**Utilization of AI Software: The** **Transformative Impacts of Conversational Assistive AI Dependency on the**

**Academic Performance on Grade 11 and 12**

**Students at the Fisher Valley College Inc.**

**A.Y. 2023-2024**

A Research Presented To:

Junior High School Department

The Fisher Valley College, Inc.

Taguig City

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# ABSTRACT

**Utilization of AI Software: The Transformative Impacts of Conversational Assistive AI Dependency on the**

**Academic Performance on Grade 11 and 12**

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**A.Y. 2024-2025**

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**KEY WORDS:** Chatbot, Dependency, Rapid Technological Advancement, Decision-making Processes, Negative and Positive Effects, Students.

Despite spectacular recent developments in Natural Language Processing, the current generation of chatbots is not completely mature yet, and various mistakes are still made by these systems (Toader et al., 2019). Users frequently complain about mistakes, which hinders widespread adoption of this technology (Bührke et al., 2021; de Sá Siqueira et al., 2020).

Furthermore, this study will look into Chatbot's ethical issues, such as `these problems by using post-processing techniques, model training, and data selection. This study discusses Chatbot's shortcomings, such as its propensity to generate inappropriate or toxic content, its inability to comprehend context beyond short-term memory, and its propensity to generate repeated or generic responses. The researchers address about current research being done to address these issues, like enhancing discussion assessment measures and adding other knowledge sources.

In the era of rapid technological advancement, chatbots have become an integral part of our daily lives, providing instant solutions and convenience to our problems. However, this reliance on chatbots has given rise to a new phenomenon - chatbot dependency. As humans become increasingly dependent on these automated assistants, we are witnessing a profound impact on our relationships, mental health, and society as a whole. This essay explores the devastating effects of chatbot dependency, including the erosion of social skills, increased feelings of loneliness and isolation, and the loss of human empathy. Moreover, we examine the consequences of chatbot dependency on our cognitive abilities, emotional intelligence, and decision-making processes. As we continue to rely on chatbots for our daily needs, we must also acknowledge the risks and unintended consequences of this dependence. Ultimately, this essay argues that it is crucial to strike a balance between technology and human interaction to ensure that our relationships and society remain healthy and thriving in the face of this new phenomenon.

This study will probe into the negative and positive effects of Chatbot, the amount of time students spends on AI software, and the utilization of ai software on the students from grade 11 to 12 of The Fisher Valley College Inc. In order for us researchers to measure The Utilization of Ai Software platforms of the students, a survey was developed. About 81% of students at The Fisher Valley College, Inc. from Grade 11 to 12 were able to participate and complete the survey, and their responses were conscientiously analyzed and calculated by our own researchers.

With this study, the researchers aim to shed light on the present status of Chat research and provide recommendations to academics, developers, and legislators on how to make the most of it while taking ethical and practical limits into account.

# Chapter 1

# THE PROBLEM AND ITS BACKGROUND

**Introduction**

In the ever-evolving landscape of technology, chatbots – conversational AI programs – have emerged as a powerful force. These virtual assistants are transforming the way we interact with businesses, access information, and even navigate our social lives. However, this burgeoning reliance on chatbots presents a double-edged sword. While they offer undeniable advantages, an overdependence on these automated assistants can have unforeseen consequences.

A “chatbot” (originally chatterbot) is a software application or web interface that is designed to mimic human conversation through text or voice interactions. Modern chatbots are typically online and use generative artificial intelligence systems that are capable of maintaining a conversation with a user in natural language and simulating the way a human would behave as a conversational partner. Such chatbots often use deep learning and natural language processing, but simpler chatbots have existed for decades. However, this growing reliance on chatbots presents a double-edged sword, impacting our problem-solving skills, human interaction, and the way businesses operate.

On the positive side, chatbots excel at providing instant and readily available assistance. They can answer frequently asked questions, streamline routine tasks like scheduling appointments or placing orders, and offer 24/7 support. This frees up human employees to focus on more complex issues and personalized interactions. For businesses, chatbots reduce operating costs and improve customer satisfaction by offering immediate resolution to basic inquiries.

However, overdependence on chatbots can have detrimental effects. Chatbots are limited by their programming and lack the nuance of human understanding. They often struggle with complex queries, leading to frustration and wasted time for users. Furthermore, the reliance on pre-programmed responses can create a sense of detachment and impersonal interaction. This can be particularly problematic in situations requiring empathy, emotional intelligence, or creative problem-solving.

For individuals, excessive dependence on chatbots can hinder the development of critical thinking and problem-solving skills. When faced with a challenge, the first instinct may be to rely on the chatbot for a solution, rather than taking the initiative to research and find answers independently. The impact extends to interpersonal communication as well. Frequent interactions with chatbots, designed to be polite and agreeable, can lead to unrealistic expectations of human interactions. This can create social awkwardness and difficulty navigating complex social situations that require empathy and understanding of non-verbal cues.

Moving forward, a balanced approach is crucial. Chatbots are valuable tools, but they should not replace human interaction entirely. Businesses should utilize chatbots for routine tasks, while ensuring human support is readily available for complex issues or situations requiring empathy. On the individual side, users should leverage chatbots for their efficiency but also prioritize developing problem-solving skills and engaging in meaningful human interactions.

