

Co-Designing Media Education Strategies A Workshop on AI and Information Literacy

Maria Ranieri¹, Stefano Cuomo¹ and Gabriele Biagini^{1†}

¹ University of Florence, Florence, Italy

Abstract

This article discusses a pilot workshop on the impact of Artificial Intelligence on the media and information system, conducted as part of the European project "TADAM: Tools and Awareness about (Dis)information, Algorithms, and Media." Designed as part of a two-and-a-half-day of the MED Summer School (associazione Italiana di Media Education) on Artificial Intelligence and Media Education, the workshop gathered 20 participants—primarily educators and PhD students— and focused on Generative Artificial Intelligence (GAI), fake news, and media education. The goal was to foster a critical understanding of GAI tools in the media and information production landscape, promote the ability to consciously generate content using GAI, and facilitate the transfer of this experience to both school settings and active, informed citizenship. The workshop adopted David Merrill's principles of instructional design, focusing on "learning by doing" and co-design, where participants were actively involved in practical tasks and problem-solving activities. This methodological approach emphasized media production and reflection, fostering design thinking and strategic reflection on the role of AI in media and educational contexts. The main objective was to collaboratively articulate media education strategies, including best practices around the use of algorithms and AI in media environments. Participants engaged in a series of activities that combined hands-on media production with critical analysis, resulting in the co-design of a set of operational guidelines. These guidelines, aimed at enhancing the understanding and use of AI tools in media education, provided practical strategies for application in diverse educational settings. Emphasizing metacognition and reflection, the workshop encouraged participants to critically assess AI's influence on media for fostering informed and active citizenship. The workshop concluded with a plenary session to create guidelines for Expert prompter. Through this experience, participants developed a deeper understanding of the challenges AI poses to information and the tools needed to address them in an educational context.

Keywords

Media education, Fake News, Generative Artificial Intelligence, Instructional design, learning by doing

1. Introduction

1.1. Fake news, misinformation, or disinformation?

The rapid growth of Artificial Intelligence (AI), particularly Generative AI (GenAI), has sparked significant debate over its potential impacts on various sectors, including the media and information landscape. Since the launch of tools like ChatGPT-3.5 in late 2022, the capabilities of GenAI have drawn both enthusiasm for their potential benefits and concern about their potential harms [1,2]. Some experts have even raised alarms about existential risks posed by advanced AI technologies [3,4]. However, a more immediate and pressing concern is the potential negative impact of GenAI on news consumption and production, as many media outlets have already integrated GenAI into their processes by mid-2023. The ability of GenAI to create compelling narratives and content raises new challenges in distinguishing between high-quality news and deceptive content, such as fake

AIXEDU – 2nd International Workshop on Artificial Intelligence System in Education – 25-28 November 2024, Bolzano, Italy

* Corresponding author.

✉ maria.ranieri@unifi.it (M.Ranieri); stefano.cuomo@unifi.it (S.Cuomo); gabriele.biagini@unifi.it (G.Biagini)

ORCID 0000-0002-8080-5436 (M.Ranieri); 0000-0003-3174-7337 (S.Cuomo); 0000-0002-6203-122X (G.Biagini)

© 2024 Copyright for this paper by its authors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).



news or tabloid-like clickbait. These developments suggest that GenAI may inadvertently amplify the attractiveness of misleading information, shifting consumer attention away from reliable news sources toward deceptive content.

Fake news, often understood as fabricated information created to mislead, has become an increasingly pervasive issue in the digital age. Disinformation, a subset of fake news, involves the deliberate dissemination of false information with the intent to deceive, while misinformation refers to the spread of false information believed to be true by the sender [5,6,7]. The widespread propagation of fake news, particularly through social media channels such as Facebook, Twitter, YouTube, and WhatsApp, has transformed the landscape of information dissemination over the past decade [8,9,10]. This transformation has led to a surge in misleading or false content that can incite violence, manipulate public opinion, and even influence elections, highlighting the urgent need for effective detection and countermeasures against such disinformation.

Within this context, research on the intersection of generative AI and fake news is critical, as advanced AI algorithms are increasingly utilized both to create and to detect deceptive content [11]. Understanding how generative AI can be used to craft convincing fake narratives is vital for developing more effective counter-strategies and assessing the ethical implications of AI-driven misinformation.

