



Received: 01-04-2024
Accepted: 10-05-2024

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

The Use of Generative AI in Learning and Its Influence on Students' Academic Engagement in Noveleta Senior High School

¹Bulawan Aieron A, ²Tengco Rowel Louie, ³Barcenas Laika, ⁴Primero Warren, ⁵Convento Pauline
^{1, 2, 3, 4, 5} Noveleta Senior High School, Noveleta, Cavite, Philippines

DOI: <https://doi.org/10.62225/2583049X.2024.4.3.2809>

Corresponding Author: **Bulawan Aieron A**

Abstract

The conducted study entitled The Use of Generative AI in Learning and Its Influence on Students' Academic Engagement in Noveleta Senior High School seeks to provide insights on the relationship between the use of generative AI in learning and students' academic engagement. A sequential-explanatory mixed-method research design is applied in the study to supply in-depth enlightenment, discussion, and investigation of the evaluated and correlated variables. Eighty-seven (87) respondents served as participants for the quantitative phase of the study, and ten (10) interviewees for the qualitative phase. The respondents were selected using Convenience Sampling, a non-probability sampling technique. Findings

showed that use of generative AI has positively affected students' academic engagement and it improved their learning environment.

On the other hand, generative AI has been a great aid in enhancing students' learning and engagement. Using Pearson R- Correlation, the researcher found that there is a significant high positive correlation between use of generative AI and students' academic engagement ($r(87) = .765, p < 0.00001$), while it has a good effect on their academic engagement. Generative AI has also made students lazier and more reliant on it which bears a lot of risk especially in academics. The duality of generative AI has been evident to the respondents of the study.

Keywords: Generative AI, Academic Engagement, Laziness, Reliant, Enhanced Learning, Assistive and Convenient

Introduction

In today's world, a lot of people are now utilizing technology in their daily lives, especially Artificial Intelligence, which is becoming more popular. Generative AI refers to a collection of artificial intelligence systems that have the ability to create various forms of content such as written text, images, videos, music, computer code, and even intricate media combinations that closely resemble human-made creations (Farrelly & Baker, 2023) ^[12]. These systems understand and imitate patterns, styles, and structures in the input data they are instructed on using machine learning techniques, especially deep learning (Baidoo-Anu & Owusu Ansah, 2023; Halaweh, 2023; Rakowski *et al.*, 2023) ^[4, 14, 18].

The recent emergence of generative AI chatbots has further complicated the existing academic cheating issues that educational institutions face (Oravec, 2023) ^[23]. New York City Public Schools banned ChatGPT in early January 2023 due to concerns about academic dishonesty and the application's failure to foster critical thinking and problem-solving skills (Johnson, 2023) ^[15]. Because of this New York City is considering ChatGPT as an alarming threat because of how students misuse it in schools. In the Philippines, generative AI has become popular, especially at universities. However, On January 18, 2023, a number of students enrolled at the University of the Philippines Diliman were placed under investigation for allegedly submitting academic requirements using an artificial intelligence system (Estrellado, 2023) ^[11]. AI in education is a double-edged sword in that it generates and poses both a benefit and a threat to the existing educational system; it is also a weapon that could be abused by those with malicious intent (Hagendorff, T., 2020) ^[13]. That is why it is essential to always use it properly and adhere to the proper way of using it.

In the Noveleta Senior High School, students depend on Generative AI tools like ChatGPT instead of relying solely on their own creative ideas because these technologies offer substantial support in their academic tasks (Bulawan *et al.*, 2023) ^[5]. Additionally, Bulawan *et al.* 2023 ^[5] also stated in their studies that as students use and rely more on these tools, they have become more attached and addicted to them. However, through the use of those tools, students are also able to gain significant development in their learning as they are able to easily advance their study to learn at a much faster pace and utilize these tools

to help them in the lessons that they are struggling with as tools like Generative AI can foster their learning (Bulawan *et al.*, 2023) [5].

The researchers will conduct this study to investigate students' use of Generative Artificial Intelligence in learning and know their experiences with it. This study will also explore the influence of using Generative AI on students' academic engagement at Noveleta Senior High School. Moreover, the researchers selected this topic because Generative AI is becoming more relevant today. Investigating what it can do to students' academic journey will help the researchers understand what it brings to school.

Objectives of the Study

This research specifically aims to (1) determine the types of Generative AI students in Noveleta Senior High School used; (2) determine the ways on how students use generative AI in learning; (3) To determine if using generative AI has an effect on the academic engagement of students; and (4) To determine if there is a significant relationship between generative AI and academic engagement of students.

Methods and Materials

Mixed-Method Research is the type used for the conducted study. It is a type of study where it analyzes and requires both quantitative and qualitative data to explain a particular phenomenon, fill the gap in Research, or answer the research question. It is the chosen type of study by the proponents because it will provide a further understanding of the relationship between use of generative AI and students' academic engagement. With its ability to let the respondents be more involved in the study process, this type of Research enables to gather enriched evidence/data and profoundly answers the questions. Specifically, a Sequential-Explanatory method is the utilized design for the study. According to Creswell (2018) [8], this approach commences by gathering both quantitative and qualitative data. The latter is utilized to aid in the quantitative data's interpretation. The researchers initially collected quantitative data for the study utilizing this design, with the primary objective of evaluating the impact of generative AI on student learning and academic engagement. The initial stage of data collection involved administering surveys to the participants in order to obtain quantitative data for the research. Following that, a thorough evaluation was conducted, which formed the foundation for qualitative data collection. Once the quantitative data collection and analysis were complete, the researchers moved on to the subsequent stage, which involved the collection of qualitative data. The secondary approach utilized for data acquisition in the second phase was through interviews. The acquired data underwent a thematic analysis in order to ascertain and investigate the correlation between the utilization of generative AI and the academic engagement of students.

