

## “Google It!” Walked, So “Ask ChatGPT...” Could Run: How AI Is Reshaping Undergraduate Learning Habits

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### Abstract

**Purpose:** This study examines the impact of AI tools, particularly ChatGPT, on undergraduate students’ learning habits, focusing on the shift from active learning to passive consumption of information. It explores how AI-generated responses influence students’ ability to think independently, develop unique perspectives, and actively engage with academic content. **Methodology:** A quantitative research approach was implemented to collect data through a 13-question online survey, examining how students across different fields of study engage with ChatGPT and traditional search engines like Google and how these tools impact their learning. **Findings:** ChatGPT is widely used (74.7–76%), but traditional search engines like Google remain dominant for academic research, with 96–98.7% of students favoring them for deeper learning and unique ideas. The majority of ChatGPT users are from science and technology fields. While many use ChatGPT for both quick answers and exploration, others rely on it for convenience. A majority (53.3%) feel AI has reduced their critical thinking, and 49.3% find it aligns with mainstream opinions. Though some students find ChatGPT helpful in expanding ideas, its tendency for generalized responses raises concerns about passive learning. **Novelty:** AI tools like ChatGPT contribute to passive learning by reinforcing surface-level understanding and mainstream perspectives. Unlike Google searching, where students may unintentionally come across new ideas through a variety of sources, this study highlights the risks of overreliance on AI, particularly in terms of independent thinking, information evaluation, and intellectual curiosity. **Implications:** Universities should integrate AI as a complementary tool rather than a primary source of knowledge. Refining teaching strategies and assessments will encourage deeper engagement with course material, helping undergraduate students develop active learning skills rather than passively consuming AI-generated information.

## Introduction

Artificial Intelligence (AI) is a branch of computer science focused on developing intelligent systems capable of learning, reasoning, and problem-solving (Ayeni et al., 2024). In education, AI's ability to adapt to individual learning styles has positioned it as a transformative tool, offering personalized learning experiences that cater to students' unique academic needs (Iqbal, 2023). This adaptability has been one of AI's most promising contributions to modern education.

Today, AI is no longer just associated with advanced supercomputers but has become an accessible tool integrated into everyday learning through applications like ChatGPT (Labadze, Grigolia and Machaidze, 2023). ChatGPT, in particular, has gained widespread use among students for tasks such as paraphrasing, explaining concepts, expanding notes, generating code, and even writing essays and research papers that mimic students' writing styles (Thi Thuy An, 2023). Its versatility allows it to support various fields of study, from programming and technical subjects to humanities and business, making it a convenient resource for academic work (Aithal and Aithal, 2023).

However, this convenience has also led to noticeable shifts in learning habits. Traditionally, students relied on search engines like Google, which required them to actively sift through sources, evaluate information, and make connections between different materials (Zhang and Yang, 2024). This process, though time-consuming, often led to unexpected discoveries like niche perspectives and deeper insights beyond the original query. In contrast, ChatGPT delivers immediate, direct answers tailored to specific prompts (Mogavi et al., 2023). While this efficiency saves time, it limits opportunities for exploration and reduces the likelihood of discovering new ideas organically. As Mogavi et al. (2023) argue, although AI enhances productivity, it may not be as effective in fostering deep learning, particularly in advanced, intellectual, and creative fields. As a result, an important question arises: does the widespread use of ChatGPT foster genuine learning, or does it encourage passive consumption of information?

Ongoing debates surrounding AI's impact on independent research highlight the need to examine how AI influences undergraduate learning behaviors. If students become overly dependent on ChatGPT, it could have long-term effects on their academic growth and future careers (Dahri, Yahaya, and Al-Rahmi, 2024). Overreliance on AI-generated content may limit originality and creativity (Habib et al., 2024) and impact students' confidence in forming independent viewpoints. As noted by Parsakia (2023), while some students may find AI helpful in reducing feelings of helplessness and anxiety, others may face long-term challenges with self-confidence in generating their own ideas. Additionally, this reliance could encourage "safe" or low-risk opinions rather than fostering intellectual curiosity and problem-solving skills (Uppal and Hajian, 2024).