Recognizing these challenges, the TADAM project ("Tools and Awareness about (Dis)information, Algorithms, and Media") was initiated by a consortium of nine European partners to foster a bottom-up approach in enhancing media literacy across Europe. The project aims to exchange media literacy policies, collect good practices, and co-design innovative educational resources that address the issues of algorithms and AI in the media and information system. Through an initial European seminar and a series of regional and cross-sectoral workshops, TADAM seeks to engage diverse stakeholders—including researchers, media professionals, educators, and IT platforms—in developing adaptive strategies to mitigate the impact of AI-enabled disinformation. The current study, part of this broader initiative, explores the effectiveness of one such workshop in building capacity for media information literacy (MIL) related to AI.

1.2. The Role of the Critical Prompter in Combating Misinformation

In the context of combating misinformation, the concept of the "critical prompter" emerges as a vital countermeasure. Critical prompting, fundamentally, involves the strategic crafting of inputs to elicit desired responses or behaviours from AI systems. Within educational settings, this translates into designing prompts that not only engage learners but also challenge them to think critically and creatively. By leveraging critical prompting, AI can be transformed from a passive repository of information into an interactive tool that fosters deeper learning and understanding [12].

The relevance of critical prompting in education is increasingly significant as AI tools become more sophisticated and integrated into learning environments. Effective prompting empowers educators to guide AI interactions in ways that enhance the educational experience, create tailored learning scenarios, and adapt to the diverse needs and abilities of individual students, making learning more engaging and impactful [13]. This approach not only deepens students' understanding of subject matter but also sharpens their critical thinking skills—an essential competency in a fast-paced, ever-evolving world.

As studies have shown, teaching students how to effectively prompt AI systems can help them recognize the limitations of these technologies, thereby fostering AI literacy [14]. Moreover, integrating critical prompting into education has the potential to create highly interactive and playful learning environments, particularly when combined with game-based learning strategies [15].

In the field of prompting, methodologies such as Zero-Shot and Few-Shot prompting have emerged as effective techniques. Zero-Shot prompting involves providing a simple, straightforward input to an AI model without extensive details, useful for broad or general problems. Conversely, Few-Shot prompting enriches the input with multiple examples, guiding the AI more precisely in

complex queries where specific ideas or data are available. These techniques exemplify the experimental and evolving nature of critical prompting, where continuous refinement of prompts leads to improved outputs and learning experiences [16].

Given the relevance of critical prompting for media and information literacy to contrast misinformation, this workshop aimed to promote participants' critical prompting skills through the development of tools and methodologies designed to guide AI interactions in a way that supports accurate information dissemination and critical analysis. With this in mind the current study intended to address two key research questions:

RQ 1: What is the perceived relevance of the impact of GenAI on the media and information among participants?

RQ 2: What is the perceived effectiveness of the workshop's methodological approach in building capacity for media information literacy (MIL)?

2. Methodology

2.1. The workshop and the participants

The workshop was held as part of the XXXIII Summer School of MED – the Italian Association for Media Education, in Modena, Italy, from 16 to 18 July 2024. Designed to address teachers, pedagogists, media educators, and PhD students, it was centered on the theme of artificial intelligence in the landscape of media literacy education [16,17,18,19,20,21]. The aim was to explore a classic media education topic such as fake news through the lens of the opportunities and challenges presented by Generative Artificial Intelligence (GAI).

Conducted over two and a half days, the workshop was embedded within a broader Summer School on Artificial Intelligence and Media Education, which featured 11 hours of workshops, alongside keynote speeches and presentations of various projects. This setting allowed for substantial experimentation with methodologies, which could be applied in subsequent Regional Workshops. The workshop aimed to achieve three primary objectives: fostering a critical understanding of GAI tools within the media and information production landscape, promoting the ability to consciously generate content using GAI, and facilitating the transferability of these skills to both educational settings and active, informed citizenship. Approximately 20 participants attended the workshop, with an average age of 35 (SD=4). The group included individuals with a background in teaching and media education, as well as several PhD students. All participants had a high level of education (bachelor's degree or higher) and a medium to good familiarity with Generative AI tools. They also had prior experience in content creation using large language models (LLMs) and image generation tools. The diverse yet specialized audience provided a dynamic environment for exploring the intersections between AI, misinformation, and media education.