The future of chatbots lies in their ability to augment, rather than replace, human capabilities. By fostering a symbiotic relationship, we can maximize the benefits of AI technology while preserving the irreplaceable role of human interaction and problem-solving in our personal and professional lives.

To address the impact of chatbot dependency, individuals and organizations can promote responsible usage by encouraging balanced interactions, fostering digital literacy skills, setting boundaries on technology use, prioritizing human connections, and critically evaluating the role of chatbots in daily life. By cultivating a mindful approach to integrating chatbot technology into our routines, we can harness its benefits while safeguarding against the potential pitfalls of dependency.

The advantages of Chatbots are multifaceted. Its flexibility renders it suitable for addressing a broad spectrum of queries and topics, ranging from general knowledge inquiries to discussions specific to particular domains. The model's proficiency in generating responses that align with the context enhances its efficacy in aiding users with information retrieval, problem-solving, and creative endeavors involving linguistic benefits.

In essence, Chatbots stands as a testament to the advancements in natural language processing, offering users an innovative and sophisticated solution for engaging in meaningful, context-aware conversations while showcasing the potential of state-of-the-art language models in various applications.

## Background of the Study

The development of chatbots can be traced back to the mid-20th century, with the introduction of early conversational AI systems like ELIZA (1966) and PARRY (1972). These rule-based systems were limited in their capabilities, offering pre-defined responses, and handling only simple conversations. With advancements in natural language processing (NLP) and artificial intelligence (AI), chatbots evolved to provide more sophisticated and context-aware interactions with humans.

In the early 2010s, messaging platforms such as Facebook Messenger and Slack started integrating chatbots into their services. This allowed businesses to automate customer support, sales, and marketing tasks, leading to the widespread adoption of chatbots in various industries, including e-commerce, banking, and healthcare. Today, chatbots can be found on websites, mobile apps, and social media platforms, offering 24/7 assistance and personalized experiences to users.

As chatbot technology continues to advance, it is essential to understand its impact on users, businesses, and society as a whole. This background provides a foundation for further exploration of chatbot dependency, its benefits, challenges, and the implications for the future. By understanding the historical context and current landscape of chatbots, researchers and developers can make informed decisions regarding the responsible development, deployment, and use of conversational AI systems.

This study aims to delve deeper into the phenomenon of chatbot dependency and its impact on users' well-being, interpersonal relationships, decision-making abilities, and technological behaviors. By examining the potential risks and benefits associated with heightened reliance on chatbots, this research seeks to shed light on the complexities of human-chatbot interactions and inform strategies for promoting responsible and mindful use of AI technologies in everyday life.

## Conceptual Framework

Figure 1. **Research Paradigm**

**Input**

1. Profile of the respondents

- Sex

- Age

- Year Level

- Strand

2. The Utilization of AI Software: The Transformative Impacts of Conversational Assistive AI Dependency on The Academic Performance on the respondents in terms of

- Chatbot Experience and Resource Utilization

- Mental and Intellectual impact - Usability and Perceived Value

**Process**

- Structuring of Survey Questionnaire

- Coordination of the Survey Questionnaire

- Acknowledging the percentage from the prior mentioned on the questionnaire

- Data Gathering

- Analysis of data

- Informal Interviews

**Output**

Chatbots offer round-the-clock availability, enhancing learning and creativity, reducing stress, and facilitating brain processing, making schoolwork easier and less draining forstudents.

The first frame of the conceptual framework refers to the input, which includes the Grade 11 and Grade 12 of The Fisher Valley College Inc as respondents of the study described in terms of sex, age, year level and strand, assessment of respondents in the Utilization of AI Software: The Transformative Impacts of Conversational Assistive AI Dependency on the Academic performance containing the positive usage of chatbots, the negative usage of chatbots.

The second frame refers to the structure of Survey Questionnaire, coordinating it, acknowledging the percentages mentioned, gathering data, analyzing it, and conducting informal interviews on the Grade 11 and Grade 12 Students.

These input factors undergo a process which convert the input to output. The Innovation of an input for the chatbots offer round-the-clock availability, enhancing learning and creativity, reducing stress, and facilitating brain processing, making schoolwork easier and less draining for students.

## Statement of the Problem

This study aims to attain the utilization of AI software: the transformative impacts of conversational assistive AI dependency on the academic performance on Grade 11 and 12 students at the Fisher Valley College Inc.

Specifically, this study sought answers to the following questions:

1. What is the socio-demographic profiles of the respondents?
   1. age
   2. sex
   3. grade level
2. What are the transformative impacts of chatbot dependency on the respondents in terms of:
   1. Chatbot Experience and Resource Utilization
   2. Mental and Intellectual Impact
   3. Usability and Perceived Value
3. Is there a significant difference in the impact and dependency on conversational assistive AI or chatbots among senior high school students when grouped according to their profile?

## Hypothesis

The researchers aim to provide a framework for understanding the effects and impact of using AI software, specifically chatbots, on students. The findings will allow students to gain a deeper grasp on how Chatbots alter not just the academic performance of a student, but also the psychological factors of an individual. The utilization of Chatbots can be beneficial to students, however it can be detrimental to the growth and development of a student’s ability to express and think independently. This research contains data from the surveys conducted among the senior high school department, providing insight into their psychological dependence.