Results and Discussion

This study section thoroughly discusses the acquired results from the gathered data. It is divided into a two-part analysis and discussion anchored on sequential- explanatory design, wherein the quantitative data will be collected and analyzed first before gathering the qualitative data. The quantitative data results are computed through mean, frequency, percentage and Pearson R and divided into two parts to discuss the descriptives and correlation and provide answers

to the research problem. The qualitative data is then collected and undergoes the thematic analysis process to explain further and strengthen the results. During the qualitative data collection, the proponents based their questions on the highest and lowest mean in each table to support and further explain the results of the quantitative data.

Table 1: Types of Generative AI used by the Students

Types of Generative AI	Frequency (F)	Percentage (%)
ChatGPT	54	32.7%
Dall-E-2	2	1.2%
Google Bard (Gemini)	16	9.7%
Microsoft Bing	9	5.5%
Quillbot	42	25.5%
Grammarly	36	21.8%
Gencraft	2	1.2%
CiCi	2	1.2%
Claude 3 Opus	1	0.6%
Brainly	1	0.6%
Total	165	100%

Table 1 shows that the majority of the respondents have used ChatGPT, gaining a total of 54, or 32.7%, responses. This was followed by Quillbot gaining 42, or 25.5% of the respondents indicated it. For the third spot, Grammarly gains 36, or 21.8% of the respondent's responses. The Google Bard (Gemini) has gained 16 or 9.7% responses, followed by Microsoft Bing, which has 9 or 5.5%. While Dall-E-2, Gencraft, and CiCi have all gained a total of 2 or 1.2% response each. Claude 3 Opus and Brainly have gained the least, only 1 or 0.6% of the overall response.

This implies that Noveleta Senior High School students mostly use ChatGPT, Grammarly, and Quillbot. According to Hu (2023), ChatGPT has been the most popular AI in today's world. This indicates that students the types of generative AI they mostly use are text generated types of AI. These results have been strongly evident in Table 1. During the qualitative phase stage the researchers assessed why students mostly use text generated AI especially ChatGPT in school. **Assistive in schoolwork.** The first theme on why students mostly use generative AI like ChatGPT in school. Majority of the respondents have stated that they used it since it is the easiest AI to use and ChatGPT has provided them with accurate and quick answers. As stated by Respondent 1, *"For me, ChatGpt is the easiest to access among all the AI's generators because once you ask a question on it, ChatGPT can quickly give the answer. It also gives me an accurate answer and those factors are what made me like ChatGPT.* Respondent 5 has also added that, *"Because ChatGPT is easy to use when searching for ideas, guides and formats of formal and informal text. With just one click all the ideas will just show up to you.* Respondent 7 has expressed that *"I mostly used text generated AI like ChatGPT because they are user friendly, provide accurate results and are free for everyone."*

This implies that the reason why ChatGPT has been the most used type of AI is because of its ease of use and it has become an assistive tool for the students. ChatGPT made completing schoolworks much easier as students gained more ideas and it also helped them save their time. Furthermore, it has also been evident that the user-friendly and free access to ChatGPT is also a factor on why people mostly used ChatGPT in school. The use of ChatGPT has

been helpful to the students as it assisted them in their educational journey especially in completing their schoolworks. It has become a convenience tool since it can provide them with accurate answers. According to the study of Sok & Heng (2023) [27], ChatGPT facilitates not only the development of their schoolworks, essay production, and language translation, but also allows users to summarize texts, pose and respond to a variety of queries, and engage in peer-like interactions.

Laziness. The second theme on why students mostly use text generated types of AI like ChatGPT. Some of the respondents have indicated that they have been using ChatGPT because they feel lazy to do their schoolworks on school. They also added that ChatGPT is tolerating them to become more lazy since it can easily create their activities. As stated by Respondent 2 *“I have been using ChatGPT because I became lazy and I feel that ChatGPT can provide all the answers that I need. I’m also not that interactive anymore with the activities and it is also unfair for the students who answer the activities on their own. Because of this I mostly get perfect scores with the use of AI and those who use their solely knowledge make it unfair and it is unethical for me. Furthermore, there are also instances wherein AI is becoming inaccurate and it is becoming a hindrance to learning. Since AI doesn’t always provide an accurate answer, it can make me learn the wrong things.”* Respondent 1 has also added that *“As I always used AI in answering my activities, I became more lazy. Because ChatGPT always provides me with accurate answers and with my laziness I only learn a little from it because I only rely on AI.”* Respondent 3 has added that *“I become more lazy on doing schoolworks because I’ve become too reliant on using AI. One of the factors is the deadline and because I need to rush my schoolworks I have to heavily rely on AI tools.”*

As the students use ChatGPT because of its assistive features, one of the reasons why they also use it is because of their laziness. They have become more reliant on the use of ChatGPT since they always think that ChatGPT can do their activities. This made some of the students perform much lower on school since ChatGPT has been tolerating their laziness. Thus, having a discipline with the use of AI

would definitely help students and this may help them use ChatGPT in a good way.

The integration of artificial intelligence in schooling fosters the development of indolence in individuals. AI automates repeated operations, eliminating the need for humans to memorize information, utilize analytical thinking, or engage in cognitive processes (Duggal, 2023). The result of this qualitative stage has thoroughly been supported by the study of Duggal. Students' utilization of ChatGPT made them more reliant on it resulting in their laziness.

