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CHATGPT AS A SOCRATIC ASSISTANT: DEVELOPING STUDENTS' REFLECTIVE AND CRITICAL THINKING

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Abstract

The introduction of ChatGPT and its use in the education sector has received varying responses. Termed as 'apocalyptic', ChatGPT presents an ethical dilemma with the possibility of leading students towards plagiarism, lack of criticality and passivity. However, if used properly, this tool, similar to other technological pedagogical tools that have initially been feared or criticised, may contribute to the development of STEM skills such as critical analysis, communication, independent thinking and reflection. Within this perspective and building on the principles of the Socratic Method with an emphasis on critical thinking, intellectual engagement and reflection, this paper explores the use of ChatGPT as a Socratic assistant. ChatGPT is, therefore, presented as a collaborative tool that enriches the learning environment whereby students can develop their critical skills, question assumptions, develop intellectual curiosity through prompting and eventually produce reflective and critical responses. This research adopts a posthumanist innovative methodology where data is produced through the intra-action between the researcher (human) and ChatGPT (non-human). The chosen methodology reflects the entanglement of the human (students, teachers) and non-human (AI) in an educational space dominated by chatbots and other technological

assistance. Through generated examples, this paper shows how ChatGPT can be integrated into teaching and learning contexts, fostering deeper inquiry and self-reflection aligning with the Socratic Method. This research contributes to discourses on AI and its ethical use in transforming teaching and learning through innovative methods and may assist teachers in the development of innovative teaching practices assisted by AI.

Keywords:

Socratic Method, ChatGPT, Posthumanist Methodology, Critical Thinking, AI-Generated Prompts

1. Introduction

Popular culture and images have often associated AI with objects or beings to be feared, or that would bring apocalyptic consequences (Green, 2022). Consequently, the introduction of ChatGPT in 2022, triggered a range of reactions, often associated with the deconstruction of traditional methods or ways of being. The educational landscape has been going through the same ethical dilemma – would AI take over education? Will this tool give rise to plagiarism, passivity and unethical behaviour? Will teachers be eventually replaced? Current research on ChatGPT is acknowledging the possible benefits of using AI (Crompton & Burke, 2023; Chukhlomin, 2024; Con-Lem & Tsering, 2024) by both teachers and students. According to the *Digital Education Council Global AI Student Survey 2024*, 86% of students are already using AI in their studies and 69% use Gen AI (Generative Artificial Intelligence) as a ‘new Google’ to search for information. However, despite this dominant use, 72% expressed that there is a need for AI training and support for effective use. This survey reflects the evolving place of AI in education and consequently, the need to train students to use AI in ways that would enhance their skills. The same survey highlighted that ChatGPT is the most used AI tool among students and this revelation calls for more research to be conducted on the benefits, drawbacks, challenges and opportunities associated with this evolving and dominantly used tool in the educational landscape.

Current literature on ChatGPT is emphasising the need to acknowledge possible benefits of using this generative AI in education such as, to explore multifaceted issues and develop cognitive abilities (Ahmad & Gasmi, 2024); to facilitate debate on controversial issues that require critical evaluations; and to provide adaptive personalised feedback (Hera & Torralba, 2024) that would help students to overcome learning difficulties. However, Gen-AI is also criticised for its general responses that lack factual support, and which eventually lead to passive consumption of generated texts. As a response to this limitation, ChatGPT includes the following lines on its page, “ChatGPT can make mistakes. Check important info.” (ChatGPT, 2025) These two sentences draw users’ attention to the limitation of producing accurate texts, or texts that should be blindly used. How to address this gap? Despite being labelled as a tool that “can help with writing, learning, brainstorming, and more” (OpenAI, 2025), ChatGPT is feared as a tool that might lead to misinformation, plagiarism, passivity and unethical acts. Even the use of the internet for educational purposes, despite having made online classes possible during the 2020 pandemic, has been criticised for its drawbacks (Garcia, 2023) such as redefining social skills, exposing students’ data, decreasing teachers’ and

students' creative and innovative skills, and acting as a surveillance structure. But these limitations have not stopped the internet from being regarded as beneficial to the education sector as pointed by the *Pew Research Center* report (2015). On the same wavelength, while it is important to acknowledge the limitations of Gen-AI, it is also important to embrace ways to leverage this dominant tool that is currently being used in different fields (Haleem, Javaid & Singh, 2022). This paper is proposing one way of leveraging this tool in the educational landscape – by using it as a Socratic assistant to develop reflective and critical thinking.

