

APPLYING CHATGPT IN EDUCATION: OPPORTUNITIES AND CHALLENGES FOR LOGICAL THINKING, THE ABILITY TO CONSIDER FEEDBACK AND COMPARE OF LEARNERS

Ngo Thuy Ngan
Hanoi Metropolitan University

Abstract: *In the digital transformation era, AI plays a growing role in education. Language models such as ChatGPT offer opportunities to enhance learners' logical thinking, self-expression, and analytical skills. This paper analyzes both the benefits such as encouraging questioning, multi-perspective thinking, and reasoning and the risks, including over-reliance, reduced autonomy, and difficulties in verifying information. It proposes pedagogical approaches for using ChatGPT as a supportive tool to foster independent thinking rather than replacing it, aiming to build a creative and effective learning environment in the digital age.*

Keywords: *AI technology; ChatGPT; education; learners; logical thinking.*

Nhận bài ngày 05.07.2025; gửi phản biện, chỉnh sửa, duyệt đăng ngày 26.9.2025

Liên hệ tác giả: Ngô Thúy Ngan ; email: ntngan@daihocthudo.edu.vn

1. INTRODUCTION

In the context of digital transformation taking place strongly around the world, the education industry is not out of the wave of change when new technologies such as artificial intelligence (AI) gradually become a part of the teaching and learning process. One of the outstanding achievements of AI in recent years is the development of large language models, typically ChatGPT - a product developed by OpenAI [1]. With the ability to communicate naturally, present diverse data, respond quickly and support users in processing complex languages, ChatGPT is quickly integrated into many educational activities, from supporting self-study to designing lesson plans and preparing lectures for teachers.

However, in addition to the obvious benefits, the application of ChatGPT in education, especially for high school students, also raises many issues of concern. One of the biggest concerns is the risk of negative impacts on the ability to think for oneself and form one's own opinions and analysis - a core skill and quality in the modern learning process. Logical thinking and the ability to consider feedback and comparison are not only the ability to analyze and evaluate information objectively and logically, but also the foundation for learners to form their own opinions, self-study ability and lifelong learning.

In fact, many learners today tend to rely on AI tools like ChatGPT to find quick answers, instead of actively thinking and considering feedback and comparison. This raises a big question for educators: How to take advantage of ChatGPT while still ensuring the development of learners' ability to think for themselves and form their own opinions and analyze? This question is not only theoretical but also has profound practical significance in the context of Vietnamese education aiming to develop comprehensive qualities, skills and qualities for learners [1].

Based on that reality, this study focuses on analyzing two main aspects:

(1) The opportunities that ChatGPT brings in supporting the development of the ability to think for themselves, give their own opinions and analyze for learners;

(2) The challenges and risks if this tool is used incorrectly. At the same time, the article also provides some pedagogical orientations to exploit ChatGPT effectively and appropriately in the modern educational environment.

2. CONTENT

2.1. Opportunities from applying ChatGPT in developing the ability to think for yourself, express your own opinions and analyze

2.1.1. Develop the ability to think for yourself, give your own opinion, analyze and think for yourself, through problem-solving.

One of the first manifestations of the ability to think for yourself and form your own opinions and analysis is the ability to raise questions. With the ability to respond quickly and non-judgmentally, ChatGPT creates a safe space where learners can freely explore personal questions – things they sometimes hesitate to ask the teacher. For example, when a learner raises the question "Why does water boil at 100°C?", ChatGPT will answer and expand to lead the learner to continue asking deeper questions such as "What about on the mountain?" or "What if the water is salty?" As a result, learners form the habit of questioning and exploring many aspects of the problem.

Additionally, ChatGPT can present opposing views on an issue when requested [2]. For example, for the question "Is the Internet harmful?", ChatGPT will analyze both the positive and negative aspects. This multi-dimensional approach allows learners to compare, consider, and form their own views, thereby enhancing their ability to consider feedback and contrast.

2.1.2. Access multidimensional information and practice analytical reasoning skills

ChatGPT not only provides concise answers but also supports learners with arguments, illustrative examples and evidence (albeit simulated). This helps learners understand that an issue can have many different perspectives, thereby improving their skills and qualities of evaluating, selecting and considering feedback and comparing information.

For example, when a learner asks "How does climate change affect Vietnam?", ChatGPT can provide impacts on many areas such as agriculture, transportation, people's lives... Thanks to that, learners learn how to analyze a problem from many aspects.

2.1.3. Building an independent and personalized educational space

ChatGPT can act as a "virtual tutor", supporting learners to study independently and autonomously. During the process of writing an essay or report, learners can use ChatGPT to get suggestions on writing structure, argument orientation or refer to how to present an opinion, review feedback and compare.