The researchers also aimed to understand why only few of the respondents have used an Image generator type of AI like Gencraft. **Unfamiliar.** The first theme that has been made on why students rarely use image generator type of AI. Majority of them have indicated that they have never heard of it. While some indicated that they don’t know how to use it. As stated by Respondent 5 *“Because I’m not familiar with that type of AI and I never used an image generator AI since I don’t have any ideas on what’s the purpose of that type of AI.”* Respondent 9 has expressed that *“For me, I didn’t know that there is already a type of AI that can generate images and I’m still unfamiliar with it. Since I mostly use text generated AI as it is what I mostly need in school.”* and Respondent 7 has stated that *“I mostly don’t use image generated AI like Gencraft because they are not as versatile or as widely applicable as text-based AI.”*

This implies that most of the students are unfamiliar and some of them never heard of image generator type of AI, especially Gencraft. As a result most of the students only utilize text-based AI in school as it is the one that can mostly help them. It has also been evident that the respondent thinks that image generator types of AI are not that versatile and widely applicable. Some of them did not even know the purpose of these types of AI.

AI is a field that is developing quickly, especially image generating AI. It has a lot of complicated algorithms and data that are not always clear. A lot of people do not know much and are unfamiliar about image generating AI, and it can make them afraid of the unknown (Lee, 2023) [20]. Furthermore, it has also been clear that respondents do not mostly use image generating type of AI because they do not really need it in their school.

Table 2: The Utilization of Generative AI in Academic Works

Questions		Frequency	Percentage
Where do you utilize generative AI in education?	To paraphrase source material	41	25.60%
	To enhance writing abilities	27	16.90%
	To better understand grammar and complex words	46	28.75%
	To gain information/assistance about the lessons/schoolworks	45	28.12%
What are the specific benefits/features you got from using generative AI?	Provides instant feedback/response	34	24%
	Improved personalized learning	45	31.90%
	Improved research writing skills	31	21.70%
	Increased academic engagement	32	22.40%

Table 2 shows how students utilize generative AI in their academic journey. In question number 1, choice 3 gained 46 or 28.75% of the total response, which is the highest—followed by “To gain information/assistance about the lessons or schoolwork,” which gained a total of 45 or 28.12% of the total response. This indicates that some of the students have utilized AI to gain information and help themselves in the lessons and in answering their schoolwork, followed by “to paraphrase source material,” which has gained 41 or 25.60% of the total response. To

enhance writing abilities is ranked 4th in question 1 as it gains a total of 27 or 16.90% of the total response. One respondent has added in the other option that generative AI has become helpful in creating code, categories, and themes. Table 2 also shows the specific benefits/features that respondents receive while using generative AI. The majority of the respondents have indicated that generative AI has improved personalized learning as it gains a total of 45 or 31.90% of the total response. This is followed by providing instant feedback/response, which gains 34 or 24% of the

total response. The rank 3 goes to increased academic engagement as it gains 32 or 22.40% of the total response. Followed by Improved research writing skills with a total of 31 or 21.70% response. At the same time, one respondent added that generative

The researchers also got the chance to assess the experience of the respondents on how they utilize generative AI, especially on better understanding grammar and complex words. **Suggestions and Feedback of AI.** The first theme on how they utilize AI in understanding grammar and complex words. Majority of the respondents have stated that the ability of AI to give suggestions and feedback on their works made them able to understand complex words that they still do not know. As stated by Respondent 7 *“With the utilization of AI tools like Grammarly and Quillbot it helped me develop my understanding of grammar and deep words. Since they always provide me with suggestions and they can correct my errors.* Respondent 8 has added that *“Yes, because when I’m struggling to understand unfamiliar words, AI tools have been a great help in explaining what its meaning is, that is why my vocabulary is expanding.”* Respondent 9 has stated that *“AI has been very efficient in developing my grammar and vocabulary especially when I encounter some deep words online. AI has been guiding and assisting me in my writing and whenever there is an unfamiliar word AI can easily explain what the word is to me.”*

As most of the respondents have utilized AI tools to better understand grammar and complex words it has been a help for them especially in expanding their vocabulary. It has been evident to the responses that the AI feedback and suggestion is what made them learn the complex words that they have encountered especially in their writing. Due to the fast responses of AI tools it has become a convenience tool for students who are struggling in grammar and in understanding complex words. According to the study of Cavaleri & Dianati (2016) [6], Students indicated that the explanations offered by Grammarly aided their comprehension of grammar rules. Grammar books and paper-based exercises on photocopied handouts are portable but do not offer the same level of direct interaction with pupils as online grammar checkers. In addition, the feedback received from Grammarly prompted a thoughtful consideration of grammar that may not have taken place otherwise.

Moreover, the researchers also assessed their experiences on how the utilization of AI affected their writing abilities. The first theme made is **Correcting Errors and Efficiency.** Majority of the respondents have indicated that they have been able to improve their writing skills because of how AI rapidly corrects their paper. As they used it they have been able to adapt and enhance how they write their papers. Respondent 9 has stated that *“AI has been very efficient in developing my writing abilities and vocabulary especially when I encounter some deep words online. AI has been guiding and assisting me in my writing and whenever there is an unfamiliar word AI can easily explain what the word is to me.”* Respondent 10 has added that *“As I utilized AI it made me realize all the errors that I have made in my essay and research which they are correcting. It helps me develop my grammar skills and vocabulary at the same time.”* Respondent 5 has also stated that *“With the utilization of AI tools, I’ve been able to improve my writing skills because AI always provides and corrects the errors in my sentences.*

Then this makes me learn more especially when I encounter some unfamiliar word suggestions on AI.”