Furthermore, students may develop habits of prioritizing efficiency over depth, potentially weakening their ability to engage with complex ideas and construct well-reasoned arguments. Addressing these concerns is essential in understanding AI's evolving role in education and ensuring it enhances, rather than diminishes, the depth and quality of undergraduate academic learning.

## Research Objectives

The research objectives of the study are as follows:

1. To examine how AI-generated responses encourage surface-level understanding rather than fostering deeper, more critical engagement with academic topics.
2. To explore how the shift from traditional search engines like Google to AI tools like ChatGPT influences undergraduate students' confidence in their ability to think independently and produce original ideas.
3. To assess the impact of reliance on ChatGPT on undergraduate students' academic habits, including their approach to research, information evaluation, and intellectual curiosity.

This paper aims to investigate how AI tools, particularly ChatGPT, influence the way students engage with course content, with an emphasis on

the shift from active learning strategies to passive consumption of information. By examining the impact of AI tools on student engagement, independent thinking, and academic confidence, the study seeks to help universities refine their teaching strategies to promote active learning and develop assessments that encourage deeper intellectual engagement, while effectively integrating AI technologies.

### Research Questions

The research questions of the study are as follows:

1. How does the field or major of study influence students' use of ChatGPT?
2. Does ChatGPT help or hinder students in developing unique perspectives in their assignments?
3. Does ChatGPT encourage students to adopt mainstream opinions over independent thinking?
4. Do undergraduate students still prefer Google for deeper learning and research, while relying on ChatGPT primarily for quick and convenient answers?

### Literature Review

#### Active & Passive Learning

According to Paul (2017), learning can generally be categorized into two types: active and passive. Active learning involves engagement, problem-solving, and interaction, while passive learning focuses on receiving and internalizing information (Paul, 2017). Both approaches shape how students absorb knowledge, but they differ in levels of participation and feedback.

Active learning occurs when students actively engage in discussions, solve problems, and collaborate in small groups. This method encourages critical thinking, self-reflection, and peer feedback, making learning more interactive and participatory (Odum, Meaney and Knudson, 2021).

In contrast, passive learning involves absorbing large amounts of information without direct engagement or feedback from peers or instructors. It is often associated with self-study, where

students process material independently. This method is convenient for instructors, as their primary role is to deliver content while students reflect on it at their own pace (Paul, 2017).

According to Børte, Nesje and Lillejord (2020), in higher education, the learning environment is often shaped by the course module's structure rather than the learning process itself. A research experiment conducted by Deslauriers et al. (2019) found that students' perceptions of their learning experiences are often linked to the teaching methods used in the classroom. The findings suggest that how instructors deliver lessons influences how students engage with and process information in their independent study.

#### Generative Artificial Intelligence & ChatGPT

In recent years, artificial intelligence (AI) has become a growing trend in the education sector, particularly in automation. With its ability to adapt to students' learning needs, AI offers opportunities to customize learning methods based on the strengths and weaknesses of both students and teachers (Oranga, 2024).

Generative AI has gained significant popularity due to its ability to create human-like content, including images, videos, text, and music. One of the most well-known examples is ChatGPT, developed by OpenAI and released on November 30, 2022 (Farhi et al., 2023). ChatGPT is particularly notable for its ability to generate text based on user prompts. Its responses range from essays, code, instructions, and much more (Wolfram, 2023).

Chen, Chen, and Lin (2020) explained that ChatGPT analyzes the context of a conversation to generate contextually appropriate responses. It continuously learns from user interactions, adapting its replies based on preferences and previous conversations.

In an experiment conducted by Baidoo-Anu and Ansah (2023), researchers tested ChatGPT's ability to handle topic changes by initially asking, "What is GPT?" and later shifting the discussion to COVID-19 and its impact on education. The results showed that ChatGPT could engage in human-like conversations, smoothly transitioning between

topics while maintaining coherence and creativity in its response.