## Significance of the Study

The relevance of this comprehensive study and analysis is to shed light on the reality of incorporating chatbots to the Grade 11 and 12 students at the Fisher Valley College Inc. in academics and mental health, on which the evaluation scrutinizes the merits and demerits of ChatGPT, along with its constraints and functionalities.

Furthermore, this study will benefit the following:

**Department of Education:** The findings of this study can be used as a framework to ensure that the impact and effects of Chatbots on students within the educational system by keeping track of the effects of conversational assistive AI (Chatbots) and how it impacts the students in various ways. The findings can provide valuable insight and feedback in creating approaches and developing strategies to address any adverse outcomes and promote responsible usage of AI software, specifically chatbots.

**School Administration:** The data gathered in this research would give the administration staff an overview of how the students have been positively or/and negatively been affected by using chatbots in their academic work. This study will also raise awareness and knowledge on how students use chatbots in handling tasks at school. Provided by insights on how Chatbots influence, impact, and affect students, administrators can implement regulations and guidelines on the usage of Chatbots in their academic tasks.

**Students and Future Researchers:** The given data can help and benefit students and future researchers in their research study as their guide. This study can also assist future researchers to expand and further develop this study.

## Scope and Limitations

The aim of the study is to ascertain the utilizations of Chatbots on the writing proficiency of Senior High School students. The target population comprises students in grades 11 and 12 at The Fisher Valley College Incorporated. A survey will be administered exclusively to Senior High School students at The Fisher Valley Campus, seeking to identify individuals who engage with the AI software and those who do not.

Through this survey, the study intends to explore how frequently and how students utilize Chatbots, as well as their perceptions of its impact on their writing skills. This information will enhance the analysis of the findings and contribute to a more thorough examination of the effects of Chatbots on writing proficiency among Senior High School students.

The study is limited by its focus on senior high school students from The Fisher Valley College Incorporated who employ AI technologies such as Chatbots in their academic endeavors, as well as those who refrain from utilizing such tools. Furthermore, the research is delimited to evaluating students' writing abilities, specifically their academic writing performance.

## Definition of Terms

The terms employed in this work, both conceptual and operational, should be understood to give readers a basic comprehension of the standard interpretations of the terms put forth and examined for consideration.

**Utilization**: refers to the act of using something effectively and efficiently for its intended purpose or to achieve a specific goal. It involves putting resources, tools, or assets into action to derive maximum value, productivity, or benefit.

**Dependence:** refers to the state of being influenced, controlled, or reliant on someone or something else for support, sustenance, or maintenance. It involves a certain level of reliance or need that cannot be easily substituted or abandoned without significant consequences.

**Chatbot:** is a computer program designed to simulate conversation with human users over the internet, typically through messaging applications, websites, or mobile apps. Chatbots use a combination of pre-programmed scripts, artificial intelligence (AI), natural language processing (NLP), and machine learning (ML) to interpret user inputs, process information, and generate appropriate responses.

**Grade Levels:** are used to organize students into different groups based on their age, skill level, and academic performance, allowing educators to deliver appropriate and targeted instruction to meet students' learning needs.

**Students:** refers to a scholar or learner, especially one who attends a school. Students, as they were in this research. refer to the group of individuals who are formally enrolled at The Fisher Valley College in Grades 11 and 12 for the academic year 2023-2024 served as the study’s responders.

**Sex:** is the state of being male or female. In the context of this study, this term refers to the distinction between a male and a female.

# Chapter 2

# REVIEW OF RELATED LITERATURE AND STUDIES

**Foreign Literature**

In facing industry revolution 4.0, utilizing advanced information and computer technology in educational environment is crucial. One of the advanced computation technologies that can be used for learning, especially language learning, is chatbot. Chatbot is a computer program based on artificial intelligence that can carry out conversations through audio or text. This study intends to find out and analyze the types of artificial intelligence in the form of chatbots and the possibility of their use as language learning medium.

The data in this study obtained from literature review on chatbot research, and from observation results on chatbot-based language learning medium developed by the author. The results indicated that chatbots have a high potential to be used as a language learning medium, both as tutor in practicing language, and as independent learning medium. Moreover, research results revealed that language learners are interested in using chatbots because they can be used anytime and anywhere, and they are more confident in learning languages using chatbots than when dealing directly with human tutors.

**Local Literature**

(Veronica Salido) The introduction of artificial intelligence (AI) into educational environments has ushered in a new era that is revolutionary in terms of the field of education and the process of teaching. This review of related literature investigates the rapidly changing environment of AI-powered learning aids and the significant influence these tools have on the academic performance and comprehension of students. As the educational landscape continues to be reshaped by technology, it is necessary to investigate the corpus of existing research and scholarly discourse in order to obtain insights into the diverse implications of AI in education. This can be done by looking at existing research and reading scholarly discourse.