The experiences of the respondents with the utilization of generative AI on enhancing their writing abilities has been great. AI tools have become a helpful tool for them, especially for those who are struggling and having a hard time understanding the proper way of writing. The real time correction that AI has given to the respondents has made them develop their writing skills which has been helpful in writing their papers in schools. Students can receive immediate and customized feedback on their work, which can help them quickly detect and correct errors. This immediate feedback can also aid students in understanding the core concepts of effective writing and provide them with guidance for improving their writing skills (Akgun & Greenhow, 2022; Nazari et al., 2021; Rudolph et al., 2023) [1, 21, 25].

The researchers also examined the experiences of the respondents and how their use of AI improved their personalized learning. **Advanced Study.** The first theme made is advanced study, most of the respondents stated that generative AI has become helpful in learning especially when they do advanced studying. This method gives them a lot of benefits since they are learning at an advanced pace and they can easily understand the lesson even before the teacher discusses it in the class. As stated by Respondent 9 *“To be honest I’ve been thankful to AI since I utilize generative AI to advance study and it helps me learn at a much more advanced pace. I utilize AI by gathering and searching for lessons even before the teacher discusses it and I use the feature of AI wherein they can generate practice quizzes that I can answer to test what I learned on that particular day.”* Respondent 3 has added that *“My use of generative AI has become great in learning since I can utilize it in advance studying. It also makes my learning easier since AI always provides me with suggestions and feedback which help me learn from my work.”* Respondent 4 has stated that *“AI utilization has helped me learn in a much easier way and with this tool I can also learn in advance which will give me advanced knowledge on the lesson even before the teacher discusses it.”*

The students' utilization of generative AI tools has been efficient in improving their personalized learning. Especially in advance studying, they have been able to use AI to gather all the study materials or lessons that they want to study. This gives them an easy and convenient way to study the lessons that the teacher will discuss with them. Additionally, through their advanced studying they have been also utilizing AI to create AI generated quizzes for them to assess what they learn when they are advanced studying. Advanced learning focuses on the educational and personal growth needs of advanced learners as they move toward greatness (Ericsson et al., 1993) [10]. Students that continue to do this kind of activity in their free time would be very efficient for them. They will just need to carefully understand and analyze the lessons that they will learn in advance. And also the educational exercises that are intended for beginners could be counterproductive for students who are further along in their education (Kalyuga, 2007) [17].

Furthermore, the researchers also determine the experiences of the respondents if the utilization of generative AI has improved their research writing skills. **Guide in Research.** The first theme is that some of the respondents have stated

that their research writing skills have been lifted since generative AI tools can guide them on how they can properly write their research. Thus, this method helps them gain a more comprehensive understanding on how they can properly write research and they have been able to hone their skills in research writing. As stated by Respondent 8 “Generative AI has become a helpful tool for me especially in developing my research writing skills. Because AI guides and assists me on my research writing which helps me develop my skills. However, AI also has a negative impact on my research skills since sometimes AI doesn’t provide accurate information or AI is providing made-up information.” Respondent 3 has added that “Yes, because when I create my research I ask AI, for example in creating the theoretical framework. I ask some theories that would be related to my study and it also helps me develop how I can properly structure the content of my research.” Respondent 9 has indicated that “AI has been a big help on research writing since it has been helpful for me in guiding my grammar on my research and correcting all the errors that I

have made. It also helps me save time since I can effortlessly paraphrase source material which gives me a lot of benefits.”

This implies that respondents' research writing skills have been honed by the generative AI tools. It's been a helpful tool for them especially in guiding them in research writing. AI tools have helped them format their research and how they can properly create some parts of it just by simply asking the AI. Furthermore, AI tools have also been an efficient tool in saving their time since it is also a great tool in paraphrasing source material that they get from literature or studies. According to the study of Khalifa and Albadawy (2024) [19], generative AI tools is an important technology that greatly transforms academic writing and research, enhancing efficiency. Artificial intelligence revolutionizes the process of concept development and research design by offering vital insights and enhancing procedures. It improves the quality of material by providing writing aid and analyzing emotional tone.

Table 3: The Usage of Generative AI on Learning

Usage of Generative AI	Mean	Verbal Interpretation
I believe generative AI technologies can improve my digital competence.	3.07	Moderate
Generative AI makes it easier for students to understand the lessons given by the teacher	3.01	Moderate
Generative AI tools have contributed to improving the overall academic rigor of my work.	3.16	Moderate
Using generative AI tools has expanded the scope of my ideas.	3.16	Moderate
Generative AI makes it easier for students to find study material	3.41	Moderate
Overall	3.162	Moderate

Table 3 shows the use of generative AI on students' academic and learning practices. The overall mean of Table 3 gains a total of 3.162, which has a moderate verbal interpretation, implying that generative AI has become moderately helpful for students. Statement 5 gains the highest mean with a total of 3.41, followed by statements 4 and 3, which both have a 3.16 total mean. Statement 1 gains a total mean of 3.07, while statement 2 gains the lowest mean of 3.01 with a verbal interpretation of moderate. This implies that the respondents' responses are neither strongly agree nor strongly disagree, but it is in between those. Furthermore, as statement 5 gains the most meaning, it is evident that students find generative AI helpful in finding study material.

