



BRIDGING HUMAN CURIOSITY AND ARTIFICIAL INTELLIGENCE: THE LIVED EXPERIENCES OF BS BIOLOGY STUDENTS USING AI IN SCIENCE CLASSES

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ABSTRACT

This study explored the lived experiences of Bachelor of Science in Biology students using Artificial Intelligence (AI) tools in science-related classes who enrolled in the School year 2025-2026. The research aimed to understand how AI influenced students' learning experiences, academic tasks, comprehension of scientific concepts, and critical thinking. A descriptive research design, guided by Husserlian principles, was employed to capture the core meaning of AI integration within science education. Purposive sampling was utilized to select six BS Biology students from a private university in Dumaguete City who had direct experience using AI tools in their science subjects. Data were gathered through in-depth individual interviews and reflexive journaling, and analyzed using Paul Colaizzi's seven-step method. The findings revealed that AI tools served as highly accessible educational supports that helped students simplify difficult lessons, summarize lengthy materials, improve comprehension, and prepare for examinations, particularly in demanding subjects such as Chemistry and Biochemistry. Two major emergent themes were identified from the data: Visions of Tomorrow's Education with AI and Journeys of Transformation in Learning Through AI, with each major theme containing four distinct subthemes. While informants experienced AI as a convenient tool that boosted their academic confidence, curiosity, and learning efficiency, they also expressed significant concerns regarding its technical limitations. These included risks of overdependence, misinformation, calculation errors, prompt sensitivity, and reduced independent critical thinking. Informants emphasized the vital importance of verifying AI-generated information using textbooks and lectures rather than relying entirely on the technology.

The study concluded that AI can effectively support and enhance science learning when used responsibly and alongside traditional learning methods.

Keywords: *Artificial Intelligence, Science Learning, Phenomenology, AI Integration, Student Experiences*

INTRODUCTION

Public interest in Artificial Intelligence (AI) has grown significantly in recent years. AI is increasingly reshaping educational practices through tools such as intelligent tutoring systems and machine learning-based assessments, enhancing student engagement, feedback, and adaptive learning pathways (Zha et al., 2025). Science education, particularly biology, has become a key area for AI integration as it enables dynamic learning through simulations that model environmental changes and genetic processes (Telaumbanua, D. 2025). Over-reliance on AI occurs when users accept AI-generated recommendations without question, leading to errors in task performance in the context of decision-making (Zhai et al., 2024). In a domain-independent, incentive-driven, interactive behavioral experiment, we discover that people over-rely on AI-generated counsel simply because they are aware of it; that is, they follow AI advice even when it conflicts with their own evaluation and available contextual information. This over-reliance often results in unfavorable consequences for third parties in addition to ineffective outcomes for the advisee (Klingbeil et al., 2024). This study explores the effects of over-reliance on AI on human cognitive functioning, specifically on attention, memory, critical thinking, problem-solving, and decision-making skills (P, 2026). Furthermore, AI has the potential to optimize teaching processes while addressing time and budget constraints in traditional educational systems (Nykonenko, 2023).

In the Philippines, the structural acceleration of technology has prioritized Media and Artificial Intelligence Literacy (MAIL) frameworks within teacher training, though it faces notable domestic resource barriers (Sardo et al., 2025). This shift is evidenced by the National Artificial Intelligence Strategy Roadmap 2.0 (NAISR 2.0) stating that “the pace of AI adoption across industries and society has significantly accelerated, exceeding initial expectations.” Across various universities in the Philippines, instructors have been utilizing AI tools to assist students in analyzing complex data, and these tools also support biological visualization during laboratory activities. Additionally, AI enhances learning by enhancing students' reading and thinking skills as well as by assessing cognitive activities to enable individualized training (Alharbi, 2023).

A similar research conducted by Paolp and Paglinawan (2025) aimed to investigate how Filipino science teachers viewed and perceived the use of AI tools such as ChatGPT in teaching science research. The results showed that while AI tools can be efficient in improving efficiency in teaching, teachers also expressed some concerns. Nevertheless, it is important to note that this research was conducted in a high school setting and did not touch on how students, especially those in higher learning institutions

such as BS Biology, personally experienced the use of AI tools in teaching science-related subjects.

The researchers aimed to explore the lived experiences of BS Biology students in their utilization of AI tools in science-related classes. This study was motivated by the researchers' personal observations that many BS Biology students had increasingly begun using AI tools to support their learning and academic tasks due to the demanding nature of their classes. While existing local and national studies discussed the use of AI in education, these often focused on other academic fields and mainly used quantitative approaches that emphasized learning outcomes rather than students' personal experiences. In the local context, the lived experiences of BS Biology students using AI tools in science-related classes remained underexplored. To address this gap, the students employed a qualitative phenomenological approach to gain a deeper understanding of how students experienced the integration of AI within their discipline. The findings provided valuable insights for science educators and academic institutions navigating the growing presence of AI in biology.

METHODOLOGY

Research Design

This study utilized a qualitative research design, specifically descriptive phenomenology, to explore the lived experiences of BS Biology students in their use of AI tools in science-related classes. Phenomenology was appropriate for this study because it aimed to capture and describe the core meaning or essence of a phenomenon through the lived experiences of individuals who had directly encountered it (Neubauer et al., 2019). The study aimed to describe and interpret how students experienced the integration of AI tools in their learning. The study was guided by Husserlian phenomenology, which focused on understanding participants' experiences as they were consciously lived and perceived, while setting aside the researchers' personal assumptions and biases through bracketing. This allowed the researchers to focus on the meanings participants attached to their experiences with AI tools in science-related classes. The researchers also employed reflexive journaling throughout the data collection and analysis process to help ensure that interpretations remained grounded in the participants' lived experiences.