For example, with the topic "Should we study online for a long time?", ChatGPT can suggest two-way arguments to learners such as:

Argument 1: Online learning saves time

Argument 2: However, it is easy to cause distraction and lack of social interaction.

Conclusion: It is necessary to flexibly combine the two forms of learning

Such suggestions help learners form the habit of thinking two-way and strengthen their argumentation skills and qualities.

2.2. Challenges to the ability to think for oneself and form one's own opinions and analysis when abusing ChatGPT

2.2.1. The risk of passive learning

When learners rely too much on ChatGPT without actively thinking, the learning

process becomes passive. Many learners, instead of writing their own essays, choose to enter the topic into ChatGPT and copy the answers. This reduces the ability to form personal arguments, hinders the development of the ability to think for themselves and give their own and creative opinions.

For example, with social argumentative essays, instead of developing their own arguments, learners only submit the text generated by AI without understanding the content in depth or how to review feedback and compare when questioned.

2.2.2. It is difficult to distinguish right from wrong without the ability to verify information.

ChatGPT can produce information that is persuasive but sometimes inaccurate or unverified [3]. If learners are not trained in the ability to think for themselves and form their own opinions and analysis and the ability to evaluate the reliability of information sources, they are easily “led” by misleading content.

For example, ChatGPT may present historical evidence or statistical data that are not true. If learners do not check and compare with textbooks or academic documents, their ability to think for themselves and form their own opinions and analysis will be severely affected.

2.2.3. Reduced face-to-face debate and collaborative learning skills

Using ChatGPT as a "one-way dialogue" tool can reduce opportunities for communication and debate in the educational space. Learners may become less proactive in communicating with friends and teachers, and thus gradually lose the ability to present and defend their views directly.

Logical thinking and the ability to reflect and contrast are not only the ability to think, but also the skills and qualities of presenting logically, responding to opposing arguments, and learning cooperatively in groups. Lack of opportunities to practice these skills will cause learners to have difficulty in learning and social communication.

2.3. Instructions for using ChatGPT properly to develop the ability to think for yourself, form your own opinions and analyze

2.3.1. Raise open issues and make multidimensional comparisons

Instead of asking learners to use ChatGPT to find right/wrong answers, teachers can design open-ended questions such as:

“Find 3 different perspectives on the issue of using phones in learning” [4]

“What does ChatGPT say about online graduation exams? Do you agree?”

Such tasks encourage learners to compare, consider feedback and contrast, and make personal arguments.

2.3.2. Ask learners to rate the content generated by ChatGPT

After students use ChatGPT to answer questions, teachers should ask them to analyze the logic, analyze the advantages and disadvantages of the argument, or add personal opinions. This is an effective way to develop the ability to think for themselves, form their own opinions and analyze through proactive inquiry and analysis.

For example: After ChatGPT writes a paragraph about “Air Pollution”, the learner must answer:

- Does the paragraph have a clear thesis?
- Is there evidence?
- What additional ideas do you have?

2.3.3. Combine ChatGPT with group study and debate activities

ChatGPT can be used to support learners in preparing their arguments before entering

group discussions. However, direct feedback and comparison activities in class – such as group debates, pair dialogues - should still be maintained to comprehensively develop presentation, listening and defending skills [5].

The flexible combination of AI technology and direct learning activities will help learners practice both skills and qualities, the ability to think for themselves, form their own opinions and analyze, and social communication skills – two indispensable factors in the learning and growing process.

2.4. Applications of ChatGPT in Teaching and Learning

To concretize the theoretical arguments, this section presents practical ways of integrating ChatGPT into real classrooms. For example, in a high school setting, teachers may assign students to use ChatGPT to identify three different perspectives on the issue of using mobile phones in class. Afterward, students work in groups to discuss, compare the viewpoints, and reach a collective conclusion. Such activities both leverage ChatGPT and simultaneously foster critical thinking, reflection, and collaborative discussion. Another case involved a high school class in which students used ChatGPT to simulate a debate on ethical AI [6]. The AI provided contrasting views, which students then evaluated and debated in person. This integration promoted critical thinking, comparison of perspectives, and collaborative learning.

These examples show that ChatGPT can serve as a springboard for higher-order thinking when guided correctly.

2.4.1. Psychological effects of overusing AI tools in learning

Beyond cognitive development, educators must consider the psychological impact of AI dependence. Studies have shown that excessive reliance on AI-generated content may reduce intrinsic motivation and lead to “learned helplessness,” where students lose confidence in their own ability to generate ideas.