2. Literature Review

2.1 ChatGPT as a Socratic Assistant

In order to optimise the use of ChatGPT, a user must master prompt engineering which is the process of refining inputs to allow effective communication (Liu, Yuan, Fu, Jiang, Hayashi & Neubig, 2023) with a generative AI. Various types of prompt engineering techniques can be used in the teaching and learning process such as, instruction-based prompting when asking an AI to summarise information; contextual-prompting that provides background information for relevant text generation; and example-based prompting whereby examples are fed to the AI to guide its output.

Socratic questioning involves a structured questioning technique that aims at triggering reflection and critical thinking (Overholser, 1993; Paul & Elder, 2007) by assisting the student instead of exhibiting dominance as the knowledgeable superior. This questioning technique can be used as a form of prompt engineering that enables the teacher or student to engage in educational inquiry. In a recent case study on Socratic prompts, Chukhlomin (2024) demonstrates how teachers can collaboratively work with AI to engage in Socratic dialogues to design a research framework. This study showed how Socratic dialogues could help in course development and educational research design. However, teachers as adults are ethically aware of implications, such as the need to cross check information/facts and to engage critically with generated text. Would students use Socratic prompts in similar ways? Are students AI literate enough to demonstrate criticality instead of passivity when handling AI-generated information? To respond to these questions, this paper focuses on how students can use ChatGPT as a Socratic assistant and enhance their AI literacy and critical engagement with this evolving technology. Moreover, Chukhlomin's (2024) case study is one that is led by the researcher/teacher and some of the differences noted about the use of AI versus the use of

traditional Socratic dialogues are those related to the researcher-led and researcher-dominated prompts as highlighted in the table below.

Socratic Elements	Differences from Traditional Socratic Dialogue
- Guided Inquiry: Utilizing questions to guide thought and explore ideas.	- Knowledge Base: The researcher is guiding the exploration of knowledge rather than eliciting hidden knowledge from a student.
- Critical Examination: Using AI to examine and refine responses.	- Lack of Genuine Ignorance: The AI does not claim ignorance but refines information based on the researcher's prompts.
- Collaborative Knowledge Construction: Knowledge is constructed through conversation.	- Absence of Emotional or Social Factors: The AI interaction solely focuses on intellectual exchange.
- Conceptual Exploration: Explore complex concepts.	- Power Dynamic: The researcher guides and controls the conversation whereas, in traditional Socratic dialogues, Socrates often led his interlocutors to uncomfortable realisations or contradictions.

Figure 1: Adapted from case study findings from Chukhlomin (2024).

However, if prompt engineered to act as a Socratic assistant, can ChatGPT elicit hidden knowledge from students, claim ignorance and question the student, and lead the student to realisations that would contradict with assumptions? This paper attempts to address these gaps by prompt engineering ChatGPT to act as a Socratic assistant that would converse with a student on a given question.

2.2 Can ChatGPT Enhance Reflective and Critical Thinking?

Recent research by Zhai, Wibowo & Li (2024) has highlighted the cognitive effects of students' overreliance on generative AI, and Alafnan et al. (2023) has even labelled this overreliance as a process that is leading to "human unintelligence and unlearning" (p.60). In line with this possible consequence, one of the research limitations of ChatGPT is critical thinking (Cong-Lem, Soyoof & Tsering, 20224) as this Gen-AI responds mostly to memory-based questions (Duong & Solomon, 2023); provides limited mathematical capabilities (Rahman & Watanobe, 2023); and responds superficially with limited justifications for specific tasks (Parsons & Curry, 2024). Can these limitations, such as superficial responses, lack of justification and memory-based responses, empower users to be more reflective and critical?

To respond to this question, in this paper the focus is shifted from the (lack of) critical thinking skills displayed by the generative AI to the development of critical skills of its users. Instead of being perceived as an apocalyptic process (Green, 2022) leading to “human unintelligence” (Alafnan et al., 2023) or a commodity to be consumed blindly by its users, this paper is offering a positive disruption to the ways in which Gen-AI is perceived and used – the need to unlearn and relearn ways of using ChatGPT in order to move from passivity and a decline in critical thinking skills (Clark, 2023) to an active critical and reflective engagement with the generated responses.