Research Locale

The study was conducted in a private university in Dumaguete City that integrates technology into its learning environment and offers science-related programs such as BS Biology. The institution also recognizes the growing use of AI tools among students when used responsibly for academic purposes. It was selected as the research locale because it provided access to students who had direct experiences with the use of AI tools in science-related courses, making it a suitable setting for exploring the phenomenon under study.

Research Informants

The participants of this research consisted of Bachelor of Science in Biology students enrolled in a private university in Dumaguete City during the academic year 2025–2026. Only students who had completed at least two (2) years in the course were considered participants to ensure that they had sufficient experience in science-related subjects where they might have been exposed to using AI tools. This research made use of purposive sampling to obtain participants who could offer valuable and meaningful information about their experiences using AI tools in their science subjects. This type of sampling was appropriate for phenomenological studies because it focused on individuals with actual experience regarding the phenomenon under investigation. A total of six (6) informants participated in the study, while a seventh (7th) informant was interviewed to verify whether data saturation had been achieved. The responses of the seventh informant revealed no new significant themes or information, confirming that data saturation had been reached.

Research Instrument

An in-depth individual interview served as the primary tool for data collection in this study. One central question was used to guide the interview and encourage participants to share their lived experiences regarding the use of AI tools in science-related classes. Follow-up questions were then asked depending on the participants' responses to gain deeper insights into their experiences. Although the question was prepared in English, the informants were given the freedom to answer using English, Cebuano, or a combination of both languages. The interviews were audio-recorded with the participants' consent, while reflexive journals were utilized by the researchers to document observations, notes, and reflections throughout the interview process.

Data Gathering Procedure

Data collection for the study was conducted over the course of 4 months. Before conducting the interviews, the researchers secured permission from the Dean of the College of Arts and Sciences to involve BS Biology students as participants in the study. After obtaining approval, the researchers identified participants through purposive sampling and contacted them individually to schedule interviews at their convenience. The participants were informed about the purpose of the study, assured of confidentiality, and asked to provide informed consent prior to the interview. They were also informed about the recording process and their right to withdraw from the study within three (3) weeks. During the interviews, the researchers listened attentively and asked follow-up questions based on the participants' responses to gain deeper insights into their lived experiences. Each interview lasted approximately 20–30 minutes, depending on the participants' responses. Observations, reflections, and notable verbal and non-verbal cues were documented through reflexive journaling, while the recorded interviews were transcribed and reviewed for accuracy before data analysis.

Data Analysis Procedure

Paul Colaizzi's seven-step method is a qualitative data analysis approach used in phenomenological research to understand and describe participants' lived experiences through systematic analysis of interview data (Colaizzi, 1978; Gumarang et al., 2021). The method begins with familiarization, where researchers repeatedly read interview transcripts to gain a full understanding of participants' experiences. This is followed by extracting significant statements related to the phenomenon, formulating meanings from these responses, and organizing similar meanings into theme clusters. Afterward, researchers develop an exhaustive description of the participants' experiences, identify the fundamental structure or essence of the phenomenon, and validate findings through member checking or consistency of participant responses. In this study, Colaizzi's method was used to analyze the experiences of BS Biology students integrating AI into science learning, revealing that AI helps simplify complex topics, improve understanding, summarize lessons, and assist in exam preparation, particularly in Chemistry and Biochemistry.

RESULTS AND DISCUSSION

After a thorough analysis of the interview transcripts, including the significant statements and formulated meanings, the researchers identified emergent themes that capture BS Biology students' experiences in using AI tools in science-related classes. These themes highlight the various ways AI tools influence their learning, particularly in understanding lessons, supporting academic tasks, enhancing critical thinking, and shaping their responsibility and reliance in the learning process.

Emergent Theme 1: Visions of Tomorrow's Education With AI

The major theme, Visions of Tomorrow's Education, tackles the informants' experiences and perceptions regarding the use of AI in their science education. It discusses how AI became a helpful learning support tool in understanding complex scientific concepts, summarizing lessons, preparing for examinations, conducting research, and accomplishing academic tasks. After conducting in-depth interviews, the researchers found that informants viewed AI as a convenient and accessible tool that improved their comprehension, confidence, and efficiency in learning science, particularly in difficult subjects such as Chemistry and Biochemistry. However, informants also emphasized the importance of balancing AI use with traditional learning methods and personal understanding to avoid overdependence and misuse. While AI was considered beneficial in improving academic performance and productivity, informants acknowledged its limitations, such as inaccurate information, calculation errors, and reliability concerns.

Under this emergent theme are four sub-themes, namely: a) AI as the Future of Learning; b) Between Tradition and Technology; c) Thinking Beyond the Prompt; and d) The Flaws Behind the Intelligence.

Theme 1: AI as the Future of Learning

Table 1 shows the first subtheme, AI as the Future of Learning, which tells the participants' experiences in using AI as a learning aid in understanding scientific concepts, simplifying lessons, and improving comprehension in science classes.

