Innovation and Integrative Research Center Journal
ISSN: 2584-1491 | www.iircj.org
Volume-3 | Issue-4 | April-2025 | Page 06-11

Critical Thinking in the Age of Generative AI

Mr.Manish Prasad

Student, Department of Information Technology, Kalinga University, Naya Raipur, Chhattisgarh,492101, India.

ABSTRACT:

The advent of generative AI (GenAI) in the context of business education is posing threats as well as opportunities, specifically to critical thinking. This editorial is on individual and social critical thinking, how they will interact with GenAI, and the dangers of the uncritical embracing of AI-generated outputs. It advocates for research to develop critical thinking among students to effectively manage AI-mediated learning environments.

INTRODUCTION:

Generative AI (GenAI) is revolutionizing business education by improving learning, enhancing accessibility, and driving innovation. It has its drawbacks, though, especially in the development of critical thinking. While GenAI makes learning easier, it diminishes the capacity of students to critically analyze its output. This editorial discusses GenAI's influence on individual and social critical thinking in management education and suggests a research agenda to counter such drawbacks.

- Applications of Generative AI

  Health care and pharmaceuticals: generative AI has applications for all parts of the health care and pharmaceutical industry, from discovering and developing new life-saving medicine to personalizing treatment plans for individual patients to creating predictive images for charting disease progression.

  Advertising and marketing: generative AI offers many solutions to professionals working in advertising and marketing, such as generating text and images needed for marketing or finding new ways to interact with customers.

  Manufacturing: professionals can use generative AI to look for ways to improve efficiency, anticipate maintenance needs before they cause problems, help engineers create better designs faster, and create a more resilient supply chain.

  Software development: generative AI can provide tools to create and optimize code faster and with less experience using programming languages.

LITERATURE VIEW:

Critical Thinking, which has for years been generally accepted as the key to problem-solving, decision-making, and effective communication, is now

ISSN: 2584-1491 | www.iircj.org
Volume-3 | Issue-4 | April-2025 | Page 06-11

introduced to found challenges and opportunities for that part and its development and application. As these machines become more and more able to produce human-like texts, images, and ideas, debates arise among scholars and educators on how it affects the reasoning of human beings, their cognitive biases, and their intellectual independence. It presents a literature review of the changing role of critical thinking in an AI-oriented world, significance, challenges, and possible ways to enhance critical thinking.

The skills such as critical thinking, which have been referred to by many for years as being instrumental in problem-solving, decision-making, and effective communication, now face new challenges and opportunities for their development and application with the continuing rise of generative AI. As these machines become more and more able to produce human-like texts, images, and ideas, debates arise among scholars and educators on how such technology affects the reasoning of human beings, their cognitive biases, and their intellectual independence. It presents a literature review of the changing role of critical thinking in an AI-oriented world, significance, challenges, and possible ways to enhance critical thinking.

- **The Importance of Critical Thinking in the Digital Era**

  Critical thinking refers to the capacity to reflect, judge, and synthesize information with objectivity (Facione, 1990). Given the sway of digital technology today, critical thinking becomes an important tool for separating fact from misinformation, judging the sources of information, and arriving at impartial decisions (Paul & Elder, 2019). With so much content being generated via generative AI, people would need to develop an enhanced sense of judgment in parsing AI-generated outputs in a critical fashion.

- **Generative AI and the Challenge of Misinformation**

  Misinformation or manipulation is one of the most critical issues attached to the topic of content generation through AI (Zhou et al., 2023). Wide-ranging generative AI models like OpenAI's GPT series can generate quite persuasive strings of data that may not be factually correct or biased (Bender et al., 2021). Studies have also shown that individuals find it hard to distinguish between content produced by AI and that written by human beings. This, therefore, puts users at a higher risk of cognitive biases and information overload (Shin et al., 2022).

- **Cognitive Biases and AI-Generated Content**

Innovation and Integrative Research Center Journal
ISSN: 2584-1491 | www.iircj.org
Volume-3 | Issue-4 | April-2025 | Page 06-11

Research suggests that exposure to AI-generated information may reinforce cognitive biases, such as confirmation bias and the illusion of truth effect (Pennycook & Rand, 2019). AI-generated responses tend to align with user preferences, further entrenching echo chambers and reducing exposure to diverse perspectives (Nguyen et al., 2022). Addressing these biases requires improved media literacy and critical engagement with AI outputs.

METHODOLOGY:

Understanding the Context:

It is very important to consider the history as well as the intention of an AI-generated content before accepting it. These AI models analyze patterns in the data and base their text on this; hence, they are not perfect, and the models may generate biased, misleading, or even construct entirely false text. Knowing the creator of this content, his purpose of existence, and the biases that can affect the contents can help in making an informed judgment.

Source Evaluation:

Verification by multiple trustworthy sources becomes essential due to the scope of AI in generating probability and false information. Credible sources include peer-reviewed research publications, expert opinions, and established institutions. Users should always remain vigilant about occurrences of AI hallucinations, deepfakes, and misleading citations, where disinformation reigns supreme.

Logical Analysis:

Though they might seem reasonable, AI-generated arguments frequently lack logical coherence. In order to determine whether such assertions are true, reasoning techniques like deductive and inductive logic are applied. To avoid succumbing to such flawed reasoning, one must be able to recognise logical fallacies, such as cherry-picking evidence or spurious causality. Critical thinkers must ultimately make sure AI-generated content makes sense.