2.2. The research instrument

To assess the outcomes of the workshop and answer the research questions, a structured questionnaire was administered to all participants at its conclusion. The questionnaire was developed using Google Forms and consisted of 9 items, in addition to a section for demographic information. The items were designed to measure two key areas: the perceived relevance of the workshop topic (4 items focused on the impact of Generative AI on media and information) and the perceived effectiveness of the workshop in enhancing media information literacy (MIL) capacity building (5 items). Responses were recorded on a 5-point Likert scale, where 1 represented "not at all" and 5 represented "a great deal." The questionnaire required approximately 15 minutes to complete, and all 20 participants provided responses. Detailed analyses of the individual items are presented in the results section.

2.3. The structure of the activities

To support the complex process of exploring the impact of Generative Artificial Intelligence (GAI) on media and misinformation, a robust educational framework was developed, drawing from diverse research traditions. The workshop was grounded in David Merrill's [22] principles of instructional design, emphasizing practical, hands-on activities and real-world problem-solving to facilitate learning. This framework was further enhanced by a "learning by doing" and co-design approach, aimed at generating effective media education strategies related to AI and algorithms. Participants were actively engaged in small-scale media production and reflection activities to stimulate design thinking and strategic consideration of AI's role in the media and educational landscape. Given the number of participants, four working groups were formed, each consisting of 4-5 members. The workshop followed a structured methodology designed to progressively build understanding and skills in the critical analysis and creation of media content in the context of GAI. The steps of the methodology were as follows:

1. **Icebreaking Activity (Activation: 30 minutes):** Participants started with an icebreaking activity where each person shared a true or false fact about themselves. This exercise was intended to activate critical thinking and engagement among the participants.
2. **Presentation of the Fake News Topic (Expert Documentation: 30 minutes):** The workshop continued with an introduction to the topic of fake news, providing participants with foundational knowledge and context.
3. **Online Search for Fake News (Personal Documentation: 1 hour):** Each group conducted an online search to identify a fake news item corresponding to an assigned category. This activity allowed participants to explore different types of misleading information firsthand.
4. **Generation of Fake News and Refinement of Prompting (Product Generation: 1.5 hours):** Participants then used GAI tools to generate their own fake news content, experimenting with prompts and refining their approach to maximize the content's deceptive qualities.
5. **Analysis of Productions (Product Analysis: 1.5 hours):** The groups conducted a cross-analysis of the fake news items created, using a predefined analysis grid to assess the effectiveness and characteristics of the generated content.
6. **Analysis of Generative Prompts (Process Analysis: 1.5 hours):** Participants examined the generative prompts used in the creation of fake news, applying specific labels to analyse their effectiveness and the potential for manipulation.
7. **Creation of Guidelines for "Critical Prompting" (Synthesis: 1.5 hours):** Finally, each group created five guidelines for "Critical Prompting" to enhance media analysis, drawing on the insights gained from the workshop. These guidelines were designed for application in both school contexts and active citizenship.

This structured approach provided participants with a comprehensive framework to critically engage with the capabilities and challenges of GAI in the context of media and misinformation, ultimately fostering a deeper understanding of how AI tools can be utilized responsibly in media education.

All the guidelines were subsequently presented in a plenary session, providing an opportunity for discussion and refinement. Additionally, participants' self-perception regarding their capacity-building was evaluated through an ad hoc questionnaire administered at the end of the workshop.



Figure 1 Examples of students “fake news” production during the workshop activities.

2.4. The EAVI taxonomy

To explore the impact of Generative AI on the media landscape, our workshop began with an "expert documentation" phase, allowing participants to delve into the topic of misleading news through a detailed taxonomy provided and explained during the session. This taxonomy, developed by EAVI (Media Literacy for Citizenship), categorizes ten distinct types of misleading news, each with unique characteristics, motivations, and potential impacts on audiences.

