

Getting Started with AI in Writing: A Brief Guide for Students

What is Generative AI (GenAI)?

Generative AI (GenAI) is a type of artificial intelligence that creates new content by identifying patterns in vast datasets. Unlike traditional AI, which operates on predefined rules, GenAI uses machine learning to produce human-like outputs such as text, images, and videos. Tools like ChatGPT enable users to interact through text-to-text exchanges, making them powerful aids for writing.

How GenAI Works

GenAI relies on **large language models (LLMs)** trained on vast amounts of text data. These models use:

- **Tokenization:** Breaking text into smaller units (words or phrases) to process meaning.
- **Pattern Recognition:** Identifying relationships between words to generate coherent responses.
- **Predictive Text Generation:** Using probabilities to determine the most likely next word in a sentence.

While GenAI mimics human-like writing, it does **not understand concepts** the way humans do. Instead, it predicts the most statistically probable response based on its training data.

Looking Ahead: Opportunities and Challenges

While GenAI can be a powerful tool for academic writing and education, it also raises **important ethical considerations** related to accuracy, bias, and responsible use. Later sections in this resource will explore these challenges and offer strategies for using AI effectively in academic settings.

This introduction aims to provide a foundational understanding of GenAI's role in writing and education, equipping students with the knowledge to make informed decisions about its use.

Common GenAI Tools for Writing and Education

As educators and students, you may encounter various GenAI tools, each with unique applications:

Tool	Primary Use	Key Features
ChatGPT	General writing, brainstorming, Q&A	Conversational AI, text generation, academic support
Grammarly	Grammar and style enhancement	AI-powered proofreading, clarity suggestions
Claude	Research assistance, document analysis	Contextual understanding, long-form text analysis
Bard (Gemini)	Google-integrated research and writing	Web-based integration, multi-modal capabilities
DeepL Write	Academic translation, language refinement	Advanced linguistic accuracy, multilingual support

These tools can help streamline writing, enhance clarity, and provide new perspectives on academic work. However, **understanding their strengths and limitations** is crucial for ethical and effective use.

Capabilities of GenAI Tools

GenAI tools can assist you throughout the academic writing process, from idea generation to final refinement. Below are key capabilities with practical applications to support your writing and learning.

1. Brainstorming and Idea Generation

AI helps generate topics, arguments, or themes by analyzing prompts you provide, saving time and sparking creativity when you're struggling to start.

◆ **Example:** Ask ChatGPT, “What are some emerging trends in education policy?” and receive a list of topics like equity in digital learning or teacher retention strategies.

💡 **Tip:** Use AI suggestions as a starting point, refining ideas to align with your research goals.

2. Outlining and Structuring

AI organizes your ideas into logical frameworks, helping you structure your writing more effectively.

◆ **Example:** Provide a topic like *The Role of Technology in Education*, and AI can suggest an outline with sections on history, current applications, and future implications.

💡 **Tip:** Adjust AI-generated outlines to reflect your unique insights and incorporate any required academic frameworks.

3. Language and Grammar Support

AI can improve clarity, grammar, and style, making your writing more polished and professional.

◆ **Example:** Paste a draft paragraph into tools like **Grammarly** or **DeepL Write** to enhance readability

while maintaining your original voice.

💡 **Tip:** Review AI suggestions carefully to understand grammar adjustments and learn from them.

4. Summarization

AI condenses lengthy articles, books, or notes into key points, saving time when reviewing extensive literature or preparing for discussions.

💡 **Example:** Ask Bing Chat to summarize academic articles by providing key findings, implications etc.

💡 **Tip:** Cross-check AI summaries with the original source to ensure it is accuracy and completion.

5. Translation Assistance

AI can translate academic texts, making multilingual research more accessible, bridging gaps.

💡 **Example:** Use **DeepL** to translate a French research paper into English, maintaining tone.

💡 **Tip:** Pair AI translations with your own understanding of the source language to confirm accuracy.