A similar study by Opara, Mfon-Ette Theresa, and Aduke (2023) compared ChatGPT with Google in responding to the same search query. Google retrieved results based on its algorithm, ranking webpages for relevance, while ChatGPT generated direct responses based on its programmed knowledge and training data. This difference highlights ChatGPT's ability to function more like an interactive tutor, providing conversational responses.

### **ChatGPT in Student Learning**

There is a growing demand for personalized teaching and learning to meet students' evolving needs and accommodate flexible learning environments. ChatGPT enhances students' learning experience by providing real-time, personalized assistance, enabling quick access to information (Zhu et al., 2023).

In research by Opara, Mfon-Ette Theresa, and Aduke (2023), it was noted that using Google can be overwhelming for students, as it presents a vast amount of information ranging from highly relevant to less related, making the search process time-consuming. ChatGPT, on the other hand, simplifies access to information by generating responses tailored to students' learning preferences. Some students process information better through detailed explanations, while others prefer concise summaries.

ChatGPT, in its most basic form, helps students generate responses and serves as a starting point for structuring their thoughts when learning a topic or completing assignments. Gamage et al. (2023) described it as a great tool for sparking ideas. By offering immediate responses, it allows students to refine their understanding before conducting further research.

A study by Haindl and Weinberger (2024) found that undergraduate courses primarily rely on content-based lectures rather than active learning methods, though this varies by subject. ChatGPT supports this approach by integrating self-paced learning, helping students generate essays, explain coursework, and find quick answers. It reduces the

time spent searching for information, allowing students to focus more on comprehension. Additionally, it aids in understanding complex topics by breaking down explanations into simpler terms. However, recent research by Farhi et al. (2023) highlights concerns regarding the use of ChatGPT in coursework, particularly assessments. This raises doubts about students' overreliance on AI, as it challenges the development of independent thinking, originality, authenticity, and creativity.

ChatGPT lacks self-awareness and critical thinking capabilities. It generates responses based on patterns in its training data, which means it may sometimes present inaccurate or irrelevant information, leading to confusion and misunderstandings. It can only respond based on the prompts it receives and correct errors as instructed by the user. Additionally, it lacks a deep understanding of broader conversational contexts (Oranga, 2024).

As noted by Zhu et al. (2023), students who rely on AI-generated responses may struggle to develop critical thinking skills. Similarly, research conducted by Rudolph, Tan, and Tan (2023) highlights a major concern regarding undergraduate students' use of ChatGPT for assessments, specifically concerning its ability to generate entire essays within seconds. These essays can bypass AI detection tools and convincingly mimic a student's writing style. Furthermore, ChatGPT may provide false information that requires cross-validation. Its vulnerability to bias is another concern, as it is trained on widely available datasets, which can result in responses that reflect popular perspectives rather than nuanced or diverse viewpoints (Oranga, 2024).

This overreliance on AI poses a significant risk for students. While it is generally expected that individuals verify AI-generated content, ChatGPT's ability to deliver well-structured and relevant answers fosters trust, making students less likely to fact-check. Studies have explored the correlation between AI dependence and its impact on cognitive biases, decision-making, reasoning, and analytical thinking (Buçinca, Malaya, and Gajos, 2021).

There is a growing concern that the widespread use of ChatGPT may lead to a generation of students who engage with AI passively, lacking the critical thinking skills necessary for their careers (Rasul et al., 2023). However, the educational impact of artificial intelligence ultimately depends on how professors incorporate AI tools into their teaching strategies. Weimann-Sandig (2023) argues that AI can be beneficial when students are taught to use it thoughtfully and reflectively, and emphasized that critical thinking is not only shaped by sociocultural interactions but also by how students navigate digital spaces and leverage artificial intelligence for learning. The same study introduced an alternative perspective on ChatGPT's role in education, suggesting that instead of merely using AI to generate entire papers for submission, professors could guide students in critically analyzing and reflecting on AI-generated content. This approach encourages students to engage in cross-validation and evaluation rather than blindly accepting AI-generated text.

