MS Thesis

EXPLORING THE USE OF AI FOR ACADEMIC PURPOSES BY IIUI STUDENTS

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CERTIFICATE

It is certified that we have read this thesis entitled "Exploring the Use of AI on Academic purposes by IIUI Student: This Quantitative Research Study Submitted by Mubashir Saeed, Reg:534/FSS/MSMC/F22. It is our judgment that this thesis is of sufficient standard to warranty acceptance by the International Islamic University Islamabad, Pakistan for the award of MS degree in Media and Communication studies.

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Mr. Mubashir Saeed

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DECLARATION

I, **Mubashir Saeed,** Reg No. 534-FSS/MSMC/F22, hereby attest that I have completed the work included in this proposal during the allotted study period and that I have not borrowed any information from any sources other than those cited where the appropriate level of plagiarism is within permissible bounds. If this proposal violates the HEC's research criteria, I might face consequences under the organization's plagiarism guidelines.

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Contents

ABSTRACT

This study examines the use of Artificial Intelligence (AI) for academic purposes among students at the International Islamic University Islamabad (IIUI) through the Uses and Gratification Theory. It aims to identify students' usage pattern, motivations, preferences, benefits, and challenges related to AI technologies in their studies. Using a quantitative methodology, data was collected from 250 students across various departments via survey questionnaires. The analysis, conducted with the Statistical Package for the Social Sciences (SPSS) revealed that 16.4% of participants found chatbots to be the most useful AI application, while awareness of other tools like virtual assistants and online tutoring was low. About 28.0% were "highly motivated" to use AI, mainly for time-saving (20.0%). Overall, 39.6% were "very satisfied" and 26.0% "a little satisfied" with AI tools. Although 14.0% noted time savings, only 4.0% saw improvements in academic performance, with 48.4% citing "other" benefits. Key challenges included limited AI understanding (23.2%), data privacy concerns, and lack of training. Additionally, 28.8% worried about AI's impact on cognitive skills. Notably, 40.0% felt AI helped them grasp complex subjects, and 42.4% believed it aided in achieving better grades, albeit with some reservations.

Keywords: AI in Education, Student Perception, Academic AI Usage, IIUI Student Engagement, Uses and Gratification .

1. INTRODUCTION

1.1 Background

One of the technologies that seem to be growing at a remarkable rate is Artificial Intelligence technology (Chubb, Cowling, & Reed, 2022). AI has shaped new possibilities and advanced many fields of study that include it to great lengths as it continues to transform how things are done (Grassini, 2023). One such area of interest is the application of AI with high hopes in education with the potential of enhancing learning outcomes and personalized learning (Elam, 2024). A lot of interest in AI in academics because it seems to have multiple possibilities for improving students' learning (Chen, Tallant, & Selig, 2024). The exposure of students to digital technologies has also expanded their possibilities of using different AI-based applications for academic purposes (Homolak, 2023).

In Pakistan, the use of AI among students at the International Islamic University Islamabad, which is one of the leading institutions of higher education in Pakistan, is of considerable importance and deserves thorough study. The purposes of this study are to determine the scope of AI use by the IIUI students for academic purposes, with emphasis on their uses and gratification perceptions. The uses and gratification analysis refers to the study of how media is used by the audience regardless of its intended purpose or impact (Katz, Blumer, & Gurevitch, 1974). Such a strategy enables everyone to ponder about the various perspectives and ways IIUI students today employ AI resources and technology to boost their academic performance.

In order to carry as thorough an analysis as possible using a quantitative research approach the students will be provided with a questionnaire which will be distributed to a sample of IIUI students that selected conveniently. It is anticipated that the questionnaire so designed will enable students to 1. Assess their experiences of AI usage, 2. Explain their understanding of what benefits the AI tools brought them and 3. Explain what gratifications were received from the use of AI tools.

Instead of using random selection, non-probability sampling method known as 'convenient sampling' is used where in subjects are selected on the basis of their availability, whether they are willing to take part or not. This approach is very suited for and commonly used in studies where time and resources are scarce. The reason for this is that it assists in getting studies done. For their study, researchers are able to gain prospective useful data through choosing subjects who are available.

All things considered, even if the convenience sample was not entirely representative of the population, it provides a reasonable approach for estimating certain concepts within the population. Because of this, convenience sampling provides a practical approach to collecting data from respondents who are readily available within the target population of the study. Then, the focus group discussions are going to be analyzed through the Social Sciences Statistical Package (SPSS), one of the most widespread and commercial programs of statistical analysis. With the help of this strategy, researchers will be able to identify patterns, motivators, preferences, benefits and challenges, and trends with in the data in order to better comprehend the extent to which AI use affects academic achievement.

1.2 Problem Statement

Artificial Intelligence in education would bring a sea change in teaching and learning processes, coupled with better achievement for students. However, there is a dire need to understand the overview of their utilization of AI tools by students of the International Islamic University Islamabad regarding academic purposes and their perception about their use. All of these gaps in the literature are attempted to be filled by this study exploring AI adoption on academic performance among students of IIUI through a uses and gratification perspective. This research work tends towards valuable insights to educate, inform, and drive appropriate incorporation of AI tools toward optimizing the learning experience in an appropriate manner for the students.