Note: See **Appendix A** for a *Comparative Overview of Tools*

Limitations of Generative AI (GenAI) in Writing

While GenAI tools offer significant advantages, they also come with limitations that students must be aware of. Below are key challenges, supported by examples and guidance for responsible AI use.

1. Lack of Deep Understanding

GenAI generates responses based on patterns in data but lacks genuine comprehension of topics. This can result in **surface-level explanations** that miss critical nuances. It is important to critically engage with AI-generated content rather than accepting it at face value.

💡 **Example:** You ask ChatGPT to explain *critical pedagogy*, but it provides an oversimplified response.

💡 **Tip:** Use AI-generated content as a starting point; consult scholarly sources to ensure depth.

2. Potential for Inaccuracy

AI may produce outdated, incorrect, or fabricated information (often called *hallucinations*), leading to misleading conclusions. Even when responses sound plausible, they may contain errors or misinformation.

💡 **Example:** You search Bing Chat for a recent statistic; AI provides an outdated or nonexistent figure.

💡 **Tip:** Always fact-check AI-generated content by cross-referencing with reliable sources.

3. Reinforcement of Biases

AI models are trained on existing data, which may reflect societal, cultural, or linguistic biases, reinforcing dominant perspectives and excluding marginalized voices. This can lead to unintentional discrimination or perpetuation of stereotypes.

💡 **Example:** An AI tool “corrects” non-standard English, disregarding diverse linguistic expressions.

💡 **Tip:** Be critical of AI’s suggestions—retain your unique voice and recognize potential biases in AI

4. Privacy and Data Security Concerns

Some AI platforms store user inputs, raising concerns about confidentiality and intellectual property. Entering sensitive data into AI tools may put personal or academic information at risk.

◆ **Example:** You enter unpublished research ideas into, unaware the platform may retain data

💡 **Tip:** Avoid sharing sensitive or proprietary information. Review the AI tool's privacy policy before.

5. Limited Support for Higher-Order Thinking

GenAI can summarize and generate content efficiently but struggles with critical analysis, synthesis, and deep evaluation. AI lacks the ability to prioritize arguments or engage in sophisticated reasoning.

◆ **Example:** AI lists arguments for a topic but fails to evaluate their validity or prioritize effectively.

💡 **Tip:** Use AI for initial brainstorming but rely on your own critical thinking to analyze and refine.