While artificial intelligence raises concern about its influence on students' cognitive development, particularly in higher education, it also introduces ethical challenges such as data privacy and AI-assisted cheating. Since assessments and coursework serve as crucial indicators of students' learning and career readiness, universities must take active steps to promote the development of higher-order thinking skills (Zhu et al., 2023). Educators play a vital role in fostering a balanced approach, integrating AI tools like ChatGPT into coursework while ensuring ethical practices that promote critical thinking, creativity, authenticity, and academic integrity (Farhi et al., 2023).

## Research Methodology

### Research Design

A quantitative research approach was implemented for this study to collect data on the learning habits of undergraduate students, focusing on their use of ChatGPT and its impact on their approach to assignments and discussions. The study measured the frequency of ChatGPT usage and explored how it influences students' academic behaviors, particularly in relation to their field or major of

study. Data was gathered through an online Google survey consisting of 13 questions, including 3 demographical, using a combination of multiple-choice and Likert scale items. The survey was distributed publicly through online academic survey forums and privately via direct messages to ensure that only undergraduate students participated.

### Participants

The survey participants consisted of 75 undergraduate students. The majority were female (73.3%), while male participants made up 22.7%. In terms of age distribution, 69.3% were between 18-20 years old, 20% were 21-23, and 10.7% were under 18. The demographics section also included students' majors or fields of study, with the majority belonging to the science and technology field (65.3%), which includes courses such as programming, creative computing, and cybersecurity. Other fields included Health and Medicine (12%), Business and Economics (10.7%), Social Sciences (10.7%), which includes psychology, and Arts and Humanities (1.3%).

**Table 1: Summary of Respondents**

Response Summary	Count   75	Percentage
<b>Gender</b>		
Female	55	73.3
Male	17	22.7
Prefer not to say	3	4
<b>Age</b>		
18-20	52	69.3
21-23	15	20
Under 18	8	10.7
<b>Major or field of study</b>		
Science & Technology	49	65.3
Health & Medicine	9	12

Business & Economics	8	10.7
Social Sciences	8	10.7
Arts & Humanities	1	1.3

**Data**

**Table 2: Responses for Quantitative Survey**

Survey queries	Responses
<b>What is your preferred method(s) of studying or researching?</b>	<b>%</b>
Using search engines (e.g., Google)	96
Using AI tools (e.g., ChatGPT)	74.7
Discussing with peers and mentors	62.7
Exploring physical or digital libraries	41.3
Online courses	2.67
Watching YouTube Videos	1.3
<b>Which of the following tools do you typically use for academic work?</b>	<b>%</b>
Search engines (e.g., Google)	98.7
AI (e.g., ChatGPT)	76
Social media platforms (e.g., YouTube, Pinterest)	65.3
Academic databases (e.g., JSTOR, Google Scholar)	60
Online forums or communities(e.g., Reddit, Quora)	45.3
<b>Do you feel more likely to develop unique or original ideas when using the internet (e.g., browsing multiple sources) versus using AI, such as ChatGPT for learning?</b>	<b>%</b>

Both equally	50.7
Yes, the internet helps me develop more unique ideas	41.3
I don't develop unique ideas using either	6.7
No, AI helps me develop more unique ideas	1.3
<b>How often do you use ChatGPT to assist with your studies?</b>	<b>%</b>
Sometimes	42.7
Often	41.3
Rarely	6.7
Always	5.3
Never	4
<b>When using ChatGPT for learning, do you feel the information is tailored to your needs or overly generalized?</b>	<b>%</b>
Tailored to my needs	42.7
Overly generalized	38.7
Neither	18.7
<b>Do you use ChatGPT more for quick answers or deeper understanding?</b>	<b>%</b>
Both equally	61.3
Quick answers	25.3
Deep understanding	13.3
<b>Do you feel that relying on ChatGPT reduces your ability to think critically about a topic?</b>	<b>%</b>
Sometimes	53.3