Table 1.
Lived experiences of students in using AI as support
in understanding science lessons

Subject Probed	Core Ideas	Code	Essential Themes
Use of AI in understanding science lessons	• Simplifies complex science topics • Provides clear and concise explanations • Helps in exam and quiz preparation • Improves understanding of difficult lessons • Summarizes long notes and materials • Increases confidence in science learning	• Simplified learning • Clear explanations • Academic support • Better comprehension • Summarization • Confidence building	AI as Support in Understanding Science Lessons

This theme highlights how informants experienced AI as a helpful academic tool that improves understanding in science learning. Informants shared that AI simplifies complex scientific topics, provides clearer explanations, and helps summarize long and difficult lessons into more understandable forms. They also noted that AI improves their preparation for exams and quizzes while increasing their confidence in answering science-related tasks.

When I'm using AI during my science classes it can be very advantageous to my learning because there are certain times where my teachers are unable to clearly explain what they are trying to convey to us so with the help of AI, I am better equipped myself when taking exams, tests. (I1)

AI tools has been helpful for me on my classes involving sciences because it helps in simplifying explanations and also giving clear and concise answers to problems that are usually for people like me to understand. (I2)

(So sometimes we use AI for explaining processes, diagrams like that... especially in reporting and higher years in biology, dili gyud enough kung magbasa ra ka sa PPT.) So sometimes we use AI for explaining processes,

diagrams like that... especially in reporting and higher years in biology, it is not enough just to read the PPT. (I6)

The informant's responses indicate that AI contributes positively to students' comprehension and learning experiences in science subjects. According to Sarun (2026), AI tools such as ChatGPT and other educational technologies improve science learning outcomes and student engagement. Almasri (2024) also highlighted that AI-powered systems provide personalized learning support and immediate feedback that help students better understand scientific concepts.

Theme 2: Between Tradition and Technology

Table 2 shows the second subtheme, Between Tradition and Technology, which describes how informants integrate AI with traditional learning methods such as textbooks, lectures, and teacher discussions.

Table 2.
Lived experiences of students in integrating AI
with traditional learning methods

Subject Probed	Core Ideas	Code	Essential Themes
Integration of AI and traditional learning	- Balanced use of AI and textbooks - AI used alongside teacher discussions - Selective use depending on subject difficulty - Preference for reading books for deeper learning - AI used for summaries, not full dependence	- Blended learning - Selective usage - Traditional + AI integration - Supplementary tool - Not full dependence	AI as Supplementary Learning Resource

This theme shows that informants do not rely solely on AI but instead combine it with traditional learning methods. They emphasized the importance of balancing AI use with textbooks, lectures, and personal understanding. AI is mainly used for summarization and clarification, while deeper learning is still supported through traditional academic materials and teacher guidance.

(AI being that I was in a generation where AI was not available to us at that time you know luckily I've luckily AI is available in today's world diba unya, kuan sya kanang sauna kinahanglan jud ka mag notes, kinahanglan ka

maminaw jud sa maestra bahalag dili sya kabalo mo explain.) Since I came from a generation where AI was not yet available to us at that time, I consider myself lucky that AI is available in today's world. Before, you really had to take notes and carefully listen to the teacher even if they were not very good at explaining. (I1)

(Ako kay, I still believe in authenticity of science gyud kanang, dili siya mo dominate, dili gyud ko mo tuo na mo dominate sya, kay kanang naa mn guy researchers labi na katong mga senior researchers, senior, senior pa ni Sir... mga senior gyung researchers ba mas mo, mas na hown ilahang skills through traditional, traditional way of research ba, samot na mga methods na bag-o ra gi introduce kanang wala pa nila na adapt, so kanang dili ko mo tuo gyud na ma dominate sa ai kay mas more powerful gyapon ang human mind. Oo, oo I think, I think maka change sya kay naa man ghud uban na man ghud mo adapt mas, mas e prefer nila mo adapt sa unsay naa karon, pero naa poy uban na, gina tawag na sa wow sa business, btaw kay bag-o raman ghud mi ga entrep so gi tawag, gi tawag na ug laggards, I a g g a mao, mao ra laggards ba I a g g a r d, mura na siyag kato ganing mga dili mo adapt sa business ba, kanang mga dili mo adapt sa mga bag-o na trends, mo pa bilin lang gyud sila sa unsa ila tradition, unsa ilang traditional nga gi tuohan so murag ingon ana ba, ingon ana na perspective.) For me, I still believe in the authenticity of science. I do not think AI will dominate it because there are researchers, especially senior researchers, even those older and more experienced than Sir... whose skills were developed through traditional ways of research. This is especially true for methods that were only recently introduced and which they have not yet adapted to. So, I do not believe AI will dominate because the human mind is still more powerful. I think AI can bring change because some people are more willing to adapt and prefer what is available now. However, there are also people referred to in business as 'laggards' which we recently discussed this in entrepreneurship. These are people who do not adapt to new trends and instead remain committed to their traditions and long-held beliefs. That is the perspective I see. (I5)

(So AI will serve as guide ra nimo, dili ka mo-rely always, naa jud koy book.) AI will serve just a guide for you, you should not always rely on it, I still use books. (I6)

These responses suggest that students value the balance between AI assisted learning and teacher guided instruction. Hallström (2026) emphasized that proper AI literacy requires a balanced educational ecosystem that preserves student agency and prevents critical overdependence. Likewise, Kashif et al. (2025) found that teachers integrate AI into lesson preparation and classroom activities while maintaining the importance of direct instruction and classroom interaction.

Theme 3: Thinking Beyond the Prompt

Table 3 shows the third subtheme, Thinking Beyond the Prompt, which focuses on how AI influences students' critical thinking skills, independence, and academic behavior.