3. Methodology

In this study, ChatGPT has been used as a Socratic assistant to facilitate discussion through probing questions designed to encourage critical and reflective thinking. The question chosen for data production was ‘Does the use of AI in education promote passive learning, or can it enhance student engagement and critical thinking?’ This argumentative question on a current discursive issue opened the doors to meaningful data collection. It is also a relevant question that fits Socratic inquiry as it encourages dialectical reasoning, while also creating a critical space where assumptions are challenged, evidence is analysed, along with catering for the creation of a reflective space in which the student can engage reflectively with data generated.

This method of data generation, therefore, goes beyond passive consumption, production and reproduction of texts by Gen-AI. The intra-action between human and non-human (Barad, 2007) in the production of data is an acknowledgment of the hybrid production of knowledge and meaning making in a landscape which is becoming increasingly dominated by AI. This chosen methodological lens aligns with Liang & Wu’s (2024) post-humanist observation, “the notion of assemblage signifies a complex interconnection of agency, language and cognition from both human and non-human objects (e.g. ChatGPT), which can lead to unexpected outcomes.” (p.3) This post-humanist perspective highlights the need for research to go beyond human-human interactions (original Socratic questioning technique) and to consider human-AI intra-actions as humans co-evolve with other non-humans (Nayar, 2014).

Paul and Elder’s (2007) conceptualisation of the six types of Socratic questioning has been used to produce these intra-actions between ChatGPT (the Socratic assistant) and the student (the researcher acting as a student in the production of generated Socratic responses).



Figure 2: *Paul & Elder's (2007) six types of Socratic questioning*

In addition to the above types of questioning, this paper highlights the possibility of leveraging AI to develop reflective thinking. Consequently, two additional layers of reflections (post-intra-action reflections) were added to the above list of questions. The aim of bringing these new layers was to go beyond the usual practice of adapting Socratic questioning to AI-based interactions. This approach seeks to foster intra-actions that could generate novel pedagogical and cognitive possibilities for teaching reflective and critical thinking.

4. Findings

The following findings have been gathered from ChatGPT-4 (the free version) (2025); it is important to report which ChatGPT version is being used in studies in order to ensure reliability and generalisability (Cong-Lem et al., 2024). The data collection started with a clear prompt to ChatGPT about the nature of the activity – using ChatGPT as a Socratic assistant to guide a student's reflective and critical responses – in order to ensure accuracy and relevance (Nazari & Saadi, 2024; Chukhlomin, 2024).

4.1 Clarification Questions to Explore Basic Understanding

Student: So, I've got this essay question: "Does the use of AI in education promote passive learning, or can it enhance student engagement and critical thinking?" I want to start by understanding what passive learning actually means.

ChatGPT: Great starting point. Passive learning usually refers to when students take in information without actively engaging with it. They might listen or read, but there's little interaction or reflection. But, let me ask you this—do you think passive learning is always detrimental?

Student: Well, not really. Sometimes it's necessary to just absorb information first, right? Like when we read a chapter before discussing it in class. That feels passive, but it's still part of the learning process. But I think the focus of this question is on the absence of critical thinking when some students rely heavily on AI.

This extract reflects the possibility of using AI as a pedagogical Socratic assistant or friend which goes beyond the generation of responses to questions, and instead questions the student (see underlined) to engage the latter in critical thinking. The student is, moreover, encouraged to clarify his understanding and to prompt relevantly so as to produce accurate results that would help in continuing this Socratic activity. This collaborative intra-actions and actual conversations between the AI and the human show how AI-assisted educational processes could empower learners in questioning themselves and in clarifying doubts when engaged in reflection.

4.2 Probing Assumptions to Question Underlying Beliefs

ChatGPT: That's a fair observation. So, maybe it's not the act of receiving information that's passive, but how we engage with it afterward? Let's think about that. If AI simply provides students with answers, does that risk limiting the deeper engagement you might expect from students? Or could AI be used in ways that encourage deeper thinking?

Student: I guess AI could give answers quickly, which might make students less likely to question the material. But at the same time, I think we use the internet in a similar way. Students can easily search for answers without much thought.