- Propaganda:** This type is often employed by governments, corporations, or non-profit organizations to influence attitudes, values, and knowledge. Propaganda appeals to emotions and can be either beneficial or harmful, depending on its intent. It has a high impact due to its ability to manipulate public opinion for political power.
- Clickbait:** Defined by eye-catching and sensational headlines designed to capture attention, clickbait often misleads readers, with the actual content not necessarily reflecting the headline. The primary motivation behind clickbait is generating ad revenue, and its impact is rated medium due to its widespread use and potential to distort information.
- Sponsored Content:** This is advertising disguised as editorial content, which can create a conflict of interest for legitimate news organizations. Consumers may not recognize it as advertising if it is not clearly labelled. Its motivation is monetary, and it is considered to have a medium impact on public perception and trust in news.
- Satire and Hoax:** Often intended as social commentary or humour, satire, and hoaxes vary widely in quality and clarity. The intended meaning may not always be apparent, and they can embarrass or mislead audiences who mistake them for factual news. They have a low impact, mainly motivated by humour or fun.
- Error:** Even established news organizations can make mistakes. These errors can damage credibility, offend audiences, or result in legal consequences. Reputable organizations typically issue corrections or apologies, and the impact is considered neutral.
- Partisan:** Partisan news interprets facts in a way that aligns with specific ideologies while claiming to be impartial. It privileges facts that support its narrative and often uses emotional or passionate language. This type of misleading news has a medium impact and is motivated by political or ideological goals.

- **Conspiracy Theory:** This type tries to explain complex realities as responses to fear or uncertainty, often rejecting expert opinions and authoritative evidence. Conspiracy theories are not falsifiable; attempts to refute them are often seen as further proof of the conspiracy. They have a high impact and are motivated by misinformation.
- **Pseudoscience:** Pseudoscience includes false or exaggerated claims, such as miracle cures or climate change denial, which often contradicts established scientific knowledge. These claims are motivated by financial gain and can have a high impact due to their potential to mislead public understanding of science.
- **Misinformation:** This category includes a mix of factual, false, or partially false content, often created with the intent to inform, although the author may not know the information is incorrect. Misinformation also encompasses false attributions, doctored content, and misleading headlines. It has a medium impact and is motivated by misinformation.
- **Bogus:** Refers to entirely fabricated content designed to intentionally deceive. This can include guerrilla marketing tactics, bot-generated comments, and counterfeit branding efforts driven by political or financial motivations. Bogus content is highly impactful due to its deliberate intent to mislead.

In addition to these ten types, the taxonomy also highlights several specific techniques used to mislead, such as false attribution (authentic content misattributed to incorrect events or people), counterfeit (imitation of reputable sources), misleading (discrepancies between content and its representation), and doctored content (altered media like photos or videos).

By engaging with this taxonomy, participants gained a comprehensive understanding of the various forms of misleading news, laying the groundwork for further exploration into the role of Generative AI in the creation and propagation of such content. This foundation informed subsequent workshop activities, where participants applied this knowledge to critically analyse and address the challenges of AI-enabled misinformation.

3. Results

3.1. RQ 1: Perceived relevance of the impact of GenAI on the media and information among participants?

The first research question (RQ1) aimed to assess the perceived relevance of the workshop topic, which focused on the impact of Generative Artificial Intelligence (GAI) on misinformation and media literacy, in various contexts. The participants were asked to rate the relevance of the topic for four key areas: educational contexts, local needs, potential stakeholders, and their professional background. The responses were gathered on a scale from 1 (not relevant) to 5 (highly relevant).

The data show a strong perceived relevance of the topic for educational contexts, with 14 out of 20 participants rating it as highly relevant (5). Six participants rated it as fairly relevant (4), indicating broad agreement on the importance of the topic for educational settings. The average relevance score for educational contexts was 4.65 (SD = 0.48).

In terms of local needs, participants expressed varied opinions. While 11 participants rated the topic as highly relevant (5), five participants gave a score of 4, and four participants rated it at a level of 3. The average score for local needs was 4.3 (SD = 0.56).

The relevance of the workshop topic for potential stakeholders, such as educational institutions, policymakers, and community organizations, received high ratings overall. Thirteen participants rated the topic as highly relevant (5), while six rated it as fairly relevant (4). Only one participant gave a score of 3. The average score for this category was 4.6 (SD = 0.49).

When considering the relevance of the topic to their professional background, participants also showed a generally positive response. Eleven participants rated the topic as highly relevant (5), six

participants rated it as fairly relevant (4), and three rated it at a level of 3. The average score was 4.25 (SD = 0.62). The following table (Table 1) summarises the results.

Table 1

Items, frequency, mean and standard deviation for “Perceived relevance of the impact of GenAI on the media and information.”