1.3 Significance of Study

The study is important; it examines the adoption of AI for academic performance from a uses and gratifications perspective among IIUI students. This research contributes towards the theoretical and practical insights of exploring motivations and preference in AI adoption among the IIUI students.

Theoretically, this study consolidates the existing literature in relation to how IIUI students use AI technologies to gain better academic results. Focusing on the uses and gratifications of AI usage in higher education, especially among IIUI students, this study extends the literature. By and large, it reflects a deeper comprehension of how those students actively select and use AI technologies to satisfy their academic needs and fulfill precise gratifications. The application of the use and gratification principle in AI domain education provides a useful framework to understand the motives and preferred issues of IIUI Student using AI.

Practically, such findings allow a high value for institutions. This study is going to help the institution in comprehending the elements that motivated and deterred IIUI students concerning AI technologies' application. For example, understanding by the institution on how AI at IIUI enhances performance shall result in the design and execution of AI tools and support systems in tandem with students' requirements. This, in turn, can contribute to their academic success and overall satisfaction with the educational experience.

This study also identifies the perceived advantages and difficulties of using of AI for improving academic performance and, therefore, provides practical recommendations that can be useful in improving the integration of AI. These can be used by educational institutions to assist IIUI students in effectively leveraging AI technologies for better academic outcomes.

1.4 Objectives of Study

• To investigate the usage patterns of AI technologies among IIUI students and understand how they integrate AI into their academic routines.

• Investigating the motives and preferences that will drive IIUI students to make the AI usage for their academic pursuits.

• To establish how students at IIUI perceive the advantages and drawbacks of using AI in order to enhance academic performance.

1.5 Research Questions

RQ1: To what extent do the students of IIUI use AI technologies for enhancement in their academic performance?

RQ2: What are the motives and preferences of the students of IIUI in adopting AI for their educational journey?

RQ3: What are the perceived benefits and challenges of using AI for academic performance by IIUI students?

1.6 Delimitation(s) of the Study

1.6.1 Selection Sample Size

The results' representativeness may result from the small number of survey respondent. The selection of a sample could introduce certain biases; thus, one cannot view the findings as representative even of a more general population.

1.6.2 Generalizability

It should be taken into account that this study will result and restrict to the IIUI students alone and cannot be of generalized use to other areas where different categories of students exist concerning any educational scenario. Additionally, some of the factors that may bias or affect the results due to this research study include culturally and institutionally diverse scenarios.

1.6.3 Bias in Self-Reporting

Data based on self-reporting might also be biased due to the impact of false memory or even due to desirability in society. Participants may provide answers that they perceive to be expected or have difficulty recalling details.

2. LITERATURE REVIEW

2.1 Review of Related Literature

The present paper reviews the literature concerning the state of research into AI applications in academia, specifically relating to students at the International Islamic University, Islamabad. Attention has been drawn towards the use of Artificial Intelligence technologies for educational purposes (Khan, & Fatima, 2023). In fact, it would appear that these technologies form part of a daily academic's routine, as seen in the level of frequency of their use above (Venkteshwar, & Warrier, 2020). The data shows that many respondents use the tools regularly, with 27.2% using them daily and 29.6% using them several times a week, reflecting wider trends in educational. However, it is of concern that 17.2% AI tools were reported by a number of participants rarely, with only 2.8% using them once a week (Su, & Yang, 2023).

Some study reported that students using AI-powered learning platforms have high satisfaction with the learning platform, especially in motivating and engaging them. Another study showed that there was more satisfaction and engagement found among students using these platforms as compared to non-users (Almufarreh, 2023). The students also revealed that AI-powered learning platforms increased learning outcomes and decreased the workload for them and (Baido-Anu, Asamoah, Amoako, & Mahama, 2024). Other studies indicate that teachers also perceive integrating AI to be necessary for improving students' learning outcomes and increasing efficiency in teaching (Omughelli, Gordon, & Al jabber, 2024).

They also added that the integration of AI has increased student motivation and engagement and they believed that such an incorporation is crucial for enhancing the professional development of teachers and improvement in student learning outcomes (Dhari, Yahaya, & Al – Rahami, 2024). Motivation and preferences have been considered as some of the primary elements influencing adoption of AI technologies in education (Nguyen, 2023). A study investigated the motivations and preferences of students in using AI for educational purposes. The researchers established that these are mostly motivated by the improvement in academic performance, hence enhancing learning (Alshater, 2022).

On the other hand, there were also worries over the reliability of data supplied by AI and the influence on thinking skills. This corroborates earlier research studies that have raised concerns about the possible risks and limitations of AI in education (Zia, Gul, & Janjua, 2024).

One of the studies found that 'the primary drive for students in seeking the use of AI-power learning platforms is an opportunity to improve learning outcomes (Dehbozorgi, & Kunuku, 2023). Yet another has established that these platforms are intended by students to reduce their workload by bringing efficiency in learning (Shahzad, Xu, & Zahid, 2024). Furthermore, students reported that the primary motivation toward adopting AI-powered learning platforms was to support improving their academic performance and enhance their learning engagement (Jeon, 2024). A few studies found that students preferred an interactive and engaging learning approach through gamification and simulation. Other studies reported that students preferred collaborative and social learning approaches, such as working in groups and discussing (Jo, 2023).