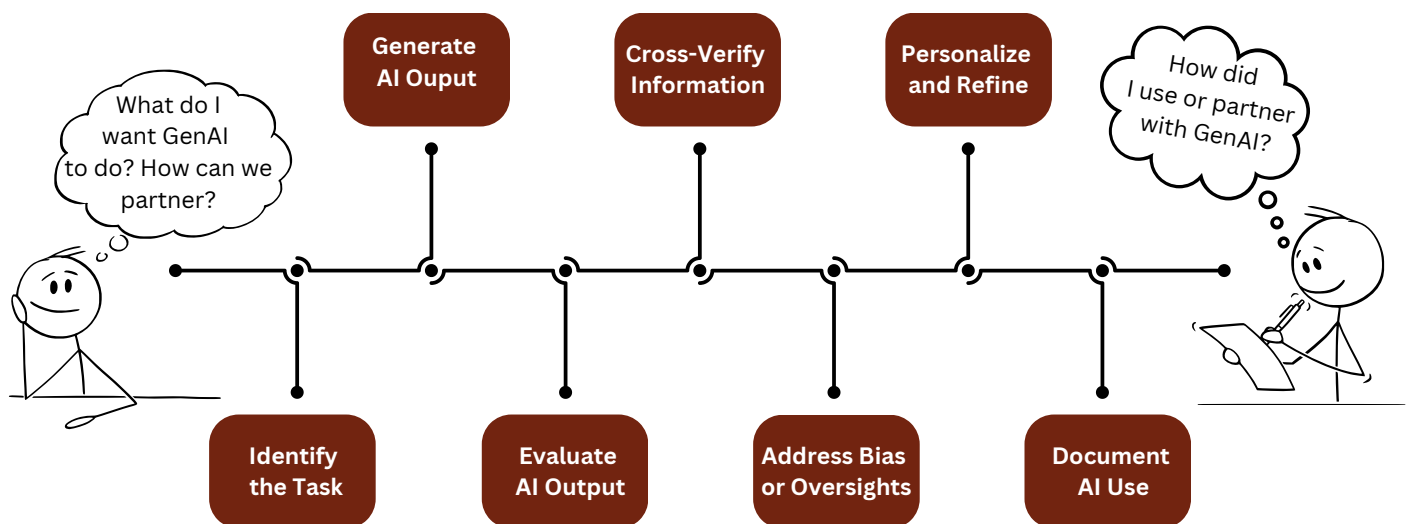
6. Over-Reliance on AI

Dependence on AI tools can hinder skill development, limiting growth in research, critical thinking, and academic writing. Relying too much on AI-generated content can weaken analytical abilities.

◆ **Example:** Relying on AI to draft essays, missing opportunities to practice structuring arguments.

💡 **Tip:** Use AI as a supplement, not a replacement—actively engage in your learning process.

Here is a **step-by-step process** for evaluating and addressing some of the limitations of GenAI:



Tips for Using GenAI Responsibly

- ✓ Treat AI as a **tool for enhancement**, not a substitute for deep learning.
- ✓ Verify information and cross-check with **credible sources**.
- ✓ Be mindful of **biases, privacy concerns, and accuracy limitations**.

Benefits of Using GenAI in Writing

Generative AI offers a range of benefits for academic writing, helping students at different stages of the writing process. Below are key benefits, practical applications, and examples to illustrate how GenAI can support graduate-level writing.

1. Efficiency in Idea Development

AI helps generate initial ideas, sparking inspiration for research topics, arguments, or themes. It can save time when brainstorming, especially when struggling to start.

◆ **Example:** Ask ChatGPT for topic ideas related to (X) and refine them based on your research goals.

💡 **Tip:** Use AI as a starting point but refine ideas to align with academic standards and originality.

2. Language Support for Multilingual Writers

AI assists in grammar, sentence clarity, and academic tone, helping non-native English speakers communicate effectively. It can enhance clarity without altering meaning, allowing students to focus on ideas rather than grammar struggles.

◆ **Example:** Use Grammarly to refine sentence structure and clarity in your writing.

💡 **Tip:** Compare AI's suggestions with your original text to learn from corrections.

3. 24/7 Accessibility

AI tools provide immediate writing support, even outside of typical tutoring hours. You can access feedback anytime, making AI a useful resource during late-night study sessions.

◆ **Example:** Use AI to proofread a draft at midnight when no tutors or peers are available.

💡 **Tip:** Combine AI proofreading with self-editing strategies to ensure strong academic writing.

4. Collaborative Writing Assistance

AI helps teams organize ideas, align writing styles, and refine content for group projects. It can streamline group work by improving consistency and reducing redundancy.

◆ **Example:** A team uses AI to create a shared outline for a presentation, ensuring clarity.

💡 **Tip:** AI should support, not replace, human collaboration; it enhances organization and focus.

5. Skill Development Through Iterative Writing

AI tools provide feedback on structure, argumentation, and coherence, helping students refine their writing skills. It can encourage active learning by enabling multiple drafts with AI-assisted revisions.

◆ **Example:** Use AI prompts to practice writing thesis statements or structuring arguments.

💡 **Tip:** Engage in revision cycles—use AI for initial structuring, then refine based on peer feedback.

How to Use These Benefits Effectively

✔ Use AI as a tool to **enhance, not replace** critical thinking and writing skills.

✔ Combine AI-generated suggestions with **your own insights and revisions**.

✔ Be mindful of AI's **limitations and biases**—crosscheck its recommendations.

Using GenAI Ethically

Ethical AI use in academic writing requires transparency, critical thinking, and adherence to institutional policies. Below are key principles to ensure responsible engagement with GenAI.