This study strives to contribute to a better understanding of the ways in which AI is changing education by reviewing the important findings and trends in the literature. With a particular emphasis on its influence on student comprehension and academic achievement, the review seeks to contribute to a deeper knowledge of the ways in which AI is revolutionizing education. The compilation of this research will provide educators, policymakers, and other stakeholders with useful information, laying the groundwork for the ethical and productive use of AI in today's classrooms.

**Foreign Studies**

Chatbots or artificially intelligent conversational tools are the automatically new tools designed to interact humans and computers. The tool of chatbot system is very effective in marketing and launching new products. Using chatbot as a tool of learning with logical sequences of cognition has attracted a lot of attention from many foreign language centers, such as VUS, ILA, etc. This research is conducted to apply AI chatbot for helping students to learn a specific knowledge of a foreign language. The research also discusses students ‘interests and engagements, and performances in two ways of learning: with and without the help of AI chatbot via the case of teaching some English prepositions. 200 students were selected and divided into experimental and control groups (100 students for each respectively).

The purpose of this empirical experiment is to test whether or not the AI chatbot is effective and useful for enhancing students ‘performance and engagement in learning a specific point of a foreign language. With the preliminary results, the students benefit a lot from a new learning experience with the use AI chatbot in teaching. Most of them perceived AI chatbot tools as an essential part of their learning process. The AI chatbot also generates excitement and fun for their learning. The research may open up a field for language teachers to explore and apply for their teaching in the digital era.

**Local Studies**

(Veronica Salido) The application of artificial intelligence (AI) in the field of education has recently attracted a lot of interest in today's world, which is characterized by the rapid development of new technologies. A paradigm shift has occurred in the approach that is taken to both teaching and learning as a result of the incorporation of learning tools powered by artificial intelligence into educational environments. The main purpose of this study is to evaluate the effect that learning aids driven by artificial intelligence have on the academic performance and comprehension of students. These instruments have risen to prominence in educational settings in this age, which is characterized by the rapid advancement of technology. The importance of understanding their consequences cannot be overstated when it comes to informing educational practices and policies.

# Chapter 3

# METHODOLOGY

This chapter presents the methods of research used, research design, research location and respondents of the study, population and sample size, instrumentation, data gathering procedure, and statistical treatment of data of our research study.

## Research Design

This study will use a quantitative research approach to determine the impact of conversational assistive AI or Chatbots in the academic performance of the Senior High School students in The Fisher Valley College. It would be more efficient in providing a comprehensive understanding of the impact of Chatbots on the dependency in the academic performance of Senior High School students at The Fisher Valley College. The Quantitative-Evaluation approach emphasizes objective measurements and the statistical, mathematical, or numerical analysis of data wherein it focuses on the impacts of the operation involved in the study.

The data will be collected and analyzed through a paper survey with the purpose of assessing the demographic profile such as sex, age, and grade level of the respondents and the factors; chatbot experience and resource utilization, mental and intellectual impact, and usability and perceived value that affects the academic performance of the Senior High School students at The Fisher Valley College. The questionnaires were all completely filled out as explanations during the data collection was personally controlled by the researchers in order to ensure all sections of the questionnaire were answered. This will be accomplished through a questionnaire administered face-to-face through a paper form survey.

## Research Location and Respondents of the Study

A map of a city with a location

Description automatically generated

**Figure 2**: *Showing a satellite view of The Fisher Valley College and its nearby landmarks.*

The locale or setting of this study will be conducted at The Fisher Valley College which is located at #5 M.L. Quezon Ave., Taguig 1636, Metro Manila, Philippines.

The Fisher Valley College Inc. (TFVC) is a private institution in Hagonoy, Taguig City, Philippines. The Fisher Valley College is a co-educational, Christ-centered institution, which offers Pre-school, Elementary, Secondary, and College levels.

In this study the researchers are mainly interested in the Senior High School students, as their education level is far more complex and strenuous due to their preparation for college. By focusing on the Senior High School students, the researchers can gather more accurate and reliable data on the impact of Chatbot dependency on this specific age group.

As for college year levels, the impact of chatbot dependency may differ. Additionally, college students have more access to technology and be better equipped to handle the potential negative effects of chatbot dependency, so the researchers sticked with Senior High School students for a more controlled study.

## 

## Population and Sample Size

The target respondents of this research consist of 81 Senior High School students from The Fisher Valley College Inc.

The researchers used stratified random sampling to obtain the desired number of respondents and to ensure that the participants were selected from different demographic groups in proportion to their representation in the population.

Stratified random sampling is a sampling method in which the population is divided into distinct subgroups, or strata, based on certain characteristics (such as age, gender, grade level, etc.). Random samples are then drawn from each stratum in proportion to the size of the stratum in the population. This method helps to increase the generalizability of the study findings allowing us to reduce bias in the sample selection and helps researchers draw more accurate and reliable conclusions.

**Table 1**

**Population and Sample Frame**

|  |  |  |  |
| --- | --- | --- | --- |
| **Grade Level** | **Population** | **Respondents** | **Percentage** |
| Grade 11 | 57 | 45 | 55.56% |
| Grade 12 | 45 | 36 | 44.44% |
| **Total** | **102** | **81** | **100%** |

The table above shows the total number of students who enrolled as senior high school pupils for the academic year 2023 – 2024. Regardless, grade 10 students were not included in the table for the means of conducting this study.