In a 2023 survey by EdTech Research Group, 43% of students admitted feeling 'less creative' after repeated use of AI tools in writing assignments [6]. This indicates the need for clear instructional boundaries when using ChatGPT in education.

2.4.2. Ethical implications and academic integrity

The use of ChatGPT also raises ethical concerns. When students submit AI-generated work as their own, it blurs the lines of plagiarism [7]. Academic institutions must update their honor codes and educate students on responsible AI use.

Teachers can also use ChatGPT to create “AI literacy” modules where students learn to detect AI-generated text and understand its limitations. Ethical awareness should be considered a core competency in modern education.

2.4.3. Integrating ChatGPT into assessment and feedback

Educators can use ChatGPT not only for learning but also for formative assessment. For example, students can use ChatGPT to draft initial responses to essay questions, then refine them with teacher feedback. Teachers can analyze how students evolve their answers and provide formative guidance.

Moreover, students can be tasked with critiquing ChatGPT’s answers, identifying errors or logical flaws. This turns assessment into a process of active learning and deepens analytical ability.

2.4.4 Teacher training and professional development

Teachers must be trained to effectively use ChatGPT [7]. Professional development programs should include:

How to prompt AI effectively.

How to verify AI-generated content.

How to design AI-integrated lessons.

How to balance technology and face-to-face interaction.

Workshops and peer-exchange sessions should be encouraged to build collective capacity and share best practices across institutions.

2.5. Recommendations for policy makers and institutions

To fully leverage AI in education while mitigating its risks, policymakers must:

- Integrate AI literacy into national curriculum frameworks.
- Provide funding for schools to access and train on AI tools.
- Develop evaluation metrics that recognize both AI-assisted and original thinking.
- Encourage research into AI's long-term impact on learning.

This strategic approach ensures that tools like ChatGPT are not just novelties, but catalysts for meaningful transformation.

2.5.1. Comparative analysis with other AI tools in Education

While ChatGPT has garnered significant attention, it is not the only AI tool making an impact in education. Tools like Google's Bard, Microsoft's Copilot, and AI-powered platforms such as Khanmigo or Grammarly also support learners in various ways. Each of these tools has its strengths and limitations. For instance, Grammarly focuses more on grammar and style, while ChatGPT is a generative model suitable for idea exploration. A comparative approach helps educators and students choose the right tool for the right task, enhancing the overall learning experience.

2.5.2. Future trends and research directions

As AI technology evolves, educational applications are expected to become more personalized, adaptive, and integrated with real-time data. Future research should focus on longitudinal studies to understand the long-term effects of AI use on cognitive development [8]. Another important direction is the development of ethical AI guidelines specifically tailored for K-12 and higher education contexts, ensuring equity, inclusiveness, and data privacy.

2.6. Practical applications for teachers and learners

In order to effectively integrate ChatGPT into educational practice, it is crucial to identify its practical value for both teachers and learners. This section provides a detailed analysis of how ChatGPT can be utilized as a pedagogical support tool - enhancing rather than replacing human thinking in teaching and learning.

2.6.1. For teachers

a) Supporting Lesson Planning and Instructional Design

ChatGPT can function as a “lesson planning assistant” by helping teachers generate lecture outlines, suggest illustrative examples, and formulate open-ended questions. For example:

- In teaching argumentative writing, teachers can prompt ChatGPT to present opposing views on a topic, which students then analyze and critique.
- During collaborative activities, teachers may use ChatGPT to design role-play scenarios, problem-based learning cases, or discussion prompts.

These applications allow teachers to diversify instructional content, save time, and maintain student engagement with varied perspectives.

b) Assessing learners' critical thinking skills

Teachers can incorporate ChatGPT into formative assessments by assigning tasks where students are required to analyze, critique, or improve AI-generated responses. For

instance:

After receiving a ChatGPT-generated response, students can be asked to:

- Identify the main thesis and supporting arguments.
- Evaluate logical coherence and relevance.
- Suggest modifications or personal opinions.

This promotes learners' metacognition and gives teachers insight into their ability to think independently and reflectively.

c) *Professional Learning and Pedagogical Development*

ChatGPT can support teacher self-directed learning, particularly in:

- Practicing the formulation of higher-order questions.
- Simulating classroom scenarios for behavior management or dialogic instruction.
- Exploring current trends in pedagogy or educational technology.

As a result, educators can continuously refine their skills and remain updated on innovative practices.

2.6.2. For learners

a) *Idea generation and writing development*

Learners can use ChatGPT as a brainstorming partner when developing essays or reports. Instead of copying responses, students should be guided to:

- Request multiple perspectives or arguments from ChatGPT.
- Select and refine the most convincing points.
- Integrate personal reflections and real-life examples.