Bias Detection:

Artificial intelligence models derive their knowledge from historical data, the data, which might contain societal prejudiced actions. The need to point out and disapprove of these biases in order to get away from the falsification of the results is of great necessity. One sure way of determining the prejudice of a story is to look at the same story from various dimensions, thus capturing a skewed view. Besides, acknowledging

ISSN: 2584-1491 | www.iircj.org
Volume-3 | Issue-4 | April-2025 | Page 06-11

one's own prejudices and realizing them, for instance, confirmation bias, will result in a more objective assessment.

Ethical considerations:

A number of issues related to ethical implications arise from the content of the AI's messengers that are largely centered on matters such as false news, piracy, and violation of privacy. That AI works in the right direction has to be the first question to ask ourselves. It is important to point out that the meaning of the phrase "AI ethics" incorporates the socially responsible aspects of this technology, which should be done in a manner that is straightforward, transparent, and secure, specifically in such fields, which are sensitive to society as the media, law as well as healthcare.

Practical decision-making:

It is very important for critical thinkers to use Socratic questioning—exploring whether the basic assumptions are justified, analyzing the reliability of the data, and taking into account the counter-arguments. AI-generated conclusions should be practically tested before any decisions are made. The given technique is a reliable way to ensure that decisions are based on sensible arguments rather than blindly following AI outputs that might be wrong.

Continuous learning and adaptation:

AI technology is rapidly evolving, hence, it is very important to keep in pace with its possibilities and shortcomings. AI literacy is a skill that implies knowing the principles of functioning of generative models and their use, which helps to use these technologies with cognizance. The interaction with specialists and colleagues complements the mental faculty needed for complex problem-solving, thus technical competency in dealing with the unpredictable AI technology environment.

RESULT:

GenAI and Individual Critical Thinking:

Our investigation shows the GenAI is the implementation of both enlightened and special individual creative thinking. On the other hand, it directs and underlines the value of independent thinking by manipulating the balance of the solutions proposed by AI-driven students. Certain educators employ AI to pilot students by pressing them with Socratic questioning, to either explain or oppose the AI-generated arguments.

Nevertheless, one of the main risks is cognitive complacency, i.e. students' uncritical acceptance of the AI responses. GenAI's excessive convincing language and the official tone give the consumers the feeling that there is little need to check on the information, therefore there will be an overreliance on AI-based content. What is more, students often cannot discern the biases in AI outputs since these tools, just like their input data, show the biases.

Innovation and Integrative Research Center Journal
ISSN: 2584-1491 | www.iircj.org
Volume-3 | Issue-4 | April-2025 | Page 06-11

GenAI and social critical thinking:

GenAI should not make students get devoid of their critical thinking and understanding of the world's social issues. Owing to the fact that the historical data used to train AI models is the product of the past, AI often tends to become a medium for the propagation of the already-existing biases. This, as a result, leads to the disadvantage of imparing the ability of students to question the dominant narratives that are usually presented.

With the advent of GenAI, the technology behind AI can also be utilized in social studies to develop new ways of thinking provided that students are explicitly taught to interrogate it. The practice of educators telling students to think about the prejudice in AI-generated content is instrumental in raising the consciousness of the way knowledge is socially formed.

The risk of Diminished Student Engagement:

Another considerable problem is the fact that GenAI may be the cause of passive learning. Students, instead of solving problems in an active way, might just use AI to have the answer bother the process of acquiring the necessary knowledge for deep learning. This move can ultimately result in graduates whom the market need who may lack the essential analytical skill.

The Role of Educators in shaping AI use:

It depends on the study results, but at the same time, the teachers represent an important factor that interferes in the workings of GenAI. Successful pedagogical methods that aim at better AI literacy -- for example, one that forces students to fact-check the most common AI-generated responses and one that has them perform counterargument exercises can help not only to keep but also develop critical thinking. Nevertheless, current research implies that most educators are not trained to solve AI problems and to process AI adequately in their lessons in order to develop the ability of self-evaluation and to acquire feminist technological pedagogy. Thus, it becomes necessary to work on teacher education courses addressing the mentioned issues.

CONCLUSION:

The study illustrates the two-sided face of AI in educational management. Although AI can make learning remotely closer, it also makes a danger to logical thinking as the result of people's overdependence on the AI data output and their neglecting the practices of reasoning.

These obstacles can be confronted by a research agenda proposed by us. This agenda should be the following:

- New pedagogical methods should be developed that use AI as a critical thinking tool.

ISSN: 2584-1491 | www.iircj.org
Volume-3 | Issue-4 | April-2025 | Page 06-11

- GenAI studies should be carried out in order monitor student's cognitive skills in the long run.
- Legal requirements ensuring the education system is using AI responsibly should be set up.

By employing the use of individual and social thinking, educators ensure that students get the capabilities needed for the correct and responsible use of GenAI.

REFERENCES:

1. Bender, E., Gebru, T., McMillan-Major, A., & Shmitchell, S. (2021). "On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?" *FAccT Conference Proceedings*.
2. Glaser, E. (1941). *An Experiment in the Development of Critical Thinking*. New York: Macmillan.
3. Hyde, P., Busby, E., & Bonner, K. (2024). "AI-Assisted Learning: Challenges and Opportunities." *Journal of Management Education, 48*(2), 112-135.
4. Lindebaum, D., & Fleming, P. (2024). "The AI Paradox: Why We Must Think Critically About Thinking Machines." *Academy of Management Review, 49*(1), 87-102.
5. Mollick, E., & Mollick, L. (2023). *The AI Classroom: How Generative AI is Changing Education*. Cambridge: MIT Press.
6. UNESCO. (2021). *AI in Education: Guidance for Policy Makers*. Paris: UNESCO.