However, it is not possible to survey 102 senior high school students for some of the year grade levels are more often incomplete. Therefore, to find the right number of respondents, the researchers used the population and sample size formula as a reference.

Formula:

Where:

n= number of samples

N= total population

E= margin of error

**Instrumentation**

**3**

In this study, the researchers used two instruments to conduct their research:

1. Questionnaire
2. Chatbot Experience and Resource Utilization
3. Mental and Intellectual Impact
4. Usability and Perceived Value
5. Interview

The questionnaire is the major instrument used in this study and it ensures that the data gathered is accurate and factual. The survey form consists of two parts: the demographic profile and questions regarding our topic. It includes 15-item questions, which is divided into three columns.

Secondly, the interview conducted consists of 8 questions overall, providing double-barreled questions for each of the four interviewees. Interviewing the students of each grade level serves several important purposes that contribute to the depth and quality of the research. In summary, an interview provides valuable subjective data that complements other research methods and contributes to a comprehensive understanding of the research topic.

**Data Gathering Procedure**

After conducting the survey, the researchers had cooperation, time, and effort in developing the questionnaire for the interview of students from Grade 11 and Grade 12. The procedures used in determining the data analysis were as follows: First, an interview on respondents will be conducted with questions related to the survey and what have they experienced about using Chatbots in their Academics; second, it was done inside the campus; third, the researchers conducted the questions through an interview; fourth, the data were collected based on the answers of the respondents. The results were then analyzed to draw conclusions and identify patterns in the responses.

**Chapter 4**

**PRESENTATION, INTERPRETATION, AND ANALYSIS OF DATA**

This chapter highlights the results, analysis, and interpretation of data in relation to the questions raised to find out the impact and dependence of chatbots on the senior high school students at The Fisher Valley College Inc.

**Demographic Profile**

**Table 2**

**Age of Respondents**

|  |  |  |
| --- | --- | --- |
| **Age** | **No. of Respondents** | **Percentage** |
| 16 | 12 | 14.81% |
| 17 | 35 | 43.21% |
| 18 | 26 | 32.10% |
| 19 | 5 | 6.17% |
| 20 | 2 | 2.47% |
| 21 | 1 | 1.24% |
| **Total** | **81** | **100%** |

The researchers provided 81 printed copies of the survey to the respondents, all of which were able to answer it completely.

The usage of Chatbots among teenagers is very common, particularly among those aged 16 – 18 years old.

**Table 3**

**Sex of Respondents**

|  |  |  |
| --- | --- | --- |
| **Sex** | **No. of Respondents** | **Percentage** |
| Male | 33 | 40.74% |
| Female | 48 | 59.26% |
| **Total** | **81** | **100%** |

**Table 4**

**Grade Level of Respondents**

|  |  |  |
| --- | --- | --- |
| **Grade Level** | **No. of Respondents** | **Percentage** |
| Grade 11 | 45 | 55.56% |
| Grade12 | 36 | 44.44% |
| **Total** | **81** | **100%** |

**Survey Questionnaires**

**Table 5**

1. **Chatbot Experience and Resource Utilization**

**Q1. “How frequently do you use chatbots for academic purposes?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 7 | 8.64% |
| Often | 20 | 24.69% |
| Sometimes | 35 | 43.21% |
| Rarely | 16 | 19.76% |
| Never | 3 | 3.70% |
| **Total** | **81** | **100%** |

**Table 6**

**Q2. “Do you use chatbots websites and applications (e.g., ChatGPT, ChatSpot, Bing etc.)?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 14 | 17.29% |
| Often | 20 | 24.69% |
| Sometimes | 26 | 32.10% |
| Rarely | 18 | 22.22% |
| Never | 3 | 3.70% |
| **Total** | **81** | **100%** |

**Table 7**

**Q3. “How often do you use chatbots, compared to consulting professors or peers’ help with academic questions?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 3 | 3.70% |
| Often | 23 | 28.40% |
| Sometimes | 32 | 39.50% |
| Rarely | 20 | 24.70% |
| Never | 3 | 3.70% |
| **Total** | **81** | **100%** |

**Table 8**

**Q4. “Do you feel like you misuse or overuse chatbots?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 8 | 9.88% |
| Often | 13 | 16.05% |
| Sometimes | 28 | 34.57% |
| Rarely | 19 | 23.46% |
| Never | 13 | 16.04% |
| **Total** | **81** | **100%** |

**Table 9**

**Q5. “Do chatbots give you a sense of stress-reduction and aid knowing their efficacy in handling tasks and questions?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 14 | 17.28% |
| Often | 19 | 23.46% |
| Sometimes | 27 | 33.33% |
| Rarely | 15 | 18.52% |
| Never | 6 | 7.41% |
| **Total** | **81** | **100%** |

**Table 10**

**B. Mental and Intellectual Impact**

**Q6. “Do you feel that chatbots have (positively) impacted your ability to engage with course material and concepts?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 10 | 12.35% |
| Often | 28 | 34.57% |
| Sometimes | 29 | 35.80% |
| Rarely | 8 | 9.88% |
| Never | 6 | 7.40% |
| **Total** | **81** | **100%** |