ChatGPT: That's true. The internet does provide easy access to knowledge. But here's something to think about: with the internet, students are still required to search, evaluate sources, and interpret information on their own. AI, on the other hand, delivers the answers in a more direct way, almost like a tutor. So, in that sense, does AI do too much of the thinking for students?

The intra-actions between ChatGPT and the student are structured as a natural conversation and the style used by the AI is not one that is imposing information on the latter but one that is probing assumptions. The student's response on the comparison between the use of Gen-AI and the internet is a common perspective. However, the probing questions from ChatGPT – focusing on deeper thinking, the substitution of the teacher, and the misuse of AI for students' thought processes – encourage the student to question underlying beliefs rather than engage in a cold, sanitised question-and-answer process.

4.3 Probing Evidence to Justify Arguments

Student: Hmm, that makes sense. AI does give a more direct solution. But could AI be designed to encourage critical thinking, like asking students questions or making them consider alternatives?

ChatGPT: Yes, AI can definitely be programmed to do that. For instance, an AI tutor might ask follow-up questions or provide feedback that challenges students to rethink their answers. Do you think this would prevent AI from making students passive, or is there still a risk of students becoming too reliant on it?

Student: I think if AI is designed that way, it could encourage active thinking. But I wonder, can it really replace the human element? A teacher can ask follow-up questions in a way that's more personal, guiding students through their thought process. Can AI really do that?

ChatGPT: That's an excellent point. The human element—the empathy, understanding, and nuanced feedback that teachers provide—cannot be easily replicated by AI. But let's ask this: does that mean AI is inherently less effective, or could it actually complement the teacher's role? Maybe AI is useful for providing personalized, immediate feedback that allows teachers to focus more on deep discussions and critical thinking in class. What do you think?

Instead of being used as a passive reproducer of knowledge, ChatGPT, in this extract, functions as a knowledgeable collaborator (Chukhlomin, 2024) who is not responding to the multiple reflective questions of the student with a straightforward response, but with questions to probe evidence that eventually compel the student to be critical and to show the ability to justify views and arguments. Additionally, it should be noted that there is a neutrality in the response provided by ChatGPT as it is not celebrating its use in education or its possibility of substituting the teacher, but is questioning the student's perception of a possible co-existence of AI and teachers in an evolving digital landscape.

4.4 Questioning Perspectives to Consider Different Viewpoints

Student: I see what you're saying. It's not black and white—AI could both help and hinder engagement depending on how teachers and students interact with it.

ChatGPT: Exactly! So, we're starting to see that AI, when used thoughtfully, can serve as a tool rather than a replacement. What do you think would be the risks if AI were to be overused or relied upon too heavily in the classroom?

Student: One risk might be that students become too comfortable relying on AI to solve problems for them. They might stop learning how to think critically. But then again, isn't that just a question of how AI is implemented? If it's used well, it could help students engage in more meaningful ways.

As the Socratic process evolves, it can be observed that the student is encouraged to consider different viewpoints that will contribute to a richer critical response – ChatGPT becomes the knowledgeable learning peer (Stojanov, 2023) that assists in the production of critical and reflective responses. The multiple questioning technique from ChatGPT as the Socratic assistant, acts as reliable inputs (Alafnan et al., 2023) that can probe deeper thinking. Also, the generated questions, instead of generated responses, encourage and train the student to question potential biases generated by ChatGPT (Au Yeung, Kraljevic, Luintel, Balston, Idowu, Dobson & Teo, 2023).

4.5 Probing Implications to Consider Broader Impact

ChatGPT: Yes, and that's the key! It's all about how AI is integrated into the learning process. If it's used as a tool for exploration and self-reflection, it can enhance student engagement. But if it's used as a shortcut, it could contribute to passivity. So, let's push this further—what specific roles do you think AI could play in a classroom that would encourage active learning rather than passive consumption?

Student: Well, maybe AI could help students identify areas where they need more focus and provide resources to address those. For example, if a student is struggling with a particular topic, AI could offer exercises that help them improve. That way, it's not just about getting an answer but about engaging with the material given.