Yes	34.7
No	12
<b>How often do you find ChatGPT's info aligns with popular or commonly held views on a topic?</b>	<b>%</b>
Often	49.3
Sometimes	34.7
Rarely	6.7
Never	5.3
Always	4
<b>Do you feel that using ChatGPT has led you to adopt popular or mainstream opinions?</b>	<b>%</b>
No	46.7
Sometimes	44
Yes	9.3
<b>Has ChatGPT ever helped in exploring topics beyond the initial research or ideas?</b>	<b>%</b>
Yes	49.3
Sometimes	29.3
No	21.3

### Findings and Discussion

Based on the collected data, search engines like Google remain the dominant tool for academic research and studying, with 96-98.7% of students preferring them. Google's extensive range of sources, including academic papers, articles, and blogs provides students with broader opportunities for learning and deeper exploration of topics. This

makes it easier for students to engage with diverse perspectives and develop a more comprehensive understanding of their subjects. AI tools such as ChatGPT are also widely used, with an adoption rate of 74.7-76%, though they remain secondary to traditional search engines. This preference may stem from the perception that internet browsing helps students develop more unique ideas (41.3%) compared to AI tools (1.3%). Google's ability to direct users to a variety of content sources allows for more creative and independent thinking. Notably, 50.7% of respondents believe both methods are equally effective in generating unique ideas.

Beyond search engines and AI, discussing with peers or mentors (62.7%) is also considered a significant study and research method, highlighting the continued importance of human interaction alongside digital tools.

A comparison can also be seen in the use of academic databases (60%) versus physical or digital libraries (41.3%), suggesting a shift toward online research methods due to their convenience and accessibility.

Regarding ChatGPT usage for academic assistance, 42.7% of students use it "sometimes," 41.3% use it "often," 5.3% use it "always," and 4% never use it. This indicates that ChatGPT has become a frequently used tool in students' academic routines, with the majority incorporating it into their studies to some extent.

When it comes to the perception of AI-generated information and how ChatGPT delivers responses based on user prompts, 42.7% of students feel that ChatGPT provides tailored answers specific to their needs, while 38.7% find the information overly generalized. This suggests that while AI can personalize learning to some extent, it may still lack depth unless explicitly guided by well-structured prompts.

Regarding usage, a significant portion (61.3%) use ChatGPT equally for both quick answers and a deeper understanding of a topic or assignment. However, 25.3% primarily rely on it for quick answers, raising concerns about surface-level learning habits, as AI-generated summaries make

it easier to obtain information without deep engagement. This suggests that while ChatGPT can support research, some students may prioritize convenience over comprehensive learning and critical analysis, focusing more on efficiency than truly understanding their coursework.

This reliance on AI could impact students' critical thinking skills. When asked about this, 53.3% stated that using ChatGPT has sometimes reduced their ability to think critically, while 34.7% believe it does have an impact. These findings highlight concerns that AI may contribute to passive learning, where students consume information without actively reflecting on or engaging with the material (Paul, 2017). This aligns with broader discussions on whether AI fosters independent thought or simply streamlines the process of retrieving and submitting information to meet deadlines. Only 12% of students believe ChatGPT does not affect their critical thinking, reinforcing the idea that most students recognize the potential expense of cognitive skills when relying on AI.

A similar trend is observed in how participants feel ChatGPT's information aligns with popular or commonly held views. A significant portion (49.3%) find this happens often, while 34.7% report it happening sometimes. This indicates that the majority of students have experienced ChatGPT-generated text reflecting mainstream perspectives more frequently. As noted in a study by Ray (2023), ChatGPT relies heavily on widely available data. While this is useful for quick overviews of course topics, it limits the exploration of alternative or niche viewpoints, which could provide opportunities for students to expand their opinions and develop unique perspectives.

This observation is further supported by mixed responses regarding ChatGPT's role in helping students explore ideas beyond initial research. 49.3% of respondents found ChatGPT helpful in exploring topics beyond the initial idea, indicating that it can serve as a tool for deeper learning. However, 29.3% found it only occasionally useful, and 21.3% reported that it didn't help them explore further. This suggests that ChatGPT may not always stimulate deeper thinking without intentional input from the user.