Transparency in Use

Disclose how AI contributed to your work to maintain academic integrity.

◆ **Example:** Add a statement like, "AI was used for brainstorming initial ideas and checking grammar."

All analysis and final revisions were completed independently.”

💡 **Tip:** Clearly communicate AI’s role in your writing, whether for drafting, editing, or idea generation.

Critical Engagement

Evaluate AI-generated content carefully, refining it to enhance depth and originality.

💡 **Example:** Use AI suggestions as a springboard but rewrite sections to ensure your unique voice.

💡 **Tip:** Question AI-generated content, cross-check information, and tailor to academic objectives.

Respect for Privacy

Avoid inputting sensitive or proprietary information to protect personal and institutional confidence.

💡 **Example:** For a confidential project, use AI for general guidance rather than detailed creation.

💡 **Tip:** Review the privacy policies of AI tools before sharing academic or research-related content.

Adherence to Academic Policies

Familiarize yourself with institutional guidelines on AI use to ensure compliance with all standards.

💡 **Example:** Check if your program permits AI for grammar support before using it for assignments.

💡 **Tip:** If policies are unclear, consult with your instructor or advisor to understand appropriate AI use in your coursework.

Using AI ethically ensures it remains a valuable tool for enhancing—not replacing—your academic writing and critical thinking skills. Let responsible AI engagement strengthen, rather than undermine, your learning experience. It can be useful to think of AI as augmenting what you can do yourself.

Ways You Can Demonstrate Transparency in Use

Before reading this, please consult of your course/program/institutional policies around AI use as this is not intended to replace policy but provide ways that you might enact a particular policy. Most policies and guidance surrounding AI emphasizes transparency and reflective practice. This section offers ways you can approach doing this important work and when and why it might be needed.

Describe the Role of AI in Assignments

Clearly explain how AI contributed to your work, whether it was used for brainstorming, drafting, organizing ideas, or revising. This makes it clear what part of the work was AI-assisted versus independently developed by you.

Example: In a footnote, you could write, “AI assistance was used in the initial brainstorming of ideas for this paper,” showing your instructor that AI played a supportive role without replacing your own contributions.

Reflect on AI’s Impact on Learning

Adding a reflection on how AI affected your learning process can help you think critically about the benefits and limitations of AI. This also demonstrates to your instructor that you actively engaged with the material rather than simply relying on AI. Your professor may already require this for class.

Example: You could write a reflective paragraph or two about how AI's topic suggestions helped you approach your research from new angles, while noting where you independently expanded on AI-generated ideas.

Submit AI Prompts and Outputs as Part of Documentation

Including the prompts you used and the AI's responses as an appendix or additional document helps your instructor see exactly how AI was integrated into your work and how you refined it.

Example: If you used AI to generate an initial draft, attach a document with the prompts and generated text to show the steps you took in developing your final piece.

Use Footnotes or Endnotes to Attribute AI Contributions

Use footnotes to credit AI's contributions in specific sections, especially if it provided ideas, wording, or structure. This clarifies where AI was used and helps maintain transparency.

Example: In a literature review, you might add a footnote to your document saying, "Section 2 includes AI-generated summaries for initial overviews of sources, which were further analyzed and expanded upon by the author."

Acknowledge AI Tools in Bibliographies or Acknowledgments

When AI tools play a significant role in a project, listing them in the acknowledgments or bibliography gives due credit, just like citing software or resources used in research.

Example: In a research paper, include a line in the acknowledgments like, "This project was supported in part by the use of ChatGPT for idea generation and proofreading assistance."

Showcase Independent Development in Process-Based Assignments

For assignments that include multiple drafts or stages, use each stage to demonstrate your independent progress alongside any AI support. This shows how your understanding developed.

Example: If AI helped with initial brainstorming, make sure that your later drafts show deeper analysis, critiques, and refinements that reflect your own thinking.

Include an AI Use Statement in Your Assignment Submission

Adding an "AI Use Statement" in your submission that specifies how and to what extent AI was used provides a formal way to communicate transparency and academic honesty.