This fosters autonomy, improves reasoning, and supports students in crafting original work.

b) *Self-paced and personalized learning*

ChatGPT offers students the opportunity to learn at their own pace. They can ask unlimited questions, review explanations, and explore content beyond the textbook.

- For example, when learning about climate change, students might use ChatGPT to examine its effects on agriculture, economy, or health in Vietnam.
- This process naturally develops their inquiry skills, analytical thinking, and curiosity

c) *Practicing communication, debate, and argumentation skills*

By simulating debates, role plays, or controversial discussions, learners can use ChatGPT to rehearse oral interactions, argument construction, and rebuttal techniques.

- Students may engage ChatGPT in mock debates (“Argue for or against banning smartphones in school”) and then prepare counterarguments.
- This helps develop clarity in expression, logical sequencing, and confidence in presenting ideas—a core skill for academic success and civic participation.

3. CONCLUSION

The application of ChatGPT in education today is no longer a future trend but is clearly present in school life. With the ability to present data quickly, communicate flexibly and support a variety of learning skills, ChatGPT is a tool with great potential in innovating teaching and learning methods, especially in forming and developing the ability to think for yourself, give your own opinions and analyze for learners.

However, these outstanding utilities can become a "double-edged sword" if not properly oriented. Abusing ChatGPT without control can easily lead to a situation where learners learn passively, copy mechanically, and reduce their ability to self-analyze and reason - which are important pillars of the ability to think for themselves, express their own opinions and analyze.

Therefore, teachers, educational administrators and learners need to see ChatGPT not as a “source of answers”, but as a “smart study buddy”, a support tool to enhance thinking ability. Learning activities need to be designed so that learners are encouraged to question, consider feedback and compare and evaluate the information provided by ChatGPT.

In addition, it is necessary to develop a training program to foster skills in using AI in education for both teachers and learners, with special emphasis on the ability to identify misinformation, multi-dimensional analysis skills, and personal responsibility in learning.

In the future, the combination of human skills and qualities with the power of technology will be the key to sustainable education development. ChatGPT, if exploited properly, can absolutely become a lever to promote the ability to think for yourself, form your own opinions and analyze – one of the most essential qualities of citizens in the 21st century.

REFERENCES

1. OpenAI. (2023). *Introducing ChatGPT*.
2. Paul, R. & Elder, L. (2014). *Critical Thinking: Tools for Taking Charge of Your Professional and Personal Life*. Pearson Education.
3. UNESCO. (2021). *AI and Education: Guidance for policy-makers*. Paris: UNESCO Publishing.
4. Trung tâm Nghiên cứu Phát triển Giáo dục. (2023). AI trong lớp học: Cơ hội và thách thức ở Việt Nam. *Tạp chí Giáo dục*, số 112, tr. 23–30.
5. Nguyễn Văn Cường. (2024). Công nghệ thông minh và khả năng khả năng tự suy nghĩ và đưa ra quan điểm riêng và phân tích trong dạy học hiện đại. *Tạp chí Khoa học Giáo dục*, số 2(135), tr. 44–52.
6. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Center for Curriculum Redesign.
7. Selwyn, N. (2021). *Should Robots Replace Teachers? AI and the Future of Education*. Polity Press.
8. Luckin, R. (2018). *Machine Learning and Human Intelligence: The Future of Education for the 21st Century*. UCL IOE Press.

ỨNG DỤNG CHATGPT TRONG GIÁO DỤC: CƠ HỘI VÀ THÁCH THỨC ĐỐI VỚI TƯ DUY LOGIC, KHẢ NĂNG XEM XÉT PHẢN HỒI, ĐỐI CHIẾU CỦA NGƯỜI HỌC

Tóm tắt: Trong kỷ nguyên chuyển đổi số, AI ngày càng có vai trò quan trọng trong giáo dục. Các mô hình ngôn ngữ như ChatGPT mang đến cơ hội nâng cao tư duy logic, khả năng tự thể hiện và phân tích của người học. Bài viết phân tích cả lợi ích như khuyến khích đặt câu hỏi, tư duy đa chiều, lập luận và rủi ro, bao gồm sự phụ thuộc quá mức, giảm tính tự chủ và khó khăn trong việc xác thực thông tin. Đồng thời, bài viết đề xuất các định hướng sự phạm nhằm khai thác ChatGPT như công cụ hỗ trợ phát triển tư duy độc lập, hướng đến môi trường học tập sáng tạo và hiệu quả trong thời đại số..

Từ khóa: AI, ChatGPT; giáo dục; người học; tư duy logic.