Table 3.
Lived experiences of students regarding AI's influence on thinking and responsibility

Subject Probed	Core Ideas	Code	Essential Themes
AI influence on thinking and behavior	• Can improve understanding when used properly • Risk of dependency on AI • Possibility of copying answers directly • Encourages comparison and reflection • Importance of responsible use	• Critical thinking development • Dependency risk • Copying behavior • Reflective learning • Responsible use	AI's Influence on Critical Thinking and Student Responsibility

This theme highlights the dual effect of AI on students' thinking and responsibility. Informants explained that AI can enhance understanding when used properly, especially through comparison and reflection. However, they also recognized the risk of dependency and the tendency of some students to copy answers without fully understanding the lesson. This shows the importance of responsible and critical use of AI in academic work.

It makes everything easier but it also makes you more dependent on it if not used properly. (I2)

People should use ethical considerations... they shouldn't misuse it just to get higher grades while others are working hard. (I3)

(So mao ng dili ra pod ta mag depend sa AI gyud, mas maayo gyud nang naa pod tay prior knowledge.) So we should not depend too much on AI, it is better to have prior knowledge. (I5)

The informants' statements imply that responsible AI use is necessary to maintain students' critical thinking skills and academic accountability. Tlili et al. (2023) explained that overreliance on ChatGPT may reduce students' independent thinking and evaluation skills. Similarly, Kashif et al. (2025) highlighted the importance of guiding students toward ethical and responsible AI usage in education.

Theme 4: The Flaws Behind the Intelligence

Table 4 shows the fourth subtheme, Limits and Reliability of AI in Learning, which discusses the challenges, limitations, and accuracy concerns of using AI in science education.

Table 4.
Lived experiences of students regarding limitations and reliability of AI in learning

Subject Probed	Core Ideas	Code	Essential Themes
Accuracy and limitations of AI	• AI sometimes gives incorrect answers • Errors in calculations and complex topics • Requires clear prompts for accurate results • Needs verification from other sources • Unequal access to AI tools among students	• Inaccuracy • Prompt sensitivity • Verification needed • Reliability issues • Digital divide	AI Limitations and Reliability Concerns in Learning

This theme highlights the limitations of AI as experienced by the informants. They noted that AI can produce incorrect or misleading answers, especially in calculations and complex scientific topics. Informants also emphasized the importance of verifying AI-generated information using books, lectures, and other credible sources. Additionally, issues such as prompt clarity and unequal access to technology were identified as challenges in fully maximizing AI in learning.

(Formulating kanang mga lets say say tawag gani ana kanang questions ana, naa may tawag ana, nalimot nuon ko. Basta kanang mag formulate kag questions na it may be too broad or too broad for the AI to understand na sayop usually usahay ilang ihatag nga answers nga dili nimo aw kanang, say tawag ana gani, dili nimo lets say- nalimot man nuon ko. Usually if sayop na prompt ang imong mahatag sa AI, sayop gyud ang answers nimo dayon, usually mao ra and also kanang mga if dili nimo tarongon ug surat ang prompt is lain gyud na answers ang kuan mugawas dira rami galisod gyud sa prompt making.) Formulating questions, what do you call that again? I forgot the term. It's when you create questions that may be too broad for AI to understand. When that happens, the answers it gives are often incorrect or not what you expect. If your prompt is wrong, the AI's answer will also be wrong. That's why we sometimes struggle with prompt making. If you do not write your prompt properly, the responses will also be different from what you want. (13).

(As I said kaganiha, AI is still learning. That's why, they can make mistakes. Muna nga, if you copy and paste your summarized answer, you need to read first before finalizing your answers or finalizing your statements. Kay, AI is still learning and they can make mistakes.) As I said earlier, AI is still learning. That is why it can make mistakes. So, if you copy and paste a summarized answer, you need to read it first before finalizing your answers or statements. Since AI is still developing, it can still produce errors. (I4)

(Always jud, dili jud siya reliable 100% ang AI.) Always, AI is not 100% reliable. (I6)

These findings indicate that students are aware of the limitations of AI generated information. Almasri (2024) stated that AI systems may produce inaccurate responses and require careful verification. Tlili et al. (2023) also warned about misinformation risks associated with AI generated content and emphasized the importance of validating information using reliable academic sources.

Emergent Theme 2: Journeys of Transformation in Learning Through AI

The major theme, *Transformation of the Learning Experience through AI*, centers on the emotional and lived experiences of biology students as they engage with AI in their science learning. It highlights how AI extends beyond being a cognitive support tool and becomes part of the students' emotional learning experience, shaping how they cope with academic challenges. Based on the interviews, participants described feeling increased confidence and relief when using AI, as it helped ease difficulties in understanding complex lessons and reduced feelings of stress and pressure in science subjects. They also shared a growing sense of curiosity and openness in learning, as AI encouraged them to explore topics further and engage more deeply with their studies.

Under this emergent theme are four sub-themes, namely: a) Confidence in Understanding Complex Lessons; b) Relief in Cognitive Clarity and Support; c) Curiosity Sparked by AI Engagement; and d) Convenience and Efficiency in Study Practices.

Theme 1: Confidence in Understanding Complex Lessons

Table 5 shows the first subtheme, Confidence in Understanding Complex Lessons by presenting how students use AI to make science lessons easier to understand. Their experiences reveal that AI helps improve comprehension, simplify difficult topics, and build confidence in learning complex scientific concepts.