Literature pertaining to the use of AI in academics identifies a number of its potential benefits, such as the facilitation of personalized learning, increasing student engagement, and enhancing mechanisms of assessment and feedback (Chen, Rayan, & Wang, 2022). Such advantages also mean that some very significant challenges arise, ones tied to the dependence on AI in education (Chan, 2024). One systematic study mentions an overreliance on the system of AI-based conversation influences the critical thinking and decision-making cognitive capability in students (Almogren, Al- Rahmi, & Dahri, 2024).

Research in the use of AI in education assessed the benefits and barriers. Advantages, which had been outlined, were with personalization, adaptive assessment, and feedback on time; however, there are certain challenges to be addressed as well: privacy issues and the potential for lack of technical support. These findings relate well to previous research emphasizing critical thinking skills as important activities within an AI-supported learning environment (Mohammad, Al- Ghazali, & Alqohfa, 2023).

Besides, students preferred personalized and adaptive learning that could be provided with the use of AI-powered platform. A study showed that chatbots and virtual assistants were the AI learning tools that students found most useful (Guo, & Wang, 2023). Another study showed that the most helpful tool for learning was an AI-powered learning platform; students noted that this has proven successful in raising engagement and learning results (Wang, et al., 2023).

Research showed that the greatest advantage the students gained from these AI learning platforms was an improvement in learning outcomes (Sila, et al., 2023). Other related studies found that reduced workload and improved efficiency in learning were some of the key benefits

that students recognized from the systems. Moreover, students suggested that the main advantages for them when using AI-powered learning platforms were improvement of learning outcome and increased engagement (Rajeb et al., 2024).

For instance, a study showed that students believed AI-powered learning platforms helped them understand complex topics more effectively (Negi, Boughattas, Ziadi, 2023). In support, another study has shown that students felt AI-powered platforms facilitated better understanding of challenging subjects (Al-Zahrani, & Al-Asmari, 2024). Similarly, research showed that students reported AI-powered learning platforms to be effective in helping them grasp complex topics (Tu, et al., 2024). For instance, in research, it has emerged that what most of the teacher's report is the main challenge to their integration of AI in teaching: ensuring students have the requisite ability and information to efficiently utilize such technologies (Bozkurt, & Sharma, 2023).

Other studies show a different kind of barrier-a severe challenge in integrating the emerging technologies into the current curriculum, hence making it difficult for the teacher to integrate them (Kenwright, 2024). Another study which had reflected upon students being apprehensive regarding the potential of AI influencing their cognitive capabilities pertaining to creativity and originality (Hashem, et al., 2024). It was revealed that students feel worried because they perceive AI to alter their ability to think and solve problems critically (Loe, at al., 2024). AI-powered tools can help learners develop cognitive abilities like critical thinking and problem-solving through personalized learning materials and practice exercises (Zahi, Nyaaba, & Ma, 2024). These concerns are shared in the literature, with most educators supporting a balanced approach in which AI technologies are used together with traditional teaching methods to ensure that all skills are well (Arslanova, Zh, & Aitpayev, 2024).

Furthermore, students can get support and advice from AI-powered chatbots and virtual assistants that would help them overcome difficulties arising in academic life (Downes, 2024). Some AI techniques can be applied to enhance student outcomes, such as improving engagement and achieving better academic results. Students who used AI tools regularly had higher GPAs and were more likely to be interested in their learning, according to students who used AI tools were more likely to stick with their studies and had a more positive attitude towards learning (Mirdad, Daeli, Septiani, Ekawati, & Rusilowati, 2024).

In turn, several studies lately try to explain students' adoption of AI technologies as one tool to improve their educational performance and the studies support the findings in which AI

enhances learning results for the student and better involves students (Chevalier, Orzech, & Stankov, 2024). AI-driven Learning Systems In a bid to understand, the researcher examined the learning systems which involve artificial intelligence and reported the experiences that had motivated them and had also helped students engage during AI-infused educational platform use (Kortemeyar, 2023). Therefore, it is crucial to establish why such limited engagement exists in order to devise strategies that would eventually increase student adoption of the AI technologies concerned (Hussain, 2020).

Possible factors that may lead to infrequent usage, according to some studies, include lack of awareness, limited training, and uncertainty regarding effectiveness (Kim & Lee, 2024). For instance, students might be unaware of the capabilities and benefits of AI tools or perhaps have not been properly trained in using them (Yaldiz, 2024). According to studies, students who are trained and supported in AI technology adoption is most likely to use them regularly and with success (Tang, 2023).

Additionally, the likelihood of students using AI technology is high more frequently when they have a positive attitude toward such tools and believe that these would bring benefits to their academic career (Kwak, Ahn, & Seo, 2022). t's crucial to remember that to fully realize the potential of AI in education, institutions of learning will have to tailor AI tools to the specific needs to students (Ramirez, Obenza, & Cuarte, 2024). A study has, on the other hand, reiterated the importance of customization and user-centered design in AI-based educational systems. They reasoned that by this means, personalized AI solution can enhance student engagement and academic success (Yüzbaşıoğlu, 2021).