In the qualitative stage of the study, the researchers assess if their utilization of generative AI has helped in finding study material. Majority of the respondents have stated that their use of generative AI has become helpful in finding lessons and study materials. **Searching up.** The first theme was on how their experiences affected finding study materials. As stated by Respondent 6 “Based on my experience in using AI tools, it's really useful and effective for searching out for lessons or study materials that I want to study. Because I can effortlessly just type in the lesson that I want and it will just show up.” Respondent 8 has added that “Yes because generative AI like ChatGPT has been an efficient tool for searching lessons especially if I need to further read some lessons that I'm struggling to understand. AI definitely is a big help as with one click all the information you want will be accessed quickly.” Respondent 4 has also stated that “Yes, Generative AI has become a helpful tool in finding lessons since it also made finding answers much easier. Then you can just either summarize or paraphrase the information or answer you got from AI using quillbot.”

Respondent 5 has expressed that “Yes, it made finding study materials easier because with just one click all the information will instantly show up on me.”

Generative AI tools utilization in searching for study materials and lessons has been helpful for the respondents. They can easily get the lessons that they want with just an AI tool. It can easily generate study materials and lessons that the respondents can use to study. This has become convenient for the respondents as they can easily get the information on a particular lesson whenever they forgot to take a note in the class. According to the study of Kenchakkanavar (2023) [3], AI-driven platforms and chatbots have the capability to facilitate ongoing learning by granting students unrestricted access to learning materials and services at all times, day and night. Artificial intelligence has the potential to decrease the expenses associated with education by facilitating access to education for a diverse group of students through task management, the development of digital textbooks, and the provision of cost-effective online courses.

The researchers also assess whether generative AI helps them in understanding the lesson of the teacher easier. **Synthesizing the Lessons.** The first theme on how AI has helped the respondents on understanding the lesson of the teacher. Most of the respondents have indicated that generative AI tools have made understanding lessons much easier since AI can synthesize large amounts of text which helps them learn it better. As stated by Respondent 9 “For me AI has been helpful in making the lessons easier since AI can easily summarize or create bullet points on large amounts of text especially if the lesson is too long. This made me more passionate about learning with the use of AI.” Respondent 10 has also added that “Yes, because generative AI has made hard questions and lessons by the

teacher much easier. I can just easily study them after the class if I'm struggling and it will help me learn the part I am struggling with." Respondent 1 has also stated that "When I found some lessons difficult to understand I asked AI to give me the main point or summary of the lessons. Then after it, I asked some follow up questions to help me gain further explanation about the lesson that I want to learn."

This implies that generative AI tools have become a great aid in helping students understand the lesson of the teacher better. Since there are some times where the students are struggling to understand the lesson of the teacher.

Generative AI tools have been their guide and partner in making their learning more enjoyable and easy. Generative AI tools serve as an efficient guide for those respondents that are struggling to understand the lessons. Artificial intelligence (AI) systems have been known to assist students in improving their areas of weakness. It provides educational resources tailored to address individual weaknesses. As an illustration, learners are required to complete a test prior to utilizing the application. The application then assesses their performance and offers suitable projects and courses accordingly (Fitria, 2021) [22].

Table 4: The Effect of Generative AI on Students' Academic Engagement

Generative AI Effect on Academic Engagement	Mean	Verbal Interpretation
Generative AI makes me interested in the lesson	2.70	Moderate
Generative AI increases my productivity in lessons.	2.95	Moderate
Generative AI increases my creativity and engagement in school activities.	3.17	Moderate
AI's way of linking what students like with the subject matter makes students understand more and are enthusiastic about learning.	3.16	Moderate
By using generative AI tools in this field, I was able to improve my educational journey.	3.03	Moderate
I recommend the use of A.I. tools to other students as it increases academic engagement.	2.86	Moderate
AI helps students improve their achievement in learning, thus improving academic engagement.	3.09	Moderate
Generative AI tools Boosts collaborative learning.	3.06	Moderate
Generative AI tools have improved my ability to present complex data effectively.	3.15	Moderate
I feel more confident in conducting statistical analyses with generative AI-powered tools.	2.76	Moderate
Overall	2.993	Moderate

Table 4 shows the effect of using generative AI on students' academic engagement. Based on the overall result of Table 4, it is evident that generative AI has moderately affected students' academic engagement. Statement 3 has gained the highest mean, with a total mean of 3.17, which indicates that generative AI has moderately increased the creativity and academic engagement of students. This is followed by statement 4, with a mean of 3.16 and a verbal interpretation of moderate. Statement 9 follows as it has a total of 3.15 total mean, which implies that respondents have a neutral response to Generative AI's improved abilities to present data effectively. Statement 1 gains the lowest mean of 2.70, which indicates the respondents have neither a strong agreement nor strong disagreement on it.

Table 4 overall indicates that generative AI affects students' academic engagement. This implies that students have moderately acknowledged the effects of generative AI, which improves productivity, interest, creativity, engagement, presenting complex data, and conducting statistical analyses. This result represents the utilization of generative AI well in the academic engagement of students at Noveleta Senior High School.

In the qualitative stage of the study the researchers also examined if their experiences in using generative AI has affected their creativity in engagement in school.

Generating Ideas. The first theme on how generative AI has impacted their creativity in school. Some of the respondents have stated that generative AI tools have become helpful in expanding their creativity since it provided them with endless ideas that they can adapt. As stated by Respondent 3 "Yes, because of AI I've become more creative. For example, if I create a poster I'll ask AI for the design that will fit on my poster so that my poster will look good. I also don't feel any guilt on using AI since I only ask for the suggestion of AI and I'm still the one who will create and change the design." Respondent 6 has added that "As an AI tool user I can definitely say that AI has been

a help in increasing my creativity. Since AI always provides me with endless ideas that I can adapt and apply to my work which expands the scope of my creativity." Respondent 9 has also stated that "Yes, generative AI has definitely helped me become more creative, especially in writing research. AI has provided me with a variety of ideas that have given me some pieces on how I can properly create my research. It has also been a help especially when there's creative poster making. I feel like through AI I can endlessly create innovative posters."