Item	Results	Mean	SD
Relevance for Educational Contexts	14 out of 20 rated 5; 6 rated 4	4,65	0,48
Relevance for Local Needs	11 out of 20 rated 5; 5 rated 4; 4 rated 3	4,3	0,56
Relevance for Potential Stakeholders	13 out of 20 rated 5; 6 rated 4; 1 rated 3	4,6	0,49
Relevance for Professional Background	11 out of 20 rated 5; 6 rated 4; 3 rated 3	4,25	0,62

3.2. RQ 2: Perceived effectiveness of the workshop on MIL capacity-building?

The second research question (RQ2) focused on evaluating the perceived effectiveness of the workshop in building capacity for media information literacy (MIL) related to AI. Participants were asked to rate their preparedness in several areas following the workshop, including promoting MIL skills around AI, increasing local knowledge about the workshop topic, facilitating training activities, fostering networking among stakeholders, and their interest in testing the workshop methodology in their professional contexts. Responses were rated on a scale from 1 (not at all prepared) to 5 (very well prepared).

Participants felt generally well-prepared to promote MIL skills related to AI following the workshop. Out of 20 responses, 11 participants rated their preparedness as a "5" (very well prepared), while 9 participants rated it as a "4". The average score for this item was 4.62 (SD = 0.49).

Regarding the ability to increase local knowledge on the workshop topic, participants again expressed strong confidence. Ten participants rated their preparedness as "5", while ten rated it as "4". The mean score for this item was 4.57 (SD = 0.49).

When asked about their preparedness to facilitate training activities on the workshop topic, the responses were more varied. Nine participants rated their preparedness as "5", eight participants rated it as "4", and three participants rated it as "3". The mean score was 4.48 (SD = 0.59).

The perceived effectiveness in fostering networking among stakeholders showed the greatest variation in responses. Seven participants rated their preparedness as "5", eight participants rated it as "4", and five participants rated it as "3". The mean score for this item was 4.29 (SD = 0.70).

Most participants expressed a strong interest in applying the workshop methodology in their professional contexts. Out of 20 responses, eight participants rated their interest as "5", eight rated it as "4", and four rated it as "3". The average score was 4.24 (SD = 0.75). The following table (Table 2) summarises the results.

Table 2

Items, frequency, mean and standard deviation for “Perceived effectiveness of the workshop on MIL capacity-building”

Item	Results	Mean	SD
Preparedness to Promote MIL Skills Around AI	11 rated 5; 9 rated 4	4,62	0,49
Preparedness to Increase Local Knowledge	10 rated 5; 10 rated 4	4,57	0,49

Preparedness to Facilitate Training Activities	9 rated 5; 8 rated 4; 3 rated 3	4,48	0,59
Preparedness to Foster Networking Among Stakeholders	7 rated 5; 8 rated 4; 5 rated 3	4,29	0,7
Interest in Testing Methodology in Professional Context	8 rated 5; 8 rated 4; 4 rated 3	4,24	0,75

4. Discussion

The findings of this study highlight the significant relevance and perceived effectiveness of the workshop in addressing the challenges posed by Generative AI (GenAI) in the media and information landscape. The high relevance scores across various dimensions—educational contexts, local needs, and stakeholder engagement—underscore the pressing concern about the impact of AI-driven misinformation. As noted in the introduction, the rapid proliferation of GenAI tools, such as ChatGPT-3.5, has amplified the potential for generating misleading information [1,2]. Participants in this study consistently rated the topic of the workshop as highly relevant, with particular emphasis on its importance for educational settings and for potential stakeholders. This finding aligns with the growing awareness of the role that educational institutions and policymakers must play in countering the spread of disinformation, a concern echoed by researchers like Kim and Dennis [5] and Reisach [7].

The workshop's perceived effectiveness in building capacity for media information literacy (MIL) also reflects a broader recognition of the need for practical skills to combat the spread of fake news and disinformation. The participants' preparedness to promote MIL skills around AI and to increase local knowledge suggests that the workshop successfully equipped them with the tools to address these challenges in their respective contexts. This is particularly important given the ability of GenAI to create compelling and deceptive narratives that can manipulate public opinion, as highlighted in previous studies [6,11].

However, the variability in participants' confidence in facilitating training activities and fostering networking among stakeholders indicates areas where additional support or resources may be needed. This finding suggests that while the workshop was effective in raising awareness and enhancing critical understanding, there is still a need for further development of practical strategies for engaging diverse stakeholders and conducting training sessions. As noted by Zafarani et al. [9], the complexity of misinformation and the rapid evolution of AI technologies require a dynamic approach that includes ongoing education, collaboration, and the development of adaptive strategies.