Other latest research has explored how AI were used to build the critical thinking skills of students. For instance, one study researched whether and how the use of AI-powered virtual simulations enhances the critical thinking skills of students (Jiang, Edwards, & Newstead, 2021). The findings showed that the use of AI technology in this vein significantly enhanced he pupils' capacity for critical thought, this could also prove beneficial to IIUI students themselves (Spector, & Ma, 2019).

AI-based tools have also shown their effectiveness in offering students personal feedback. One of the studies focuses on designing an AI feedback system to present personalized feedback related to individual learning needs and findings showed that providing individualized feedback via AI, improvements in students' academic performances were seen (Ouanes, & Farhah, 2024).

2.2 Conceptual /Theoretical Framework

The conceptual foundation for the base of this research will be the uses and gratifications perspective. Uses, and gratifications theory, is the reason given to explain why citizens actively choose and use, respectively, media technologies such as television, computers connected with the Internet, e-banking, and mobile telecommunication applications to meet specific identified needs, and gratification according to their own satisfaction.

By Using this approach, within the framework of employing the tools of AI for academic performance, a better view could be obtained regarding in which ways IIUI students use AI, their satisfaction resulting from its use, what motivates them, interests, difficulties, and advantages they face. Many students use AI in order to save time and manage studies more effectively. In that respect, many of them seek help from AI due to complex subjects that take a lot of time and hence are proof of one's urge to improve the understanding of the subject at hand.

The uses and gratification perspective, for instance, postulates that people's needs exist. Subsequent to these needs, it describes how they start accessing various media technologies that will provide them with a sense of gratification. In the light of academics' performance, IIUI students may use AI support as a result of needs with regard to their improved performance in accessing information for class, enhancing productivity overall learning, or receiving supportive comments.

This framework postulates that the intention of IIUI students to use AI resources for educational purposes is because of a need to satisfy their academic needs and to get gratification from the benefits offered by AI. The perceived benefits may include increased efficiency, personalized learning experiences, access to vast resources, enhanced problem-solving abilities, and improved academic performance.

This perspective, therefore, maintains that the students of IIUI are active in the processes of selection and utilization of AI tools. Their using AI for academic purposes is a matter of choice rooted in their personal preferences, motivations, and aims. Besides, gratification is subjective since the level of satisfaction differs from one student to another.

The present research will, therefore, consider the uses and gratification perspective in an attempt to as certain how IIUI students utilize Using AI resources for educational objectives, identify the perceived benefits of AI usage, and understand the gratification derived from using AI in the context of academic performance. This gives a framework through which we shall

analyze the active involvement with AI, motivation for its use, and its impact on students' academic outcomes.

2.3 Uses and Gratification Theory

The Use and Gratification Theory was first developed by (Gurevitch, Blumer, & Katz, 1970). The hypothesis was in contrast to the traditional hypothesis of media effects, such as the Hypodermic Needle Theory, Hypodermic Needle, Limited Effects Theory, and agenda setting which focused on how media may be seen to influence people. Whereas the Uses and Gratification hypothesis seeks to identify the way that people select and use media based upon desires and needs.

Application and Gratification According to this, individuals consciously expose themselves and use media to satisfy a specific need or to feel good. As well as it states, peoples are active participants that have choices of media which may be used to gratify their psychological and social needs as opposed to being passive audience. It assumes that individuals use media for different reasons and receives gratification from the media of many kinds. Such gratification can be broadly classified on four categories:

2.3.1 Personal Identity Gratification

This gratification relates to people's needs to enhance their self-image and to define themselves. Individuals use media to form their self-concept, values, and beliefs. People seek media that are congruent with their interests and useful in constructing their personal identities.

2.3.2 Information Gratification

People seek out media to gain knowledge, information, and current events. They use media as a source of information and rely on it for their need to be informed with facts, news, and educational content.

2.3.3 Entertainment Gratification

Media are basically sources of entertainment and pleasure. Individual uses media to get him/her rid of boredom or even to relax and derive some pleasure. They seek medial contents that will give them high levels of entertainment value and could be movies, games, music, and general leisure activities.

2.3.4 Social Interaction Gratification

Humans are social animals, and sociability is in their nature. Media provide opportunities for people to connect, communicate, and interact with others. People use media to fulfill their need for social interaction, community engagement, and establishing and maintaining relationships.

3. RESEARCH METHODOLOGY

3.1 Research Design

Quantitative research will be used in the investigation, where the intent is to compile numerical data regarding the relationship between desires for fulfillment among IIUI students and the extent to which they engage AI for academic performance. The cross-sectional approach will be utilized to collect data at one point in time and capture a snapshot of students' experience and perceptions.

3.2 Population

The target population of interest in this study comprises students of the International Islamic University Islamabad (IIUI). The selected population for this study includes both undergraduate and graduate students of IIUI representing diverse fields. This segment can be expected to reflect a population that is diverse but probably will apply AI tools for learning.