Table 5.
Students' experiences in using AI for science learning show that it helps them understand difficult lessons more clearly and effectively

Subject Probed	Core Ideas	Code	Essential Themes
Students' confidence in understanding complex lessons through AI	• AI explains difficult lessons in simpler ways • Helps students understand complex scientific concepts • Improves comprehension and learning confidence • Provides clear and organized explanations • Supports independent learning and review	• Simplified explanations • Improved comprehension • Learning support • Confidence building • Clear understanding	Confidence in Understanding Complex Lessons

This theme highlights how AI serves as a powerful confidence builder for informants navigating the challenges of science learning. They shared that AI significantly boosts their academic confidence by simplifying complex scientific contexts and making difficult topics much easier to grasp. Informants emphasized that having AI as a direct aid during classes gives them the assurance they need to refine their skills and formulate the best possible answers for their tasks. Additionally, they noted that this increased confidence makes exam preparation feel far more manageable and convenient, as it empowers them to study independently from home with the certainty that they can succeed without needing to rely on tutors or peers.

(Yes, I feel way more confident to prepare for test, prepare for exams kay you know all you have to do is find an AI application and help you study, that's about it it's as easy as that you don't have to go to school, you don't have to be tutored, you don't have to ask questions or help from your classmates, you can do it all in your home, so yeah that's how AI has made me more confident.) Yes, I feel way more confident when preparing for tests and exams because, you know, all you have to do is find an AI application to help you study. That's about it, it's as easy as that. You don't have to go to school, be tutored, or ask questions or help from your classmates. You can do it all at home. So yeah, that's how AI has made me more confident. (I1)

(AI has actually was a great help during my science classes. It actually helps me formulate the best possible answers that there is and also helps me

hone my skills on have a better and a more refined understanding on certain topics.) AI has actually been a great help during my science classes. It helps me formulate the best possible answers and also helps me improve my skills by giving me a better and more refined understanding of certain topics. (I2)

(And my experience in this one is that it becomes easier for us to understand how science will help us understand what's the context of our- for example, what's the topic that we're talking about. And it gives us easier understanding what kung ano ato mahibal an. Yeah, katura.) My experience with this is that it becomes easier for us to understand how science helps us understand the context of things. For example, whatever topic we are talking about, it gives us a much easier understanding of what we should know about it. Yeah, that's all. (I4)

The findings show that informants who have strong self-efficacy are more persistent and exhibit greater academic resilience when navigating difficult courses. Rajapakse et al. (2024) highlighted how foundational frameworks rooted in self-efficacy theory heavily mediate an individual's confidence, structural preparation, and strategic persistence when navigating complex artificial intelligence concepts.

Theme 2: Relief in Cognitive Clarity and Support

Table 6 shows the theme Relief in Cognitive Clarity and Support, which highlights how AI helps students reduce confusion and gain clearer understanding in science lessons. Students described AI as a supportive learning aid that organizes information, simplifies difficult concepts, and makes complex topics easier to process.

Table 6.
Students' experiences in using AI in science learning show how AI provides clarity and academic support when dealing with challenging science concepts

Subject Probed	Core Ideas	Code	Essential Themes
Students' experiences of cognitive clarity and learning support through AI	• Reduces confusion • Gives clear explanations • Simplifies lessons • Organizes information • Supports understanding	• Cognitive clarity • Clear explanations • Learning assistance • Organized information • Reduced confusion	Relief in Cognitive Clarity and Support

This theme highlights how informants experienced a sense of relief and mental clarity when using AI to manage the heavy cognitive demands of science subjects. They noted that AI helps alleviate the feeling of being overwhelmed by information overload

and complex data, allowing them to easily organize their thoughts when dealing with multiple major subjects. Participants shared that AI breaks down difficult, multi-step concepts, such as complex biochemical reactions, into simpler and more digestible components. Additionally, they emphasized that understanding the core concept through AI provides a sense of relief, making it much easier for them to navigate, read, and research dense academic articles without getting confused by complicated terminology.

(More on sense of relief, because I was I was able to understand the concept, especially when I have reports and kaning mga subjects so sense of relief. Siya, in a way, na uh kasabot na ko aning sa topic and then pag nakasabot na ko ani nga topic mo ari nakog ani google and then pagbalik ra mo og research ay mo read kag mga daghang articles and then bisag unsa pa man nga words magka ramble ramble diha as long as you understand the concept you understand the topic easy na sya para nimo.) More on a sense of relief, because I was able to understand the concept, especially when I have reports and subjects like these. It gives me a sense of relief in a way because I finally understand the topic. Once I understand it, I can go back to Google and do more research or read many articles. Even if the words are all over the place, as long as you understand the concept and the topic, it becomes easy for you. (I6)

(For us na sa 2nd year usually chemistry- aw biochem, ingon ana jud because uhh there are certain topics that are hard kaayo i digest namo dayon murag uhh for murag nalimot nami ana thats why i-incorporate namo ang AI in understanding those kind of topics and usually uhh complex na mga lets say reactions didto pud- mas sayon- mas sayon maggamit ug AI kay iya gung i lets say i mais mais niya ang mga uhh steps gyud in those reactions.) For us in second year, especially in chemistry, uh, biochemistry, it's really helpful because there are certain topics that are very hard for us to digest immediately. Sometimes we even forget them, which is why we incorporate AI in understanding those kinds of topics. Usually, with complex reactions, it becomes much easier to use AI because it can break down and organize the steps involved in those reactions. (I2)