ChatGPT: That's a really good example. Personalized learning could be a strong point in AI's favor. But let's step back for a moment. Is there a danger that students, even with tailored content, might still be passive if they don't actively take responsibility for their own learning? How can we encourage that ownership of the learning process?

In this extract additional viewpoints are triggered by the Socratic assistant and the 'passive consumption' of AI is taken to another level. Besides, by using an optimistic and congratulatory tone in the questioning process, the AI is motivating the student to engage in further reflection and criticality. Lack of empathy and emotion is one of the limitations observed when using ChatGPT for Socratic questioning (Chukhlomin, 2024), however, these extracts highlight ChatGPT's potential to motivate and encourage students through objective questioning styles that include a motivating tone.

4.6 Questioning the Question for Further Reflection

Student: Hmm. Maybe we could have AI prompt students to set their own goals or reflect on their learning progress? That might make them more accountable for their own development. But then, that also means the student has to be motivated enough to take advantage of it.

ChatGPT: Exactly. Motivation plays a huge role in whether AI promotes active engagement or passivity. So, if AI is simply offering resources but students aren't motivated to use them, how can we ensure that AI supports their development rather than just filling a need for instant gratification?

Student: That's tricky. It seems like AI alone can't solve the problem of passivity—it's about fostering a mindset where students take initiative. Maybe AI can be a catalyst, but it's up to teachers to shape the learning culture around it.

ChatGPT: Well said. So, in your essay, how would you argue that AI can be used in a way that avoids passivity while encouraging critical thinking? What would be your central argument?

Student: I'd say that AI, when used appropriately, doesn't have to lead to passive learning. It could actually enhance engagement and critical thinking if it's designed to encourage exploration, feedback, and reflection. But that depends on how it's integrated and how motivated the students are to engage with the material.

By going back to the question and testing understanding, the student is able to demonstrate critical growth. This activity of using ChatGPT as a Socratic assistant shows how AI can be used to develop unbiased work to elaborate on ChatGPT's proposed perspectives, and to guide reflections on argumentative topics. Furthermore, by questioning the question, ChatGPT is prompting the student to reflect on his own stance and responses to the range of questions offered during the Socratic process. This act of questioning not only develops reflective and critical thinking skills, but also helps the student to develop an independent stance instead of relying on produced or ready-made responses from the Gen-AI.

4.7 Post-Intra-action Reflection 1- Student Response

Teacher: Now that you have interacted with ChatGPT on the question given, write a reflective paragraph on how this activity has transformed (or not) your perspective on the use of AI in education.

Student's Response: At the start of this discussion, I thought AI in education was mostly just a tool that made things easier—like helping with research, automating grading, or giving quick answers. I assumed that because AI provides so much information instantly, it would naturally lead to passive learning, where students just accept answers without thinking critically.

But after exploring different perspectives, I realize it's not that simple. Yes, AI can make learning passive if students just rely on it for quick answers, but it can also be used in ways that enhance engagement. For example, when we used AI to

generate different viewpoints and challenge assumptions, I found myself thinking more critically about my own biases. I also hadn't considered how AI could help students develop reflective thinking by prompting them to question their reasoning, rather than just giving answers.

I think my perspective has shifted from seeing AI as a potential problem to recognizing it as a tool that depends on how we use it. If educators and students engage with AI in a way that encourages questioning, reflection, and deeper analysis, then it can actually promote critical thinking instead of weakening it. But it requires a conscious effort—both from teachers and students—to avoid the trap of passivity.

This first level of post-AI-Socratic questioning reflection involves teacher-student interactions while also including reflections on the intra-actions between the student and the AI-critical friend. The student is compelled to engage in meta-cognitive reasoning and produce original critical responses as a response to the previous intra-actions. Also, this activity shows that the teacher cannot be replaced (Fikri, 2024) and the activity is not merely a student-centred one, but the teacher acts as a facilitator who encourages an active engagement with AI-generated responses, rather than a passive reception.

4.8 Post-Intra-action Reflection 2 - AI-Generated Feedback and the Student's Further Reflection

Teacher: Here is a feedback from ChatGPT on your response. Read the feedback and write a paragraph on how far you agree or disagree with this generated feedback.

Feedback from ChatGPT:

This is a well-thought-out reflection! You demonstrate a clear evolution in your thinking, moving from a **simplistic view** of AI as just an efficiency tool to a more **nuanced perspective** that considers both its benefits and risks. Your ability to recognize **both the passive and active learning potentials of AI** shows strong critical thinking.