3.3 Sampling

Sampling is defined in research as the practice of a selection of persons or items from a larger population to represent that group as a whole. This type of selective investigation applies when the wide population is too large and not feasible, or even possible, to research in its entirety. Sampling therefore involves the appropriate selection of subjects or items according to previously determined criteria to ensure they are a valid representative sample of the population.

The goal is to obtain a sample that accurately reflects concerning characteristics, variety, and variability of the population under investigation. The number of parameters that play a determining role in selecting the sampling techniques will include representativeness requirements of the study, time constraints, resource availability, and research objectives. To provide validity and reliability to their findings, the researchers thus have to weigh properly the pros and cons of different sampling methods. Researchers may have different sampling methods to apply depending on their study's goals and constraints.

3.3.1 Convenient Sampling technique

Unlike a random sample, convenient sampling is simply a non-random sampling that involves the selection of subjects or study participants based on availability and willingness to participate. This method of sampling is easier to implement. It is often adapted to times when the researcher has limited resources of time and funding. By choosing participants who are easy to reach and readily available, a researcher can unlock helpful information from them concerning the study. They say that though convenient sampling sometimes may not be able to

generalizing actual conditions, it is an easy way to collect data from participants readily accessible within the setting of the study

3.3.2 Advantages of using convenience sampling

The major advantages of convenient sampling technique as follow:

1. Quick data collection 2. Inexpensive method 3. Eazy to do research 4. Fewer rules to be followed 5. Sample readily available 6. Less costly

3.3.3 Sample Size

Convenience sampling technique was chosen to obtain a sample of 250 students of International Islamic University, Islamabad in such studies. Sample consists of 250 students aged 18-40 years and studying in different undergraduate and graduate programs of the university.

3.4 Operational Definition

"Exploring the use of AI for academic purposes by IIUI students" would be the operationalized title regarding the research topic. Therefore, the key concepts must entail thoroughly defining and then specifying the variables, measures, and procedures to approach the study and evaluation of AI usage in academic purposes by students at IIUI (International Islamic University Islamabad).

3.4.1 Dependent Variable: Academic Performance

Operationalization

Define this variable in terms of practical observable indicators and indices of academic achievement this include GPA, tests scores, or completion rates. There are two ways to gather APA data namely from the official records of performance in the university or the students provide the data on their own.

3.4.2 Independent Variable: Use of AI Technologies

Operationalization

This can be measured by assessing the IIUI students and finding out the specific artificial intelligence technology or application which are being employed for learning activities. For example, you can implement it by criterion of utilizing such or these AI technologies as chatbots, automated grading systems, virtual assistants, or intelligent tutoring systems.

3.4.3 Control Variable: Academic Discipline Operationalization

In operationalizing this variable one has to group students based on their areas of specialization or field of specialty. These records include those kept in different universities or data which the students themselves provide.

3.4.4 Moderating Variable: Technological Proficiency Operationalization

The variable above can be operationalized by evaluating student's technological literacy or performance in applying AI applications. This can be conducted either by a set of questions or by testing their skills in using the technology, performing a survey of the students' previous exposure to AI technologies.

3.4.5 Mediating Variable: Perceived Utility of AI in Academics Operationalization

To measure this variable, an AI utilitarianism scale would be given to the students to rate on a Likert scale the importance of AI technologies in their course work. Some of them could be: "AI technologies improve my learning process" or "I always use AI tools as assistants while doing assignments".

3.5 Instrument

The primary method of data collection will be an elaborate questionnaire. To incorporate closed ended and Likert scale questions in the survey students are allowed to express their perceptions, experiences and impression about the use of AI for enhancing academic performance. This questionnaire is developed to know the demographic information of the students studying in IIUI, their current and future trends of adopting AI, their motivation behind using AI and what they expect to gain from it.

3.6 Procedure (Data Collection)

Ethical Considerations: Some of the ethical considerations will include: The following ethical consideration will be made before actual data is collected: Consent will be sought from the participants; this will ensure that they understand rights of the study, its aims and goals as well as securing the participant's anonymity. The entire process of study will remain in compliance with the ethical norms that include the issue of privacy and protection of data.

3.6.1 Questionnaire Distribution

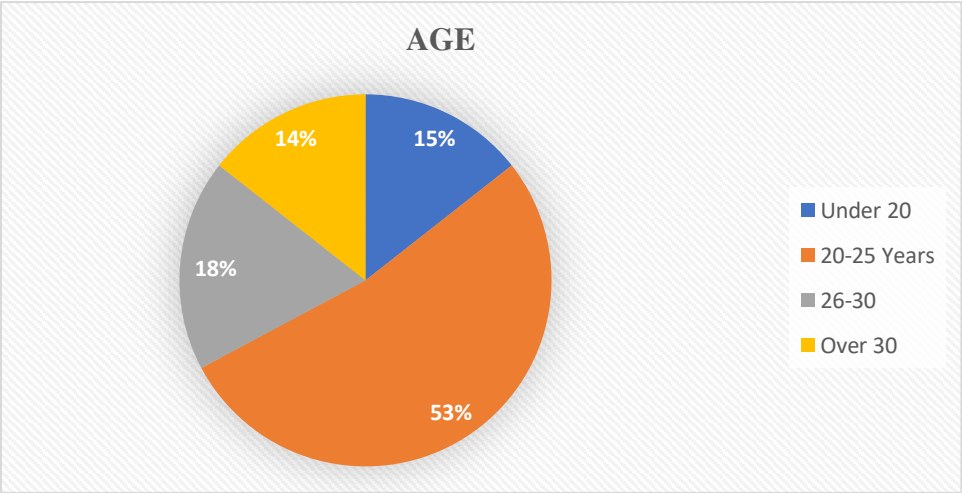
Since data will be collected face-to-face, university students will be given a printed hard copy of the developed, appealing questionnaire. These will include: The objectives of the research, and how to complete the questionnaire. There will certainly be enough time to complete the questionnaire, though writing reminders may be given to encourage more comprehensives responses.

