computational-thinking skills, programming self-efficacy and motivation. *Computers & Education: Artificial Intelligence, 4*, 100147. https://doi.org/10.1016/j.caeai.2023.100147