This indicates that the creativity of the respondents have been developed through the utilization of generative AI. Generative AI tools have provided them with endless ideas that help them in creating their activities in school and helping them develop their creative thinking. AI tools have also been a guide through their activities especially in giving them formats, explanation, ideas, etc. According to the study of Ali and Eshaq (2023) [2] AI technology can provide crucial insight and ideas to human designers by analyzing large quantities of data and uncovering previously unnoticed patterns. This can result in the identification of novel design concepts and viewpoints that may have been disregarded. In summary, the incorporation of artificial intelligence into design and art creation offers significant potential to transform these industries by leveraging the advantages of human creativity alongside the computational capabilities of AI.

Moreover, three respondents have indicated that the idea that generative AI generates are considered plagiarism for them. **Plagiarism and Less Engagement.** The second theme of generative AI has affected the creativity and engagement of the students in school. They have stated that using generative AI does not make them any creative since the idea is from AI so all the credits go to the tools. As stated by Respondent 2 "No, because I've become too reliant on the use of AI for example, If I have been asked on a recitation and I don't know the answer I would still ask for

help on AI and rely on it since I don't know the answer. With this I feel more less interacting on recitation. Additionally, on creativity it is a no since yes there is creativity on the answers of AI tools but all the credit still goes to the AI and not on myself. So for me using my own mind even though it's not that creative would still be much more creative rather than relying on the creativity of AI." Respondent 5 has also added that "For me, yes, AI has been a help in making work easier. However, AI didn't help me with my creativity since it is not my own creative mind that I used but it is the creativity of the AI. Because when I search on AI I won't be able to remember the information within just a few hours. Additionally, AI did not also contribute to my engagement in school since it only helped with answering my activities." Respondent 4 has stated that "AI has been a helpful tool for me but even though it's a help I still do not recite in class. However, AI tools have helped me increase my accuracy in doing academic tasks. But in terms of creativity AI did not contribute to it since AI creativity is credited to the AI itself not on myself."

This shows the duality of generative AI tools on respondents' engagement and academic works. AI can be helpful in guiding students in their work and enhancing their engagement through its interactive features. However, respondents may also consider the risk of using AI, especially plagiarism. It is important to take note that AI ideas are not their own. That is why utilizing it properly is essential so that AI can be an aid to them.

The use of AI tools in the educational community has raised concerns about maintaining strong academic integrity practices. This is because the algorithms used in these tools generate texts on various themes without including proper bibliographic citations. However, students find this tool attractive because it helps them in the process of developing academic work. Numerous research has already been conducted on this subject, that have concluded the plagiarism issues in using generative AI tools (Rodrigues *et al.*, 2024) [24].

The researchers also assess the experiences of the respondents if their utilization of AI made them more interested in the lessons of the teacher. **Prefers Teachers Teaching Methods.** Some of the respondents have indicated that they are more interested in the lesson if the teachers are discussing the lesson in the classroom. They have stated that AI tools did not make them more interested in the lesson since they only use it to get assistance from schoolworks. As stated by Respondent 8 "For me, No, because I get more interested in the lessons or discussion if the teacher discusses it in the classroom. Because I feel like AI is not enough to get me interested alone." Respondent 1 has also stated that "For me no, because the explanations of chatgpt about the answers doesnt go in my mind and my mind ability is not that advanced that will be able to comprehend ChatGPT completely. So the only thing that I do is ask ChatGPT and it doesn't help me get interested. That is why I really get more interested if our teacher is teaching and being interactive inside the classroom." Respondent 10 has added that "Based on my experience, AI didn't make me that interested in the lesson. But it definitely made me learn better. To be honest, the teaching style of the teacher is what

makes me more interested in the lesson especially if the teacher can easily get my attention."

This implies that generative AI tools did not contribute to the development of interest in some of the respondents. Their experiences showed that although AI can be a helpful tool in assisting them or guiding them in their schoolwork and learning. The traditional method of teaching is still what makes them more interested in the lesson, especially the teaching style of the teachers. They feel more interactive and interested if the teacher is teaching the lessons face to face in the classroom.

It has been shown that the way a teacher teaches can affect how well and how interested students are in the lessons (Coldren & Hively, 2009) [7]. Teachers keep an eye on, encourage, guide, and involve their students. Because they are experts, they are respected and have the power to decide what students should be rewarded or punished for. These duties show how a teacher and a boss are alike. The effect a teacher has on the school system is similar to the effect a leader has on the success of a company. So, in a high-power distance company, a teacher's job is similar to that of a leader in terms of the levels of power (Ryan *et al.*, 2017) [26].

Moreover, **Interactive Features of AI.** The second theme on how the utilization of generative AI has impacted respondents' interest in the lessons of the teacher. Some of them have stated that AI chats and interactive features make them feel like they are just talking to someone and they feel more interested in the lessons since AI can help them in the lessons that they want to study. As stated by Respondent 7 "Yes, generative AI has made me more interested and more interactive in school because it made learning more interactive through chatting with the AI. I feel like I'm just talking to someone when I use AI and this made me more interested in the lesson in school." Respondent 3 has added that "Yes because AI has helped me in learning and it made it easier for me to learn through just chatting with it. Through this method I become more interested in the lessons that our teacher is discussing in the classroom." Respondent 6 has stated that "Yes, with the assistance of AI it made me give more interest in the lessons since I know that whenever there will be a hard discussion AI can just assist me and even answer all the schoolworks given."