Example: At the start of your paper, you could add, "AI was used to generate initial ideas for the introduction and to check for grammatical accuracy. All final revisions and content were completed independently by the author."

Checklist for Ethical Use of Generative AI in Academic Writing

Understanding Generative AI

- Learn what generative AI tools (e.g., ChatGPT) are and how they work.
- Understand that AI generates content based on patterns in its training data, which means its outputs might not always be accurate, unbiased, or reliable.
- Be aware that AI tools cannot verify the accuracy of their outputs or cite real sources.

Using AI Responsibly

- Check your course guidelines to understand when and how you are allowed to use AI tools for assignments.
- Use AI tools to support your writing process (e.g., brainstorming, outlining) rather than completing entire assignments for you.
- Always disclose your use of AI tools when required by your instructor or institution.

Academic Integrity

- Do not present AI-generated work as entirely your own. Using AI without acknowledgment can violate academic integrity policies.
- Avoid relying on AI tools to summarize texts instead of reading them yourself; this can limit your learning and critical thinking.
- Understand that excessive reliance on AI can hinder your development as a writer and thinker.

Developing Critical AI Literacy

- Question the accuracy and fairness of AI outputs. AI can reflect biases from its training data.
- Use AI suggestions as a starting point but critically evaluate and refine them using your own knowledge and voice.
- Learn how to integrate AI responsibly into your writing process without losing sight of your own ideas and creativity.

Ensuring Equity and Access

- If you struggle with accessing AI tools, reach out to your instructor or institution for support and resources.
- Use AI tools that are freely available or provided by your institution to ensure equity in access.
- Recognize that AI tools often favor standardized English and might not reflect diverse voices or styles.

Balancing AI and Your Own Work

- Remember that writing is a process that builds important skills like critical thinking, organization, and creativity.
- Use AI to support specific stages of your writing, like generating ideas or formatting citations, rather than relying on it for everything.

- Take pride in the learning process—your effort and personal growth are as important as the final result.

Maintaining Privacy

- Be cautious about sharing sensitive or personal information with AI tools, as their data use policies might not protect your privacy.
- Avoid pasting large portions of your writing or assignments into AI tools if you're unsure how the data will be stored or used.
- Ask your instructor if you have concerns about privacy when using AI tools for coursework.

Ethical AI Engagement

- Reflect on the ethical implications of using AI tools in your academic work. Ask yourself: "Is this helping me learn, or am I taking shortcuts?"
- Avoid using AI tools to circumvent the goals of an assignment, like analyzing texts or practicing writing skills.
- Consider the environmental impact of AI tools, which require significant energy to operate, and use them mindfully.

Seeking Help and Guidance

- If you're unsure about using AI tools for an assignment, ask your instructor for clarification.
- Reach out to writing centers, tutors, or peers for support in developing your ideas and improving your writing.
- Use AI tools as one resource among many—combine them with human feedback for the best results.

Reflecting on Your Use of AI

- After using AI tools, evaluate their impact on your learning. Did they help you understand the material better or just save time?
- Keep track of how and when you use AI tools so you can accurately disclose your use if required.
- Regularly review your approach to using AI to ensure it aligns with your academic and personal goals.

Conclusion: Making Informed Decisions About AI Use in Writing

The ethical use of AI in academic writing starts with understanding its capabilities, limitations, and implications. As AI tools become more integrated into education, it is crucial to approach them with critical awareness rather than fear or avoidance. This guide serves as a first step in developing AI literacy—not as a means to regulate or control AI use, but to equip you with the knowledge needed to make informed decisions about how and when to use AI responsibly.

Before using AI in any academic work, always check your institution, program, or instructor's policies on AI-assisted writing. Different academic environments may have distinct expectations regarding transparency, citation, and ethical considerations. Using AI without understanding these policies can have unintended consequences, even if your intentions are good.