I especially appreciate how you acknowledge the **role of educators and students** in shaping how AI is used—this highlights an important point about **agency in learning** rather than assuming AI itself dictates passivity or engagement.

Here are a few questions to reflect on further:

- You mention that AI can **enhance engagement** if used correctly. What specific strategies do you think teachers and students should adopt to **ensure AI fosters critical thinking rather than passivity**?
- You talk about how AI can prompt reflection—can you think of an example where an AI-generated response made you **reconsider your stance on a topic**?

- Since AI evolves quickly, do you think **our current concerns about passivity will still be relevant in 10 years**, or will AI be designed to encourage more critical thinking?

Overall, this is a **strong, insightful reflection**, and with a bit more depth in practical applications, it could become an even **more compelling argument**. Keep up the great work!

This post-intra-action reflection is inspired by Kostka & Toncelli's (2023) suggestion to incorporate class activities that would allow students to evaluate and analyse AI-generated responses. This activity triggers the student's need to engage critically (Glahn, 2023) with generated content. Instead of passively accepting the generated text, the student becomes aware of the possibility of agreeing and disagreeing with it. In this second level post-intra-action activity, ChatGPT's authoritative voice is deconstructed, allowing the student to engage agentially in self-evaluation, question possible biases and develop originality of thought.

5. Discussion

Grounded in Socratic method of inquiry and posthumanist data generation, this study has explored the potentials of ChatGPT as a pedagogical tool that could enhance students' critical and reflective engagements. One of the key contributions of this study is the conceptualisation of a model of *AI-Enhanced Socratic Intra-actions to Develop Reflective and Critical Thinking*.

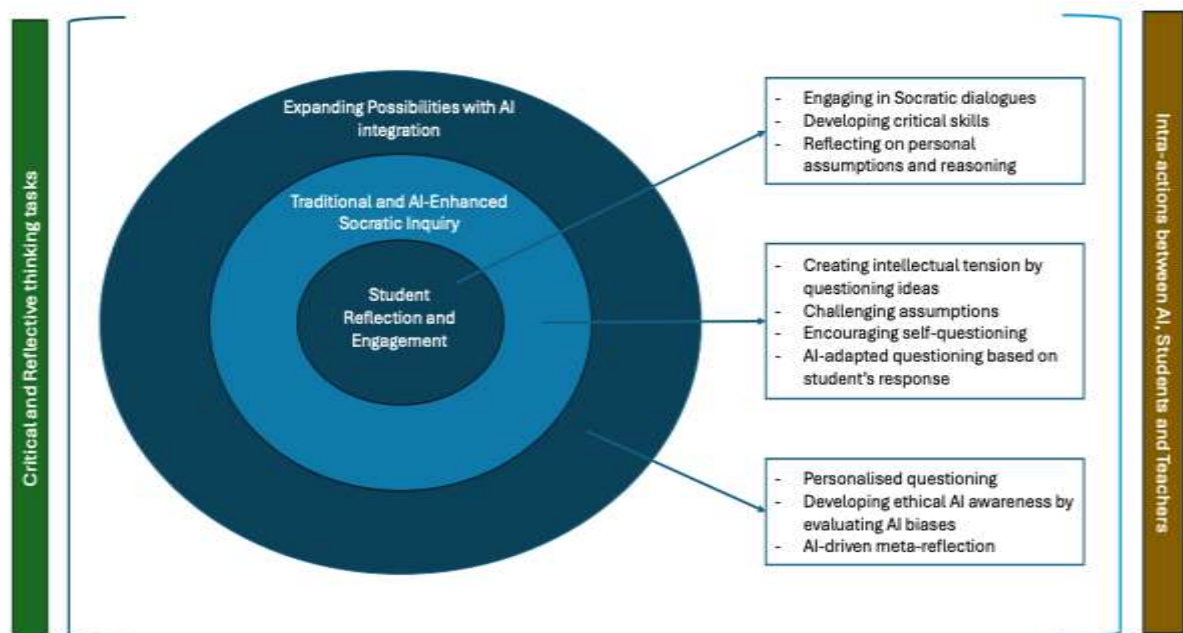


Figure 3: A Model of AI-Enhanced Socratic Intra-actions to Develop Reflective and Critical Thinking