This implies that generative AI affected the interest of some of the respondents on understanding the lessons of the teachers. Generative AI tools unique and interactive features enable a more ease and convenient way of learning the lesson that they are interested about. The improved interest in the lessons made the respondents more eager to learn and this helps in improving their knowledge in school. According to the study of Kadaruddin (2023) [16], generative AI-driven content delivery promotes self-directed learning and facilitates it through its adaptability. Empowering respondents to direct their own educational trajectories. Furthermore, it has been observed that interactive and immersive learning experiences produced by generative AI enhance students' problem-solving, critical thinking, and comprehension abilities; this is consistent with contemporary educational goals of cultivating competencies relevant to the twenty-first century.

Table 5: Significant Relationship between the Use of Generative AI and Students Academic Engagement

Indicators	Pearson r value	P value	Remarks	Decision
The Use of Generative AI on learning and the students' academic engagement	0.765	0.00001	High Positive Correlation	Reject null hypothesis
Significant at 0.05				

As shown in Table 5, for the relationship between the use of generative AI and students' academic engagement in Noveleta Senior High School, a p-value of 0.00001 was obtained, which was lower than the significance level of 0.05. This indicates a significant relationship between the use of generative AI and students' academic engagement in Noveleta Senior High School. This means that both of the variables have a high positive correlation.

In the qualitative stage of the study the researchers got the chance to assess how the utilization of generative AI has affected the respondents' academic engagement. **Eager Learners.** The first theme that appeared based on the experiences of most of the respondents is Eager Learner. Majority of them have stated that their use of generative AI has affected their academic engagement in school. They have been able to recite, interact in the class, ask, answer and more as they utilize AI. The respondents stated the following:

“As for me, AI has affected my academic engagement, for example when there is a hard lesson and I'm struggling to understand it, AI has become the solution and when the teacher asks some question I can easily recite with ease and participate in academic works.”

“It positively helps me in my academic engagement because AI tools have helped me hone and develop my skills which made me more active and interactive in the classroom. Which made me feel more confident and eager to participate in the class. Especially when there is a recitation, groupings or class report.”

“AI has affected my academic engagement a lot since for example when I will do a report in front of the class tomorrow, I'll just ask for the assistance of AI tools like ChatGPT to help me prepare the topic that I will discuss. This made me much more interactive academically inside the classroom.”

This implies that respondents' experiences with the utilization of generative AI on learning has positively correlated on their academic engagement. Generative AI tools has been an assistive tool for students and it also helps the students learn the lessons they struggle with. This increases their academic engagement since they are more eager to answer because of what they have learned from the AI tools. They are also becoming more confident in their answers since every time they ask for AI tools about the information they want, AI tools can easily give it.

The study's results support the study of Kadaruddin (2023)^[16], stating that students' use of generative AI has increased academic engagement. Furthermore, the results in Table 5 showed a high positive correlation between the two variables of the study, which indicates that the utilization of generative AI in school is highly correlated with academic engagement. The integration of generative AI has made the students in Noveleta Senior High School more engaged in

activities as it has been evident in Table 5.

Conclusions

Based on the findings, the following conclusions were drawn:

1. The students in Noveleta Senior High School have mostly used text-generated AI, especially ChatGPT. As it has been an efficient assistive tool for them especially in creating and guiding them in their schoolworks.
2. The students have also been using generative AI tools to better understand grammar and complex words since they have been encountering unfamiliar words online. Through the suggestions, feedback and correction of AI tools they have been able to hone their grammar and understand those unfamiliar words
3. The students have become more creative and engage in academics with the use of generative AI tools as it has been generating ideas for them. However, plagiarism has been a concern for the students as it is not their own idea and some of them become reliant on AI which makes them less engaged in school.
4. The students' use of generative AI in school has a high positive correlation with their academic engagement in Noveleta Senior High School. They have been able to participate and interact more in the classroom with the use of AI tools as it has been an assistive tool for them in learning. This increases their knowledge with ease and makes them more eager to answer, participate and learn.

The researcher concluded that generative AI has become a double-edged sword for the students. It has been a good and efficient tool in improving their learning and academic engagement. However, it also poses plagiarism, laziness and over-reliance which can result in many risks. That is why it is important to utilize generative AI properly and adhere to the proper ethics of using it. Academic integrity is always important to keep in mind as it is important to be fair and honest in all the works submitted.

References

1. Akgun S, Greenhow C. Artificial intelligence in education: Addressing ethical challenges in K-12 settings. *AI and Ethics*. 2022; 2(3):431-17. Doi: <https://doi.org/10.1007/s43681-021-00096-7>
2. Ali A, Eshaq M. Using Artificial Intelligence for enhancing Human Creativity. *Journal of Art, Design and Music*. 2023; 2(2). Doi: <https://doi.org/10.55554/2785-9649.1017>
3. Anand Y Kenchakkanavar. Exploring the Artificial Intelligence Tools: Realizing the Advantages in Education and Research. *Journal of Advances in Library and Information Science*. 2023; 12(4):218-224. Doi: <https://doi.org/10.5281/zenodo.10251142>
4. Baidoo-Anu D, Owusu Ansah L. Education in the era of generative Artificial Intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. *SSRN Electronic Journal*. 2023;