3.7 Data Analysis

At the end of the data collecting period the analysis of the data will be conducted using statistical tests available in SPSS. The data will be described using Descriptive statistics such as; Mean, Standard Deviation, frequency tables, and percentages. Applying inference analyzing technique, the relationship between use of AI, gratifications, and academic performance may also be established.

4. DATA PRESENTATION

4.1 Table 1: Analysis of Age Distribution Among Respondents



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 20	36	14.4	14.4	14.4
	20-25 Years	132	52.8	52.8	67.2
	26-30	46	18.4	18.4	85.6
	Over 30	36	14.4	14.4	100.0
	Total	250	100.0	100.0	

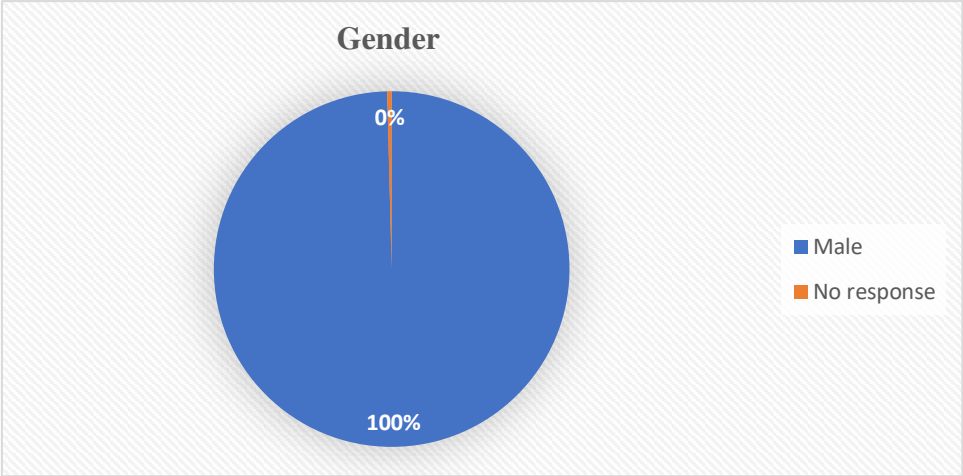
Table 1, show the Age Distribution Among Respondents

Table 1, gives the age distribution of those who participated in the study and is important information for insights into demographics and how this may influence the study's findings. Survey responses were analyzed for 250 respondents, categorized into four age brackets: Under 20, 20-25 years, 26-30 years, and Over 30. The largest group was the 20–25-year-olds, totaling 132 respondents (52.8% of all respondents). That indicates this age group is highly engaged in the study. Both the Under 20 and Over 30 groups had 36 respondents each, making 14.4% for both. 46 (18.4%) of the respondents were aged 26-30.

Cumulative percentage

The cumulative percentages show the distribution of survey respondents, with 67.2% being 25 or younger, and 85.6% 30 or younger.

4.2 Table 2: Gender Distribution



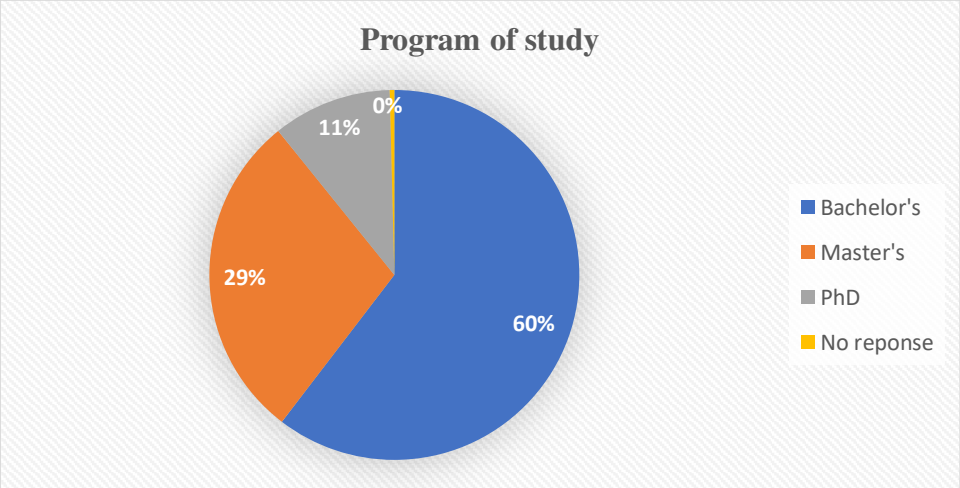
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	249	99.6	100.0	100.0
No	Response	1	0.4		
Total		250	100.0		

Table 2, presents the distribution of gender among the study participants

Table 2, which splits gender into two categories, Male and Missing (for cases where gender was not recorded for a participant) The numbers and percentages of all frequency, valid, and cumulative are presented.