The interest in applying the workshop methodology in professional contexts reflects a willingness among participants to experiment with innovative approaches to MIL, yet also points to potential barriers, such as a lack of resources or support, which could limit the effectiveness of such efforts. This aligns with the broader challenge identified by Hunt and Gentzkow [10] in ensuring that educational interventions remain accessible and sustainable in diverse settings.

Overall, these findings suggest that while the workshop was effective in building capacity and raising awareness about the impact of GenAI on misinformation, further efforts are needed to strengthen practical skills and facilitate wider implementation of MIL strategies. Future research should focus on developing tailored interventions that address specific local needs and stakeholder dynamics, as well as exploring the ethical implications of using AI-driven tools in media education [8,11].

5. Limitations

This study has several limitations that should be considered when interpreting the findings. Firstly, it is important to emphasize that these conclusions cannot be applied uniformly given the characteristics of the participants (i.e., a convenience sample, therefore neither probabilistic nor

representative of the reference population). The participants were predominantly educators, media professionals, and PhD students with prior experience in media education and familiarity with AI tools. Therefore, the findings may not fully represent the broader population of educators or stakeholders who have less familiarity with Generative AI (GenAI) or media literacy concepts.

Secondly, the study relied on self-reported data collected through a questionnaire, which may be subject to response biases, such as social desirability bias, where participants might have rated the workshop more positively due to perceived expectations or a desire to align with group norms. Additionally, the questionnaire did not explore deeper qualitative insights into the participants' experiences, which could have provided a more nuanced understanding of the challenges and opportunities presented by the workshop methodology.

Thirdly, the workshop's effectiveness in building media information literacy (MIL) capacity was assessed immediately after the intervention. This approach does not account for the long-term retention of skills and knowledge gained or their practical application in professional settings. Future studies could incorporate follow-up assessments to evaluate the sustained impact of the workshop over time.

Finally, the study did not explore the specific contextual factors that might affect the applicability of the workshop methodology across different regions or educational settings. Factors such as local media environments, resource availability, and varying levels of digital literacy among stakeholders could significantly influence the perceived relevance and effectiveness of similar workshops.

Future research should address these limitations by expanding the sample size, incorporating a broader range of participants, using mixed-method approaches to gather both quantitative and qualitative data, and conducting longitudinal studies to assess the long-term impact of MIL capacity-building interventions.

6. Conclusion

This study explored the perceived relevance and effectiveness of a workshop on media information literacy (MIL) in the context of Generative AI (GenAI) and misinformation. The findings indicate that participants found the workshop topic highly relevant across multiple contexts, including educational settings, local needs, and among potential stakeholders.

The workshop was also perceived as effective in building participants' capacity to promote MIL skills related to AI, increase local knowledge, and apply the learning in their professional contexts. However, there remains a need for further support in facilitating training activities and fostering stakeholder networking, highlighting areas for improvement in future workshops. The study suggests that incorporating more practical strategies and resources could enhance the workshop's impact and better prepare participants to combat the spread of misinformation.

Future research should continue to investigate the role of educational interventions in countering AI-driven disinformation and explore new methodologies to enhance MIL capacity-building. Additionally, as AI technologies evolve, ongoing evaluation of their ethical implications and their effects on the media landscape will be crucial to developing adaptive and effective counter-strategies [1,2,11].

References

- [1] D. Acemoglu, Harms of AI, National Bureau of Economic Research Working Paper No. 29247, 2021.
- [2] G. Fergusson, C. Schroeder, B. Winters, & E. Zhou, Generating Harms: Generative AI's Impact & Paths Forward, Technical Report, Electronic Privacy Information Center, 2023.
- [3] C. I. Jones, The AI Dilemma: Growth Versus Existential Risk, Technical Report, Stanford Graduate School of Business, 2023.
- [4] R. Ngo, L. Chan, & S. Mindermann, The alignment problem from a deep learning perspective, arXiv preprint arXiv:2209.00626, 2022.