This model emphasises the layered approach to engaging students in an active intra-action, rather than a passive consumption of responses from Gen-AI. While the activity seemed to start with basic comprehension and clarification, the movement towards forms of metacognition and ethical reasoning paves the way towards critical and reflective engagements of the user. AI is used as an assistant or peer that prompts intellectual discomfort and disrupts the common perception of the AI revolution as a destructive one. Furthermore, the dialogic intra-actions between ChatGPT and the student and the interactions between the teacher and the student highlight the crucial role of the teacher as a facilitator and negate the assumption that teachers will no longer be needed in 21st century classrooms (Mann, 2024; Livingstone, 2024).

Moreover, the posthumanist methodology provided an enriched lens that did not limit the use of Gen-AI to the passive consumption, production and reproduction of texts. Instead ChatGPT, a co-actor in knowledge production, is treated as a pedagogical assistant, tool and space that can enhance learning environments by offering students the opportunity to explore multifaceted issues and various perspectives (Ahmad & Gasmi, 2024) that help in the development of reflective and critical thinking. This entanglement of human and non-human texts and participation might encourage educational practitioners to see the use of AI as part of a broader ecology of thinking and learning. This methodological choice has also foregrounded the limitations of using ChatGPT as a Socratic assistant – guiding and training students to develop prompt engineering skills should be prioritised along with AI literacy in this evolving AI educational landscape.

This research is, thus, situated within an evolving hybrid educational landscape with intra-actions between humans and AI, and one where the use of ChatGPT (and other Gen-AI) as a structured pedagogical design in the development of reflective and critical thinking is still in its early stages of research (Su & Yang, 2023; Liang & Wu, 2024).

6. Conclusion

“...just as critical thinking should be seen as more than Socrates haggling on a street corner, artificial intelligence should be seen as much more than a threat, it should be viewed through a broader scope than the myopic, fearful and slightly hysterical reaction to GenAI that characterises much of what is said and written about it.” (UNESCO, 2024)

This quote from the UNESCO (United Nations Educational, Scientific and Cultural Organisation) is very relevant to this paper as it highlights multiple perceptions and interpretations of pedagogical tools and strategies. The origin of Socratic questioning has been criticised (UNESCO, 2024) as it is derived from interactions between Socrates and others – interactions that would sometimes be humiliating and subjective. However, this technique is recognised as a pedagogical tool that stimulates students' critical thinking and allows them to question assumptions (Overholser, 1993; Paul & Elder, 2007; Chukhlomin, 2024). Similarly, ChatGPT and other forms of generative AI have been seen as negatively disrupting the world of academia and education through fears of plagiarism, unethical practices, passive engagement, over-reliance and decrease in voice. However, a positive disruption is also needed. Change is often accompanied by resistance, and resisting the use of AI in education in a natural reaction; however, embracing this tool pedagogically offers ways of educating students about use and misuse (or abuse) of this tool which is freely available to the public. Acknowledging the possible benefits of adopting AI as a pedagogical tool such as the one proposed in this paper, may contribute to a positive disruption in educational practices and consequently, reduce the demonisation and possible negative impacts (Kasneci, Sessler, Küchemann, Bannert, Demetieva, & Fischer, 2023) of this tool. Besides, in order to achieve AI literacy and to reduce passive over-reliance on AI, monitored and structured use of this tool by students should be encouraged and the role played by teachers/instructors in this process may be further researched in order to equip the latter with a better understanding of how to incorporate this tool in teaching and learning.

One limitation to this chosen methodological structure is the use of ChatGPT to generate the student's responses to show how this pedagogical technique could be used and how it is conceptualised. Future research may consider the participation of students and ChatGPT in the co-production of texts, using the proposed model of *AI-Enhanced Socratic Intra-actions to Develop Reflective and Critical Thinking*. Also, the use of questioning styles from various levels of education (high school, undergraduate, postgraduate) and different fields of studies could offer more nuances as the selected question was more of a general nature. By adopting different types of Gen-AI in the data generation process, including the paid version of ChatGPT for more refined or detailed text generation, data could be generated on different levels of critical and reflective engagements.

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