Of the 250 respondents, 249 identified as male, accounting for 99.6% of all respondents. Data was missing from a few respondents, but after filtering for the people that were honest about their gender, only 0.4% (meaning just one person) didn't select their gender (ex: [1 data]) Here we see that all the respondents recorded are Male, Valid percentage of Gender is 100% Thus there was a clear male dominance in the study.

4.3 Table 3: Program of study



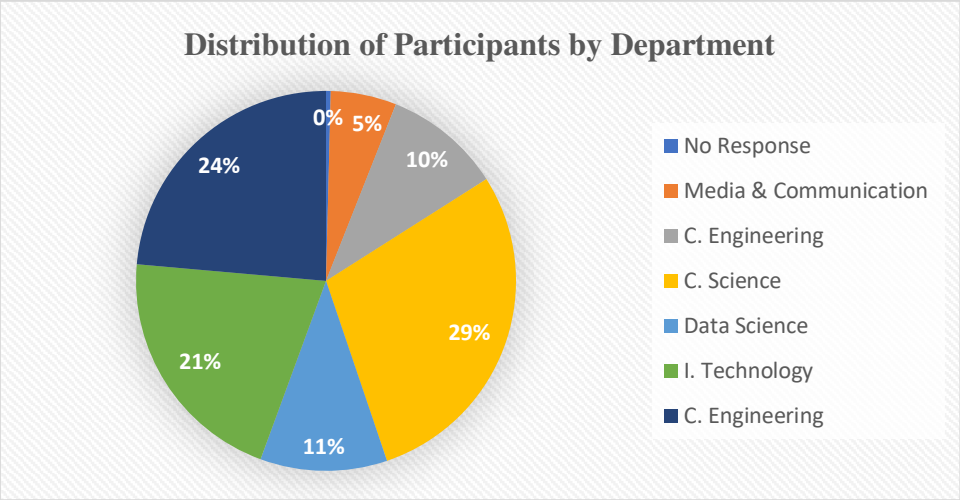
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's	151	60.4	60.6	60.6
	Master's	72	28.8	28.9	89.6
	PhD	26	10.4	10.4	100.0
	Total	249	99.6	100.0	
No	Response	1	0.4		
Total				250	100.0

Table 3, presents the distribution of participants by their program of study

Table 3, shows the distribution of study participants by program of study. Data corresponds to the level of education of the study participants, which is important to know in order to understand where we are comparing.

The data is structured in three main schemas adopted for educational programs: Bachelors, Masters, and PhD. For each program, the number of respondents, percentages, valid percentages, and cumulative percentages. 151 (60.4%) responders were in the Bachelor's program. It can thus be inferred that the majority of participants were undergraduates. It was found that the Magister program has 72 respondents, representing disciples who pursue further studies and represent 28.8% of the sample, both indicators highlight the relevance of graduate education in the disciples. The PhD program is the smallest group, with 26 participants or 10.4%. This is a smaller group but it is significant because it offers valuable perspective on experiences in higher education.

4.4 Table 4: Distribution of Participants by Department



	Frequency	Percent	Valid Percent	Cumulative Percent
No Response	1	0.4	0.4	0.4
Media & Communication	14	5.6	5.6	6.0
C. Engineering	25	10.0	10.0	16.0
C. Science	72	28.8	28.8	44.8
Data Science	27	10.8	10.8	55.6
I. Technology	52	20.8	20.8	76.4
C. Engineering	59	23.6	23.6	100.0
Total	250	100.0	100.0	

Table 4, shows how participants are distributed throughout different academic fields.

As presented in Table 4, the distribution of participants by academic departments. A total of 250 respondents; frequency, percentage, and cumulative percentages for each department are given below:

The information is structured in six sectors including an unknown sector. Some of the departments include Data Science, Computer Engineering, CS, Media & Communication, IT & Software Engineering. The main findings indicate that the category Computer Science (CS) had the highest number of respondents (72), accounting for 28.8% of the total. Software Engineering comes in closely behind in 3rd place with 59 respondents or 23.6% of the sample. Information Technologies (IT) have 52 respondents, which translates into 20.8% of the average respondents.