Ultimately, responsible AI use is not about replacing human effort but about enhancing learning while maintaining integrity. The choices you make about AI should align with your own academic and ethical standards. By engaging critically with AI, being transparent about its role in your work, and balancing its use with your own writing and thinking, you ensure that these tools support rather than undermine your learning. Knowledge is power—the more you understand AI, the better you can use it to your advantage while upholding academic integrity

Appendix A: Capabilities of GenAI Tools: A Comparative Overview

Task	GenAI Tool	Description	Example Use
Brainstorming and Idea Generation	ChatGPT, Jasper AI	These tools generate ideas and topics based on user prompts.	<i>Ask ChatGPT:</i> "What are current challenges in inclusive education policy?"
Outlining and Structuring	ChatGPT, Notion AI	Helps organize ideas into logical frameworks.	<i>Use ChatGPT:</i> "Create an outline for a research paper on climate change impacts in education systems."
Language and Grammar Support	Grammarly, DeepL Write	Refines grammar, style, and sentence clarity.	<i>Grammarly:</i> Improve a paragraph's readability and coherence in an essay.
Summarization	Bing Chat, Perplexity AI	Condenses lengthy texts into key points for quick review.	<i>Bing Chat:</i> Summarize the main arguments of a 20-page policy report on school funding disparities.
Translation Assistance	DeepL, Google Translate	Offers translations of academic and professional texts while maintaining tone and accuracy.	<i>DeepL:</i> Translate a French journal article on pedagogy into English for citation.
Citation and References	ZoteroBib, Citation Machine	Generates accurate citations in multiple formats like APA, MLA, and Chicago.	<i>ZoteroBib:</i> Create citations for all articles in a literature review in APA format.
Proofreading and Editing	Grammarly, ProWritingAid	Identifies and corrects errors in writing, offering suggestions for improvement.	<i>ProWritingAid:</i> Edit a draft dissertation chapter for consistency and grammar.
Creative Writing Assistance	Jasper AI, Sudowrite	Generates creative text, such as narratives, dialogues, or poetry.	<i>Sudowrite:</i> Help generate ideas for writing a narrative about diversity in education.
Data Analysis Assistance	OpenAI Codex, ChatGPT	Provides insights by organizing and analyzing datasets or transcripts.	<i>ChatGPT:</i> Code and categorize interview data for qualitative research on student engagement.
Presentation and Visual Aid Generation	Canva, Beautiful.ai	Creates engaging visuals and presentations from user input.	<i>Canva:</i> Design a visual representation of the evolution of teaching strategies over decades.

GenAI can enhance the writing process by assisting with brainstorming, structuring, editing, and summarizing content. However, AI is a tool, not a replacement for critical thinking and academic integrity. Use AI strategically to support your learning while refining your own writing skills.

Appendix B: Sample Use of ChatGPT for Brainstorming

Oneway GenAI can be useful when writing (particularly tools like ChatGPT) is for brainstorming and problem-solving. Here is an example dialogue about a case analysis between a student and ChatGPT:



Student: Hi ChatGPT, I'm working on a case analysis about a school district struggling with high teacher turnover. I'm trying to identify the underlying issues. Can you help me brainstorm?



ChatGPT: Sure, I'd be happy to help! High teacher turnover can be influenced by multiple factors. To start, could you tell me more about the context? Are there specific aspects of the school district or community that might impact teacher retention?



Student: Yes, it's a large urban district with a diverse student population. The district also has limited resources, which affects salaries and classroom support. I think teacher burnout is a big issue, but I'm not sure what else to consider.



ChatGPT: Great details—teacher burnout is indeed common in such situations. Here are a few areas we could explore to understand the problem more fully:

- a. **Workload and Expectations:** Are teachers required to take on additional responsibilities due to limited staff?
- b. **Professional Development and Support:** Does the district provide sufficient training and support, especially for new teachers?
- c. **Student-Teacher Ratios:** High student-to-teacher ratios can contribute to stress and burnout. Do you have information on classroom sizes?
- d. **Community and Parental Involvement:** Sometimes, lack of community support can impact teacher satisfaction.