(Ahh wow, sige so science naturally complex and AI makes it somehow easier and kuan convenient for us kay, especially kay kuan man gud pod sometimes confusing kaayo ang mga, unya ma usahay kay ma overload gani imong mga knowledge like kana nga adlaw kay daghan ka na kat-onan sa science, about sa science kay daghan kaayo kag major ana ba so murag ma overload imohang, imohang knowledge so ang ai it helps you kuan arrange, arrange sakto ba, oh ka mo kuan sa AI.) Science is naturally complex, and AI somehow makes it easier and more convenient for us because sometimes the lessons can be very confusing. There are also times when your knowledge becomes overloaded, especially when you learn so many things in science in one day since we have many major subjects. AI helps organize and arrange the information properly for us. (I5)

The informants' responses indicate that AI contributes positively to students' confidence in learning, particularly in understanding difficult science concepts and completing academic tasks with greater assurance. Informants expressed that AI tools helped them feel more confident in studying by providing explanations, guidance, and immediate feedback when encountering challenging topics. According to Tiili et al. (2023), AI tools such as ChatGPT can support learning by providing immediate feedback, personalized assistance, and accessible explanations, which help enhance student engagement and understanding. This suggests that AI serves as a supportive learning tool that strengthens students' confidence and motivation in the learning process.

Theme 3: Curiosity Sparked by AI Engagement

Table 7 shows the third subtheme, Curiosity Sparked by AI Engagement, which focuses on how AI influences students' critical thinking skills, independence, and academic behavior.

Table 7.
Lived experiences of students regarding AI's influence on thinking and responsibility

Subject Probed	Core Ideas	Code	Essential Themes
Students' curiosity and engagement in learning through AI	• Encourages curiosity • Increases learning interest • Promotes active engagement • Supports exploration of topics • Enhances participation in learning	• Learning curiosity • Student engagement • Active participation • Topic exploration • Learning motivation	Curiosity Sparked by AI Engagement

This theme highlights how AI fosters academic curiosity and technological competence among informants in science learning. They shared that having immediate access to an AI that answers their questions naturally stimulates their curiosity and drives them to explore topics more deeply. Informants noted that the tool encourages independent exploration by suggesting broader, relevant topics that expand on what they are currently studying. Additionally, they emphasized that overcoming initial hesitation about relying on technology allowed them to actively investigate the capabilities and limits of AI, ultimately making them much more knowledgeable and skilled in using it effectively for their science classes.

(So murag mas ni develop akong curiosity towards science kay naa may ai nga mo tubag, mo tubag basin usahay wrong, usahay sakto so murag mas na curious ko, ingon ana ba.) So, my curiosity toward science developed more because of AI. Since AI answers questions—sometimes correctly, sometimes incorrectly—it made me more curious. (I5)

(Yes, because my AI, modified AI, suggests broader topics that... kuan that nga mutumpak ra gihapon sha sakong ug unsay akong gi studyhan.) Yes, because my modified AI suggests broader topics that still match what I am studying. (I4)

(I started using AI, firstly I was against using AI because I felt nga it was not my own abilities and akoang own efforts para mo excel ani nga class unya it was relying on you know relying on artificial intelligence which I felt very very I didn't feel good using it pero ag kato laging kuan kanang gi hatagan lang mig one week like wala jud koy lain choice adtu ni gamit jud ko kay naka learn ko ana from my own classmates so mao na sya ever since that I've found better ways to use AI and explore its capacities, its limits and that's where I've really really gotten and knowledgeable in how to use AI in my science classes.) I started using AI. At first, I was against using it because I felt it was not my own ability or effort to excel in the class, and that I was just relying on artificial intelligence. I did not feel good about using it. But when we were given only one week and I had no other choice, I used it. I also learned from my classmates. Since then, I have found better ways to use AI and explore its capabilities and limits, and that is how I became more knowledgeable in using AI in my science classes. (I1)

The mechanisms through which curiosity can support learning and motivation in science are first discussed in this perspective piece. Research into user-AI interactions indicate that engaging with adaptive digital tools can stimulate dynamic information-seeking behaviors and foster a deeper sense of cognitive self-awareness (Grosjean, 2024). This heightened curiosity shifts the learner from passive consumption to actively testing the bounds of the technology. These results offer fresh insights into the application of developing AI technologies. Teachers may help students reap the benefits of using AI by understanding the connections between self-efficacy, curiosity, and AI use.

Theme 4: Convenience and Efficiency in Study Practices

Table 8 shows the fourth subtheme Convenience and Efficiency in Study Practices, which highlights how AI helps students improve learning through faster access to information, easier understanding of lessons, and guided academic support. Students described AI as a useful learning tool that enhances study practices while emphasizing the importance of responsible use to maintain critical thinking and independence.

Table 8.
Students' experiences in using AI in study practices show how AI promotes convenience and efficiency in learning through faster access to information, improved understanding, and learning support

Subject Probed	Core Ideas	Code	Essential Themes
Students' study practices and learning efficiency through AI	• Saves study time • Provides quick information • Makes studying easier • Supports efficient learning • Improves study practices	• Study convenience • Learning efficiency • Quick access to information • Time-saving support • Academic assistance	Convenience and Efficiency in Study Practices

This theme highlights how AI serves as an efficient and comprehensive academic companion that enhances learning productivity for informants. They shared that AI makes academic life much easier by providing clear, consistent, and up-to-date information that fills in the gaps left by traditional resources like lectures, presentation slides, or search engines. Informants emphasized that AI streamlines time-consuming tasks, such as summarizing dense, multi-page research articles, which allows them to fully understand their topics without spending excessive time reading. Additionally, they noted that the accessibility and clarity of AI do not diminish their knowledge; instead, it provides them with extra tips, tricks, and deep understanding needed for tasks like class presentations, ultimately freeing up valuable time while helping them excel in their studies.