- 7(1):52-62. Doi: <https://doi.org/10.2139/ssrn.4337484>
5. Bulawan AA, Tilos FG, Bulawan A, Samonte J, Alejo K, Carasicas M. The Lived Experiences of Students in Learning with Technology in Noveleta Senior High School: A Descriptive Phenomenological Research Study. *International Journal of Advanced Multidisciplinary Research and Studies*. 2023; 3(4):438-441. <https://www.multiresearchjournal.com/arclist/list-2023.3.4/id-1445>
 6. Cavaleri M, Dianati S. You want me to check your grammar again? The usefulness of an online grammar checker as perceived by students. *Journal of Academic Language and Learning*. 2016; 10(1):223-236. Retrieved from: <https://journal.aall.org.au/index.php/jall/issue/view/22>
 7. Coldren J, Hively J. Interpersonal teaching style and student impression formation. *College Teaching*. 2009; 57(2):93-98.
 8. Creswell JW. *Research design: Qualitative, quantitative, and mixed methods approaches* /. SAGE, 2018. <https://cmc.marmot.org/Record/.b57516595>
 9. Duggal N. Advantages and Disadvantages of Artificial Intelligence. *Simplilearn*, March 21, 2024. <https://www.simplilearn.com/advantages-and-disadvantages-of-artificial-intelligence-article>
 10. Ericsson KA, Krampe RT, Tesch-Römer C. The role of deliberate practice in the acquisition of expert performance. *Psychol. Rev.* 1993; 100:363-406. Doi: 10.1037/0033-295X.87.3.215
 11. Estrellado Carie Justine. Artificial Intelligence in the Philippine Educational Context: Circumspection and Future Inquiries. 2023; 4:16. Doi: 10.29322/IJSRP.13.04.2023.p13704.
 12. Farrelly T, Baker N. Generative Artificial Intelligence: Implications and Considerations for Higher Education Practice. *Education Sciences*. 2023; 13(11):1109. Doi: <https://doi.org/10.3390/educsci13111109>
 13. Hagedorff T. The Ethics of AI Ethics: An Evaluation of Guidelines. *Minds and Machines*. 2020; 30(1):99-120. Doi: <https://doi.org/10.1007/s11023-020-09517-8>
 14. Halaweh M. ChatGPT in education: Strategies for responsible implementation. *Contemporary Educational Technology*. 2023; 15(2):ep421. Doi: <https://doi.org/10.30935/cedtech/13036>
 15. Johnson A. ChatGPT in Schools: Here's Where It's Banned—And How It Could Potentially Help Students. *Forbes*, January 18, 2023. <https://www.forbes.com/sites/ariannajohnson/2023/01/18/chatgpt-in-schools-heres-where-its-banned-and-how-it-could-potentially-help-students/?sh=2e8e58316e2c>
 16. Kadaruddin K. Empowering Education through Generative AI: Innovative Instructional Strategies for Tomorrow's Learners. *International Journal of Business, Law, and Education*. 2023; 4(2):618-625. Doi: <https://doi.org/10.56442/ijble.v4i2.215>
 17. Kalyuga S. Expertise reversal effect and its implications for learner-tailored instruction. *Educ. Psychol. Rev.* 2007; 19:509-539. Doi: 10.1007/s10648-007-9054-3
 18. Kaplan-Rakowski R, Grotewold K, Hartwick P, Papin K. Generative AI and teachers' perspectives on its implementation in education. *Journal of Interactive Learning Research*. 2023; 34(2):313-338.
 19. Khalifa M, Albadawy M. Using Artificial Intelligence in Academic Writing and Research: An Essential Productivity Tool. *Computer Methods and Programs in Biomedicine Update*. 2024; 5:100145-100145. Doi: <https://doi.org/10.1016/j.cmpbup.2024.100145>
 20. Lee T. Fear of the Unknown and AI: Why Some College Administrators Are Resisting Change, June 5, 2023. [www.linkedin.com. https://www.linkedin.com/pulse/fear-unknown-ai-why-some-college-administrators-resisting-thomas-lee](https://www.linkedin.com/pulse/fear-unknown-ai-why-some-college-administrators-resisting-thomas-lee)
 21. Nazari N, Shabbir MS, Setiawan R. Application of artificial intelligence powered digital writing assistant in higher education: Randomized controlled trial. *Heliyon*. 2021; 7(5):e07014. Doi: <https://doi.org/10.1016/j.heliyon.2021.e07014>
 22. Nur Fitria Tira. Artificial Intelligence (AI) In Education: Using AI Tools for Teaching and Learning Process, 2021.
 23. Oravec J. Artificial Intelligence Implications for Academic Cheating: Expanding the Dimensions of Responsible Human-AI Collaboration with ChatGPT and Bard. *Jl. Of Interactive Learning Research*. 2023; 34(2):213-237. <https://philarchive.org/archive/ORAAII>
 24. Rodrigues M, Silva R, Ana Pinto Borges Franco M, Oliveira C. Artificial intelligence: Threat or asset to academic integrity? A bibliometric analysis. *Kybernetes*, 2024. Doi: <https://doi.org/10.1108/k-09-2023-1666>
 25. Rudolph J, Tan S, Tan S. War of the chatbots: Bard, Bing Chat, ChatGPT, Ernie and beyond. The new AI gold rush and its impact on higher education. *Journal of Applied Learning and Teaching*. 2023; 6(1).
 26. Ryan M, Taylor M, Barone A, Della Pesca L, Durgana S, Ostrowski K, *et al.* Teacher as researcher, teacher as scholar, and teacher as leader. *The New Educator*. 2017; 13(2):102-116.
 27. Sok S, Heng K. ChatGPT for education and research: A review of benefits and risks. *Cambodian Journal of Educational Research*. 2023; 3(1):110-121. Doi: <https://doi.org/10.62037/cjer.2023.03.01.06>