**Table 11**

**Q7. “Do you feel that chatbots have (negatively) impacted your ability to engage with course material and concepts?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 8 | 9.88% |
| Often | 27 | 33.33% |
| Sometimes | 25 | 30.86% |
| Rarely | 13 | 16.05% |
| Never | 8 | 9.88% |
| **Total** | **81** | **100%** |

**Table 12**

**Q8. “Have you noticed any changes in your critical thinking skills since incorporating chatbots in your study routine?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 8 | 9.88% |
| Often | 16 | 19.75% |
| Sometimes | 35 | 43.21% |
| Rarely | 13 | 16.05% |
| Never | 9 | 11.11% |
| **Total** | **81** | **100%** |

**Table 13**

**Q9. “Do you believe that using chatbots has improved your academic performance?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 14 | 17.28% |
| Often | 19 | 23.46% |
| Sometimes | 30 | 37.04% |
| Rarely | 5 | 6.17% |
| Never | 13 | 16.05% |
| **Total** | **81** | **100%** |

**Table 14**

**Q10. “Do you think chatbots limits your ability to think independently and may cause you to lack originality?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 16 | 19.75% |
| Often | 18 | 22.22% |
| Sometimes | 27 | 33.33% |
| Rarely | 10 | 12.35% |
| Never | 10 | 12.35% |
| **Total** | **81** | **100%** |

**Table 15**

1. **Usability and Perceived Value**

**Q11. “Have you ever faced challenges or limitations when using chatbots for academic tasks?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 10 | 12.35% |
| Often | 23 | 28.40% |
| Sometimes | 28 | 34.57% |
| Rarely | 14 | 17.28% |
| Never | 6 | 7.41% |
| **Total** | **81** | **100%** |

**Table 16**

**Q12. “Do you think chatbots save you time compared to alternative methods?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 17 | 20.99% |
| Often | 25 | 30.86% |
| Sometimes | 27 | 33.33% |
| Rarely | 10 | 12.35% |
| Never | 2 | 2.47% |
| **Total** | **81** | **100%** |

**Table 17**

**Q13. “Do you think there should be guidelines or limitations on the use of chatbots in academic settings?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 28 | 34.57% |
| Often | 25 | 30.86% |
| Sometimes | 15 | 18.52%% |
| Rarely | 10 | 12.35% |
| Never | 3 | 3.70% |
| **Total** | **81** | **100%** |

**Table 18**

**Q14. “Do you believe that the chatbot’s advantages outweigh its drawbacks overall and justify the users’ adoption and usage of it?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 11 | 12.50% |
| Often | 25 | 31.25% |
| Sometimes | 30 | 37.50% |
| Rarely | 12 | 15% |
| Never | 3 | 3.75% |
| **Total** | **81** | **100%** |

**Table 19**

**Q15. “Would you recommend chatbots to others?”**

|  |  |  |
| --- | --- | --- |
|  | **Frequency** | **Percentage** |
| Always | 19 | 23.46% |
| Often | 14 | 17.28% |
| Sometimes | 20 | 24.69% |
| Rarely | 16 | 19.75% |
| Never | 12 | 14.81% |
| **Total** | **81** | **100%** |

**Chapter 5**

**SUMMARY OF FINDINGS, CONCLUSIONS, AND**

**RECONMMENDATIONS**

In this chapter, the summary of findings, conclusions acquired, and recommendations based on the data analyzed in the previous chapter are discussed and interpreted. The significance of the transformative impacts of conversational assistive AI dependency on academic performance is examined.

**Summary of Findings**

Based upon the analysis and evaluation of data, the finding is hereby summarized:

The result of this study, exhibited in this section of chapter 5, was based on the statement of the problem. The followings that are presented are some of the findings:

1. What is the socio-demographic profile of the respondents in terms of:
   1. In terms of age, majority of the respondents are from the ages 16-18 which covers the 90.12% of the total sample.
   2. In terms of sex, there are 81 respondents, 33 (40.74%) of them are the male respondents, while the remaining 48 (59.26%) are the female respondents.
   3. In terms of grade level, majority of the respondents were from the grade 11 and had 45 students covering the 55.56% of the total respondents.
2. In what extent do the following affect the academic performance task in the senior high school department in TFVC given by the questionnaires constructed by the researchers in terms of:
   1. In terms of Chatbot Experience and Resource Utilization
3. In question #1, majority (43.31%) of the respondents answered **sometimes** on how frequently you use chatbots for academic purposes. Furthermore, 33.33% of the respondents are leaning towards always and often.
4. In question #2, majority (32.10%) of the respondents answered **sometimes** on using chatbot websites and applications. Furthermore, 41.98% of the respondents are leaning towards always and often.
5. In question #3, majority (39.50%) of the respondents answered **sometimes** on how often you use chatbots, compared to consulting professors or peers’ help with academic questions?” Furthermore, 32.1% of the respondents are leaning towards always and often.
6. In question #4, majority (34.57%) of the respondents answered **sometimes** on do you feel like you misuse or overuse chatbots. Furthermore, 39.5% of the respondents are leaning towards rarely and never.
7. In question #5, majority (33.33%) of the respondents answered **sometimes** on do chatbots give you a sense of stress-reduction and aid knowing their efficacy in handling tasks and questions. Furthermore, 40.74% of the respondents are leaning towards always and often.
   1. In terms of Mental and Intellectual Impact
8. In question #6, majority (35.80%) of the respondents answered **sometimes** on do you feel that chatbots have (positively) impacted your ability to engage with course material and concepts. Furthermore, 46.92% of the respondents are leaning towards always and often.
9. In question #7, majority (33.33%) of the respondents answered **often** on do you feel that chatbots have (negatively) impacted your ability to engage with course material and concepts. Furthermore, 43.21% of the respondents are leaning towards always and often.
10. In question #8, majority (43.21%) of the respondents answered **sometimes** on have you noticed any changes in your critical thinking skills since incorporating chatbots in your study routine. Furthermore, 29.63% of the respondents are leaning towards always and often.
11. In question #9, majority (37.04%) of the respondents answered **sometimes** on do you believe that using chatbots has improved your academic performance. Furthermore, 40.74% of the respondents are leaning towards always and often.
12. In question #10, majority (33.33%) of the respondents answered **sometimes** on do you think chatbots limits your ability to think independently and may cause you to lack originality. Furthermore, 41.97% of the respondents are leaning towards always and often.
    1. In terms of Usability and Perceived Value,
13. In question #11, majority (34.57%) of the respondents answered **sometimes** on have you ever faced challenges or limitations when using chatbots for academic tasks. Furthermore, 40.75% of the respondents are leaning towards always and often.
14. In question #12, majority (33.33%) of the respondents answered **sometimes** on do you think chatbots save you time compared to alternative methods. Furthermore, 51.85% of the respondents are leaning towards always and often.
15. In question #13, majority (34.57%) of the respondents answered **always** on do you think there should be guidelines or limitations on the use of chatbots in academic settings. Furthermore, 65.43% of the respondents are leaning towards always and often.
16. In question #14, majority (37.50%) of the respondents answered **sometimes** on do you believe that the chatbot’s advantages outweigh its drawbacks overall and justify the users’ adoption and usage of it. Furthermore, 43.75% of the respondents are leaning towards always and often.
17. In question #15, majority (24.69%) of the respondents answered **sometimes** on would you recommend chatbots to others. Furthermore, 40.74% of the respondents are leaning towards always and often.

**Conclusions**

With the given survey, the researchers conclude that majority of the senior high school department use chatbots. There are positive effects on students, but relying too much can lead them to be more dependent.

**Recommendations**

de Sá Siqueira, M. A., Müller, B. C. N., & Bosse, T. (2023). When Do We Accept Mistakes from Chatbots? The Impact of Human-Like Communication on User Experience in Chatbots That Make Mistakes. International Journal of Human–Computer Interaction, 1–11.

<https://doi.org/10.1080/10447318.2023.2175158>

Foreign Literature

<https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=foreign+literature+about+ai+chatbot&oq=foreign+literature+about+Ai+chat#d=gs_qabs&t=1715770061407&u=%23p%3DIw3IeTOrFD0J>

Local Literature:

Veronica Salido. (2023) Impact of AI-Powered Learning Tools on Student Understanding and Academic Performance.

<https://www.researchgate.net/profile/Veronica-Salido/publication/376260972_Impact_of_AI-Powered_Learning_Tools_on_Student_Understanding_and_Academic_Performance/links/6570801c8cfa3a5b120515cd/Impact-of-AI-Powered-Learning-Tools-on-Student-Understanding-and-Academic-Performance.pdf>

Foreign Studies

[https://scholar.google.com/scholar?hl=en&as\_sdt=0%2C5&q=conversational+AI+in+education&btnG=#d=gs\_qabs&t=1715771140937&u=%23p%3DcUtmBo3mht0J](https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=conversational%20AI%20in%20education&btnG=#d=gs_qabs&t=1715771140937&u=%23p%3DcUtmBo3mht0J)

Local Studies

Veronica Salido. (2023) Impact of AI-Powered Learning Tools on Student Understanding and Academic Performance.

<https://www.researchgate.net/profile/Veronica-Salido/publication/376260972_Impact_of_AI-Powered_Learning_Tools_on_Student_Understanding_and_Academic_Performance/links/6570801c8cfa3a5b120515cd/Impact-of-AI-Powered-Learning-Tools-on-Student-Understanding-and-Academic-Performance.pdf>

**APPENDICES**

**Research Instrument**

**UTILIZATION OF AI SOFTWARE: THE TRANSFORMATIVE IMPACTS OF CONVERSATIONAL ASSISTIVE AI DEPENDENCY ON THE ACADEMIC PERFORMANCE ON GRADE 11 AND 12 STUDENTS AT THE FISHER VALLEY COLLEGE INCORPORATED. A.Y. 2023-2024**

Dear Respondents,

The undersigned are currently conducting a study entitled: “Utilization of AI software: The Transformative Impacts of Conversational Assistive AI Dependency on the Academic Performance on Grade 11 and 12 Students at The Fisher Valley College Incorporated. A.Y. 2023-2024” in partial fulfillment of The Fisher Valley College Inc.’s requirement on the subject for 10th Grade Thessalonians in Mathematics, namely “RESEARCH IN MATH EDUCATION”. This study aims to determine The Transformative Impacts of Conversational Assistive AI Dependency on the Senior High School Students’ Academic Performance.