(Like, dili ka kasabot niya, pero karon AI has really made my life easier and it's really assisted me in excelling in academics Kay you know it's not like you know you have to hear the lesson from someone and that someone has to memorize it nya someone can make mistakes sa ilang pag tudlo pero AI you know very very consistent with their answers, very I would say up to date iyang information you know it makes things easier it gives additional information and while it's giving you the answers and informational you've looking for, hatagan pod ka'g tips and tricks ana how to memorize diba so even though nga kanang ang AI kay naka pa lessen sa akoang time of studying kay you know accessible na kaayu ang mga lessons karon, very clearly explained, that doesn't mean nagka lessen akoang smarts knowledge about you know my subjects it just means nga more time to do other things so that's how AI has really helped me excelling in studies.) Like before, I couldn't understand it well, but now AI has really made my life easier and has helped me excel in academics. Instead of needing to listen to a lesson from someone who might memorize it and possibly make mistakes in teaching, AI is very consistent with its answers. It is also, I would say, up to date with its information. It makes things easier, gives additional information, and while providing the answers and information you are looking for, it also gives tips and tricks on how to memorize. Even though

AI has reduced my time spent studying because lessons are now very accessible and clearly explained, it does not mean my knowledge or intelligence in my subjects has decreased. It just means I have more time to do other things. That is how AI has really helped me excel in my studies. (I1)

(So, using AI it is very popular nowadays kay mao naman nay ginagamit nato para mas masabtan gani ang atoang nga atoang mga lessons, especially kanang if especially if sa researches then mangita mog articles then usahay tapulan mog read sa tibuok gyud nga article especially among articles kay mo abot ug 10 pages ingna.) Using AI is very popular nowadays because it helps us better understand our lessons, especially in research. We look for articles, and sometimes we feel lazy to read the entire article, especially since some articles are as long as 10 pages. (I5)

(Because sometimes ang kana mang gung sa uh let's say sa Google or kana sa, YouTube, naay, naay dili complete or sometimes ma ma ano man jud ka kanang ma ma confuse, or dili ma clear sa imoha then, especially if naa naka sa higher years sa mag reporting sa, fourth year biology, dili gyud enough kung igo-ido rakag magbasa sa imong ppt so you need to understand pud sa imohang topic in order for your classmates to understand it as well.) Sometimes, when you use Google or YouTube, the information is incomplete or can be confusing and not clear. Especially in higher years, like in fourth-year biology when reporting, it is not enough to just read your PowerPoint. You really need to understand your topic so that your classmates will also understand it. (I6)

The informants' statements assessed whether the advantages of these methods extend to four categories of variables: according to Dunlosky et al. (2013) learning settings, student characteristics, materials, and criteria tasks to provide suggestions regarding their relative utility. Learning circumstances include aspects of the learning environment in which the technique is used, such as whether a student studies in a group or alone. Factors like age, aptitude, and degree of past knowledge are examples of student characteristics.

Conclusions

The study's findings showed that AI tools can effectively support and transform science learning for BS Biology students when integrated responsibly alongside traditional educational methods. Informants experienced AI as a powerful cognitive and emotional companion that simplifies complex scientific contexts, alleviates information overload, and builds essential confidence for independent exam preparation and classroom tasks. However, this academic convenience coexists with distinct technical flaws, such as calculation errors, prompt sensitivity, and structural risks like student overdependence and reduced critical thinking. To manage these limitations, informants successfully synthesized technology with tradition, utilizing AI primarily for rapid

conceptual clarity while strictly relying on textbooks, lectures, and prior knowledge to verify information. These findings imply that while AI successfully shifts students toward independent, self-directed study practices and provides cognitive relief, a student's academic success now heavily depends on their prompt competence, proving that technology cannot replace the human mind, direct teaching, or verified literature as the ultimate benchmarks for accuracy. To bridge the identified research gap regarding the underexplored lived experiences of higher education biology students in the local context, it is strongly recommended that academic institutions and science faculty provide formal orientations, explicit verification training, and structured guidance focusing on ethical, responsible AI literacy and prompt design. Furthermore, to advance the field, future researchers should employ quantitative or mixed-method approaches to empirically measure the long-term impacts of AI utilization on the critical thinking skills, independent learning, and actual academic performance of higher learning science students.

Compliance with Ethical Standards

In this study, the researchers followed proper ethical guidelines. Permission was obtained from the Foundation University Ethics Review Board before conducting the research. Informants were fully informed about the purpose of the study, and their informed consent was secured prior to their participation. Their involvement was voluntary, and they had the right to withdraw their statements within three (3) weeks after providing them. Confidentiality and anonymity of all informants were strictly maintained throughout the study. Additionally, artificial intelligence (AI) tools such as ChatGPT were used to assist in grammar checking, sentence construction, and organization of the paper. Tools such as Consensus and Google Scholar were utilized for gathering, reviewing, and synthesizing related literature. All outputs generated by these tools were carefully reviewed, validated, and refined by the researchers to ensure the accuracy and integrity of the study.