- [5] A. Kim, & A. R. Dennis, Says who? The effects of presentation format and source rating on fake news in social media, in: *MIS Quarterly*, vol. 43, no. 3, 2020, pp. 1025–1039.
- [6] P. Moravec, R. A. Minas, & A. R. Dennis, Fake news on social media: People believe what they want to believe when it makes no sense at all, in: *MIS Quarterly*, vol. 44, no. 4, 2020, pp. 1359–1390.
- [7] U. Reisach, The responsibility of social media in times of societal and political manipulation, in: *European Journal of Operational Research*, vol. 291, no. 3, 2021, pp. 906–917.
- [8] P. Agarwal, R. Al Aziz, & J. Zhuang, Interplay of rumor propagation and clarification on social media during crisis events—A game-theoretic approach, in: *European Journal of Operational Research*, vol. 298, no. 2, 2022, pp. 714–733.
- [9] R. Zafarani, X. Zhou, K. Shu, & H. Liu, Fake news research: Theories, detection strategies, and open problems, in: *Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*, 2019, pp. 3207–3208.
- [10] H. Allcott, & M. Gentzkow, Social media and fake news in the 2016 election, in: *Journal of Economic Perspectives*, vol. 31, no. 2, 2017, pp. 211–236.
- [11] V. Suárez-Lledó, & J. Alvarez-Galvez, Prevalence of health misinformation on social media: Systematic review, in: *Journal of Medical Internet Research*, vol. 23, no. 1, 2021, pp. e17187. doi: 10.2196/17187.
- [12] U. Lee, H. Jung, Y. Jeon, Y. Sohn, W. Hwang, J. Moon, & H. Kim, Few-shot is enough: Exploring ChatGPT prompt engineering method for automatic question generation in English education, in: *Education and Information Technologies*, 2023. doi: 10.1007/s10639-023-12249-8.
- [13] B. Eager, & R. Brunton, Prompting higher education towards AI-augmented teaching and learning practice, in: *Journal of University Teaching & Learning Practice*, vol. 20, no. 5, 2023. doi: 10.53761/1.20.5.02.
- [14] E. Theophilou, C. Koyutürk, M. Yavari, S. Bursic, G. Donabauer, A. Telari, A. Testa, R. Boiano, D. Hernández-Leo, M. Ruskov, D. Taibi, A. Gabbiadini, & D. Ognibene, Learning to Prompt in the Classroom to Understand AI Limits: A Pilot Study, in: R. Basili, D. Lembo, C. Limongelli, & A. Orlandini (Eds.), *AIxIA 2023 – Advances in Artificial Intelligence*, Springer Nature Switzerland, 2023, pp. 481–496. doi: 10.1007/978-3-031-47546-7_33.
- [15] C.-H. Chen, V. Law, & K. Huang, Adaptive scaffolding and engagement in digital game-based learning, in: *Educational Technology Research and Development*, vol. 71, no. 4, 2023, pp. 1785–1798. doi: 10.1007/s11423-023-10244-x.
- [16] R. Luckin, M. Cukurova, C. Kent, & B. du Boulay, Empowering educators to be AI-ready, in: *Computers and Education: Artificial Intelligence*, vol. 3, 2022, pp. 100076. doi: 10.1016/j.caeai.2022.100076.
- [17] R. Hobbs, Teach the Conspiracies, in: *Knowledge Quest*, vol. 46, no. 1, 2017, pp. 16–24.
- [18] D. Buckingham, Teaching media in a ‘post-truth’ age: Fake news, media bias and the challenge for media/digital literacy education, in: *Culture and Education*, vol. 31, no. 2, 2019, pp. 213–231.
- [19] M. Ranieri, M. Di Stasio, & I. Bruni, Insegnare e apprendere sulle fake news. Uno studio esplorativo in contesto universitario, in: *Media Education*, vol. 9, no. 1, 2018, pp. 94–111.
- [20] S. Cuomo, G. Biagini, & M. Ranieri, Artificial Intelligence Literacy, che cos’è e come promuoverla. Dall’analisi della letteratura ad una proposta di Framework, in: *Media Education*, 2022. doi: 10.36253/me-13374.
- [21] N. Selwyn, The future of AI and education: Some cautionary notes, in: *European Journal of Education*, vol. 57, no. 4, 2022, pp. 620–631. doi: 10.1111/ejed.12532.
- [22] M. D. Merrill, First principles of instruction, in: *Educational Technology Research and Development*, vol. 50, no. 3, 2002, pp. 43–59.