Would any of these areas be relevant for you to analyze further?



Student: Yes, all of them are relevant, but I think workload and classroom size are the most pressing. Can you suggest some questions I should consider to analyze these factors?



ChatGPT: Certainly. For **workload**, you might ask:

- What additional responsibilities do teachers have beyond instruction (e.g., lunch duty, administrative tasks)?
- How do these extra duties compare to those in districts with lower turnover?

For **classroom size**:

- What's the average student-teacher ratio in this district compared to others?
- How does classroom size impact teachers' ability to manage behavior and provide individual attention?

Considering these questions can help pinpoint specific areas to address in your analysis.



Student: That's really helpful! I'll dig into those areas and look at some research. I might come back to refine my findings and structure my analysis. Thanks!

GenAI like ChatGPT can also help **refine research questions** and narrow the scope of your research:



Student: Hi ChatGPT, I'm starting a research project on mental health in education, but I'm not sure how to make my question specific enough. Right now, my question is, "How does mental health affect students?"



ChatGPT: That's a good start! Mental health is a broad area, so narrowing it down could help make your research more focused. One way to refine it is to consider specific aspects of mental health, such as anxiety, depression, or stress. You might also focus on a particular age group or educational setting. Are there any specific aspects you're particularly interested in?



Student: I'm most interested in how anxiety affects high school students, especially in relation to their academic performance. I feel like that could be a good direction, but I'm not sure how to phrase the question.



ChatGPT: Focusing on anxiety and high school students sounds like a strong approach! You might frame your question around how anxiety influences specific academic outcomes. For example, "How does anxiety impact academic performance among high school students?" This narrows your question down but still leaves room to explore different aspects of academic performance, like grades, participation, or test performance.



Student: That sounds better, but I think I'd like to go a bit deeper. I'm also curious if there are specific factors in the school environment that might contribute to students' anxiety levels. Could I work that into the question?



ChatGPT: Absolutely! If you're interested in environmental factors, you could focus on school-related stressors, such as workload, social dynamics, or teacher expectations. A refined question might be, "How do school-related factors contribute to anxiety among high school students, and how does this anxiety impact their academic performance?" This question lets you examine both the causes (environmental factors) and effects (academic performance) of anxiety.



Student: I like that, but it still feels a bit broad. Is there a way to make it even more specific?



ChatGPT: Definitely. To narrow it down further, you could focus on one or two specific factors within the school environment. For instance, if workload is a major area of interest, your question could become, "How does academic workload contribute to anxiety in high school students, and what is the impact on their academic performance?" This version gives you a clear focus on workload as the contributing factor, allowing for a more detailed analysis.



Student: That's great! I think I want to focus on workload and maybe also on the role of peer pressure, since I've read that it can be a big stressor in high school. Can I include both of these?



ChatGPT: Absolutely! Including both is a great idea, as it allows you to compare how different factors influence anxiety. Your question could be something like, "How do academic workload and peer pressure contribute to anxiety among high school students, and how does this anxiety impact their academic performance?" This question sets you up to explore two distinct influences on anxiety and examine their individual or combined effects on performance.



Student: Perfect! I think that captures exactly what I want to study. Thanks for helping me work through the details!

In the first example, the student uses ChatGPT to generate possible areas of analysis, but the AI only provides initial prompts and categories. The student remains responsible for selecting relevant areas and ultimately performing the deeper research and analysis. This approach treats AI as a brainstorming tool, not a replacement for critical thinking. The student is actively engaged throughout the conversation, providing context, selecting focus areas (like workload and classroom size), and seeking guidance on refining their analysis. This interaction ensures the AI's suggestions are shaped by the student's own understanding and academic goals, preserving the originality of the final

In the second example, the student actively engages with ChatGPT to refine their question. ChatGPT suggests ideas but lets the student decide on the focus and scope, making the final research question a clear reflection of the student's interests and thought process. This approach illustrates how AI can support brainstorming and question refinement while keeping you in control of your work and ideas.