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REFERENCES

- Alharbi, W. (2023). AI in the Foreign Language Classroom: A Pedagogical Overview of Automated Writing Assistance Tools. *Education Research International*, 2023, 1–15. <https://doi.org/10.1155/2023/4253331>
- Almasri, F. (2024). Exploring the Impact of Artificial Intelligence in Teaching and Learning of Science: A Systematic Review of Empirical Research. *Research in Science Education*, 54(1). <https://doi.org/10.1007/s11165-024-10176-3>
- Antig, A., Arañez, S., Cañazares, C., & Palompon, D. (2024). Nursing Faculty Shortage Impact on Nursing Students: A Descriptive Phenomenological Study. *Nursing Research and Practice*, 2024(1). <https://doi.org/10.1155/2024/1751942>

- Colaizzi, P. F. (1978). Psychological research as the phenomenologist views it. In R. S. Valle & M. King (Eds.), *Existential-phenomenological alternatives for psychology* (pp. 48–71). Oxford University Press.
- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology. *Psychological Science in the Public Interest*, 14(1), 4–58. <https://doi.org/10.1177/1529100612453266>
- Grosjean, S., Giguère, L., Leach, J., & Mestre, T. (2025). Empowering self-care: leveraging user insights to co-design AI-powered self-care technology for Parkinson's disease. *FACETS*, 10, 1–18. <https://doi.org/10.1139/facets-2024-0324>
- Gumarang Jr, B. K., Mallannao, R. C., & Gumarang, B. K. (2021). Colaizzi's Methods in Descriptive Phenomenology: Basis of A Filipino Novice Researcher. *International Journal of Multidisciplinary: Applied Business and Education Research*, 2(10), 928–933. <https://doi.org/10.11594/ijmaber.02.10.10>
- Hallström, J., Mannila, L., Nordlöf, C., Heintz, F., Sperling, K., & Stenliden, L. (2026). AI literacy for K–12 education: an international Delphi study. *Interactive Learning Environments*, 1–18. <https://doi.org/10.1080/10494820.2026.2649553>
- Kashif, M., Ammar, M., Sellami, A., Chiu, T. K. F., Abbasi, S. A., & Ahmad, Z. (2025). Teachers' perspectives on AI integration in K-12 education: challenges, opportunities, and preliminary assessment model – a systematic review. *Computers in the Schools*, 1–27. <https://doi.org/10.1080/07380569.2025.2602507>
- Klingbeil, A., Grütznier, C., & Schreck, P. (2024). Trust and Reliance on AI — an Experimental Study on the Extent and Costs of Overreliance on AI. *Computers in Human Behavior*, 160(108352), 108352–108352. <https://doi.org/10.1016/j.chb.2024.108352>
- Neubauer, B., Witkop, C., & Varpio, L. (2019). How Phenomenology Can Help Us Learn from the Experiences of Others. *Perspectives on Medical Education*, 8(2), 90–97. National Library of Medicine. <https://doi.org/10.1007/s40037-019-0509-2>
- Nykonenko A. (2023). The impact of artificial intelligence on modern education: prospects and challenges. *Štućnij Īntelekt*, 28(AI.2023.28(2))), 10–15. <https://doi.org/10.15407/jai2023.02.010>
- P V, F. (2026). Cognitive Offloading in the Age of Artificial Intelligence: Psychological Implications of Excessive AI Dependence. *International Journal of Global Mental Health, Innovation, Policy, Action, Culture & Transformation*, 2(1). <https://doi.org/10.61113/impact.v2i1.1266>
- Paolo, J., & Paglinawan, J. L. (2025). Teachers' Perceptions on the Use of Artificial Intelligence Tools in Teaching Science Research. *International Journal of Research and Innovation in Applied Science*, X(V), 169–174. <https://doi.org/10.51584/ijrias.2025.100500016>
- Rajapakse, C., Wathsala Ariyaratna, & Shanmugalingam Selvakan. (2024). A Self-Efficacy Theory-based Study on the Teachers' Readiness to Teach Artificial Intelligence in Public Schools in Sri Lanka. *ACM Transactions on Computing Education*, 24(4). <https://doi.org/10.1145/3691354>
- Sardo, M. J., Villanueva, R., David, C. J., Coronado, P. I., & Obmerga, M. (2026). Design Thinking-Driven Policy Imperatives for the Curricular Integration of PISA 2029's MAIL Competency in Filipino In-Service Teacher Training. *GILE Journal of Skills Development*, 6(1), 32–48. <https://doi.org/10.52398/gjsd.2026.v6.i1.pp32-48>
- Sarun, H. (2026). The Role of ChatGPT in Enhancing Educational Outcomes and Learning Support. Zenodo (CERN European Organization for Nuclear Research). <https://doi.org/10.5281/zenodo.18374303>
- Telaumbanua, D. (2025). THE ROLE OF ARTIFICIAL INTELLIGENCE IN IMPROVING THE QUALITY OF BIOLOGY LEARNING. *Cognizance Journal of Multidisciplinary Studies*, 5(1), 78–84. <https://doi.org/10.47760/cognizance.2025.v05i01.007>

- Tlili, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D. T., Huang, R., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. *Smart Learning Environments*, 10(15).
<https://doi.org/10.1186/s40561-023-00237-x>
- Zha, S., Bragdon, M. M., Gong, N., Wang, J., Leavesley, S., Eaton, R., & Bosarge, E. (2025). A Case Study of Integrating AI Literacy Education in a Biology Class. *International Journal of Artificial Intelligence in Education*. <https://doi.org/10.1007/s40593-025-00476-8>
- Zhai, C., Wibowo, S., & Li, L. D. (2024). The effects of over-reliance on AI dialogue systems on students' cognitive abilities: a systematic review. *Smart Learning Environments*, 11(28), 1–37. <https://doi.org/10.1186/s40561-024-00316-7>

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