In this regard, the undersigned would like to appeal for your help by participating to answer the survey. Rest assured that any information gathered from this study

will be treated as confidential and will only be applied to its main purpose, which is to aid this research.

Thank you and God Bless!

With all sincerity,

\

Villaruel, Kyle Eunice Z.

Adornado, Hannah Michelle J.

Faustino, Leonardo Enrique Miguel A.

Anzures, Camille Rose S.

Salvador, Asher G.

Tawasil, Nurshada A.

Baoy, Ivo Kristoffer N.

Group 4 – Grade 10 Thessalonians

You are invited to participate in a Research Paper organized by Villaruel, Kyle Eunice Z., Faustino, Leonardo Enrique Miguel A., Adornado, Hannah Michelle J., Anzures, Camille Rose S., Salvador, Asher G., Tawasil, Nurshada A., Baoy, Ivo Kristoffer N., 10th-grade Thessalonians students at The Fisher Valley College Inc. This study deals with the UTILIZATION OF AI SOFTWARE: THE TRANSFORMATIVE IMPACTS OF CONVERSATIONAL ASSISTIVE AI DEPENDENCY ON THE ACADEMIC PERFORMANCE ON GRADE 11 AND 12 STUDENTS AT THE FISHER VALLEY COLLEGE INC. The researchers aim to act in accordance with the Data Privacy Act of 2012 (DPA) and in all respects cooperate with the National Privacy Commission (NCP). We value your privacy with utmost respect and with greatest importance. The Researchers under The Junior High School Education dedicated themselves to prioritize the privacy of individuals, and to ensure that approved interests as educational institutions and capacity to attain responsibilities as such are meticulously and constructively met.

**Appendix A- Survey Questionnaire**

**Utilization of AI Software: The Transformative Impacts of**

**Conversational Assistive AI Dependency on the Academic Performance on Grade 11 and 12 Students at The Fisher Valley College Incorporated.**

A.Y. 2024-2025

**Name (optional):** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Age:** \_\_\_\_\_\_\_\_\_ 

**Grade level:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Sex:** \_\_\_\_\_\_\_\_\_

**Direction:** Please put a check (✔) mark on the response you have chosen given the statements using the following scales:

**5 – Always** **4 – Often**  **3 – Sometimes**  **2 – Rarely** **1 – Never**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 1. **Chatbot Experience and Resource Utilization** | **5** | **4** | **3** | **2** | **1** |
| **1.** | How frequently do you use chatbots for academic purposes? |  |  |  |  |  |
| **2.** | Do you use chatbot websites and applications (e.g., ChatGPT, ChatSpot, Bing, etc.)? |  |  |  |  |  |
| **3.** | How often do you use chatbots, compared to consulting professors or peers’ help with academic questions? |  |  |  |  |  |
| **4.** | Do you feel like you misuse or overuse chatbots? |  |  |  |  |  |
| **5.** | Do chatbots give you a sense of stress-reduction and aid knowing their efficacy in handling tasks and questions? |  |  |  |  |  |
| **B.  Mental and Intellectual Impact** | | | | | | |
| **6.** | 6. Do you feel that chatbots have (positively) impacted your ability to engage with  course material and concepts? |  |  |  |  |  |  |
| **7.** | Do you feel that chatbots have (negatively) impacted your ability to engage with course material and concepts? |  |  |  |  |  |  |
| **8.** | Have you noticed any changes in your critical thinking skills since incorporating chatbots into your study routine? |  |  |  |  |  |  |
| **9.** | Do you believe that using chatbots has improved your academic performance? |  |  |  |  |  |  |
| **10.** | Do you think Chatbots limit your ability to think independently and may cause you to lack originality? |  |  |  |  |  |  |
| **C.  Usability and Perceived Value** | | | | | | |
| **11.** | Have you ever faced challenges or limitations when using chatbots for academic tasks? |  |  |  |  |  |  |
| **12.** | Do you think chatbots save you time compared to alternative methods? |  |  |  |  |  |  |
| **13.** | Do you think there should be guidelines or limitations on the use of chatbots in academic settings? |  |  |  |  |  |  |
| **14.** | Do you believe that the chatbot's advantages outweigh its drawbacks overall and justify the users' adoption and usage of it? |  |  |  |  |  |  |
| **15.** | Would you recommend chatbots to others? |  |  |  |  |  |  |

Thank you for your participation in this survey. Your input is valuable, and it will remain confidential and will be used for research purposes only.

**Appendix B- Interview**

**Respondents:**

2 Grade 11 students

2 grade 12 students

**Interview Question #1 (Grade 11)**

How often do you hear about chatbots and how do you think it affects you and your classmates?

**Interview Question #2 (Grade 11)**

What are the positive and negative impacts of Chatbots?

**Interview Question #3 (Grade 12)**

How often do you use chatbots and do you think you and your classmates use it appropriately?

**Interview Question #4 (Grade 12)**

Do you think chatbots influence your ability to think creatively and independently?