Although ChatGPT often presents widely accepted information, it is important to note that 46.7% of participants reported that it has not led them to adopt popular or mainstream opinions. However, 44% feel that it has influenced their views to some extent. This relatively high percentage indicates that while many students remain critical in their thinking, their opinions may be subtly guided or reinforced by AI.

These findings align with existing research on AI-assisted learning. Gamage et al. (2023) highlight that while ChatGPT can help students build on existing knowledge with new insights, it is crucial to remain cautious, as AI-generated information may appear reasonable but is not always accurate. Similarly, Rasul et al. (2023) emphasize the importance of critically evaluating AI-generated content and prioritizing the learning process over merely producing answers.

Given these challenges, higher education institutions could adapt assessment strategies that focus on areas where ChatGPT has limitations, encouraging students to develop skills beyond AI's capabilities. As Sullivan, Kelly, and McLaughlan (2023) suggest, while ChatGPT may contain factual inaccuracies and biases, it also presents opportunities for universities to emphasize tasks that enhance active student engagement. Additionally, Baidoo-Anu and Ansah (2023) note that AI tools like ChatGPT can support students in improving their communication skills, demonstrating that its role in education extends beyond just information retrieval.

## **Conclusion**

In conclusion, ChatGPT has become a widely used tool in undergraduate learning, assisting students in research and studying. However, its use primarily fosters surface-level understanding rather than deep, critical engagement with academic topics and coursework. While ChatGPT provides quick and accessible information, it does not always encourage students to analyze concepts thoroughly or think independently. The growing reliance on AI raises concerns about whether it reinforces mainstream and biased perspectives rather than fostering unique and diverse viewpoints.

ChatGPT's impact on academic habits is evident, as students often prioritize convenience over comprehensive research, reinforcing passive learning behaviors. This trend could pose risks to their academic growth and future careers, highlighting the need for a more balanced approach to learning. The study also suggests that students' reliance on AI varies by field of study, with science and technology students making up the majority of users. This may be due to AI's ability to provide easy access to coding assistance and technical concepts.

Despite AI's growing presence, traditional research methods, such as search engines and academic databases remain essential for in-depth learning. These methods provide students with access to a wide range of sources, offering a more comprehensive approach that supports the organic development of ideas through active engagement with diverse materials. These findings highlight the importance of integrating AI as a complementary tool rather than a primary source of knowledge. Ultimately, while AI can enhance learning, overreliance on it may hinder intellectual curiosity and independent thought. Encouraging a balanced approach that combines AI with traditional research and critical analysis is crucial for ensuring meaningful academic engagement.

### Limitations and Recommendations

As with any study, certain limitations should be acknowledged. First, the sample size was limited to 75 undergraduate students, which may not fully represent the diverse academic experiences across different fields of study. A larger and more diverse pool of participants across a range of courses would provide a broader perspective, as different fields require varying levels of research and coursework, which may influence how students use ChatGPT.

Second, the study focused on a single point in time and did not track how students' reliance on ChatGPT might evolve over time. This study would have benefited from including questions in the survey that assessed academic performance over a longer period, or perhaps an experimental approach comparing groups that rely on ChatGPT with those who prefer browsing through Google.

Third, the study did not account for institutional differences, such as AI usage policies or academic integrity guidelines, which could influence how students use ChatGPT. These differences across universities or fields of study might affect how students engage with AI tools in their academic work.

To expand this study further, the following recommendations are proposed:

- Explore how students in different fields (e.g., Medicine vs. Technology) use ChatGPT and how its impact on their learning habits varies across different types of courses.
- Include qualitative research, such as interviews or focus groups, to gain deeper insights into how students perceive AI's influence on their learning behaviors and research practices.
- Examine the role of professors and tutors in AI-assisted learning. This can provide insights into their strategies on how they address concerns about AI overreliance and usage.
- Encourage universities to establish clear policies on ethical AI usage, helping students understand both the benefits and limitations of using AI-generated content in academic work.

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