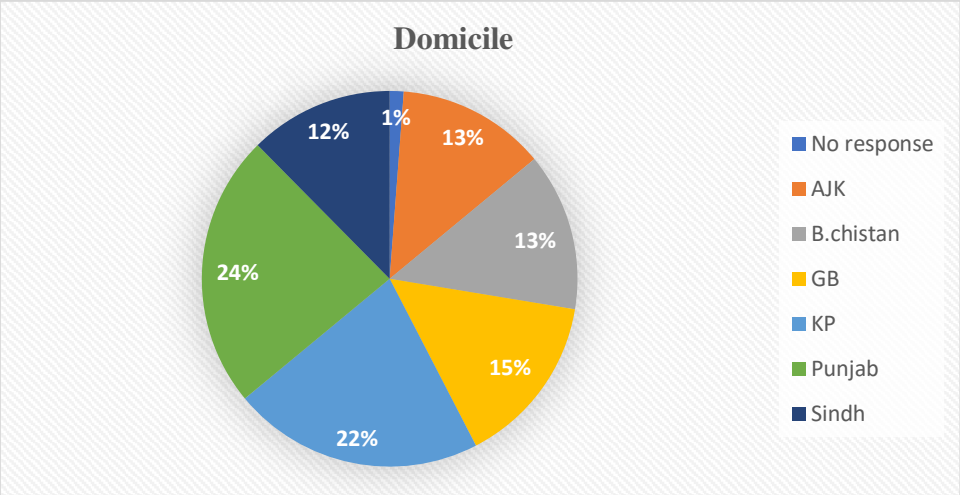
A lesser but still notable number of respondents come from Media & Communication and Computer Engineering departments (27 respondents, 10.8% and 25 respondents, 10.0%,

respectively). Data Science represented the fewest with only 14 respondents, or 5.6%. One of them is for some unspecified department, representing only 0.4% of the total.

Cumulative percentage

These results are in cumulative percentages and show that we are discussing 76.4% of the respondents (the onboarding of Computer Science, Software Engineering and Information Technology are largely focused on a few professions). This allows us to have a clear idea about the distribution of the participants in the departments.

4.5 Table 5: Domicile Distribution of Participants



	Frequency	Percent	Valid Percent	Cumulative Percent
No Response	3	1.2	1.2	1.2
Azad jamu Kashmir	32	12.8	12.8	14.0
Baluchistan	34	13.6	13.6	27.6
Gilgit Baltistan	37	14.8	14.8	42.4
KP	54	21.6	21.6	64.0
Punjab	59	23.6	23.6	87.6
Sindh	31	12.4	12.4	100.0
Total	250	100.0	100.0	

Table 5, summarizes the domicile distribution of the study participants

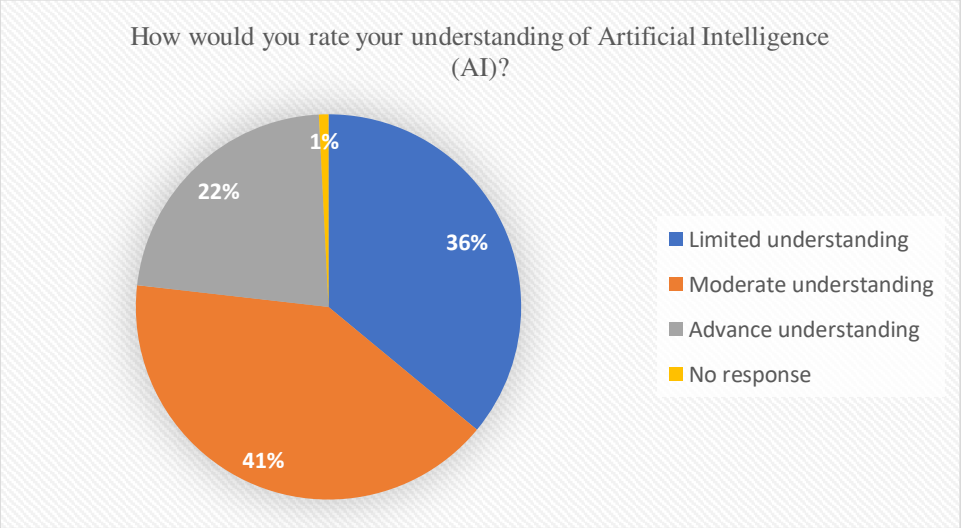
Table 5, shows the domicile distribution of research volunteers with a sample size of 250. The table illustrates the percentage and number of participants hailing from different regions, offering insight into the geographical distribution of the sample population.

To give a brief overview of the participants the number of 250 responses collected so far are a pretty decent mix of provinces and regions. Of these, 3 respondents, or 1.2% each, did not indicate where they filled out those 9 questions. The Punjab group is the largest, with 59 participants or 23.6% of the total. 54 respondents (21.6%) from Khyber Pakhtunkhwa (KP) comes next. As one combined thing, these two areas account for a significant portion of the sample, highlighting their importance in this study. Other provinces like GB have 37(14.8%), Baluchistan has 34(13.6%), AJK with 32(12.8%) and Sindh with 31(12.4%). With this data, they can check how, and whether, people who participated in the study had similar history with other participants.

Cumulative percentage

Looking at the cumulative percentages, when we reach the Khyber Pakhtunkhwa (KP) group, the total number of respondents increases to 64%. If we close the Sindh group as well, it takes it to 100%. A cumulative perspective reveals the spread of the respondents across the ground and diversity of the respondents.

4.6 Table 6: How would you rate your understanding of Artificial Intelligence (AI)?



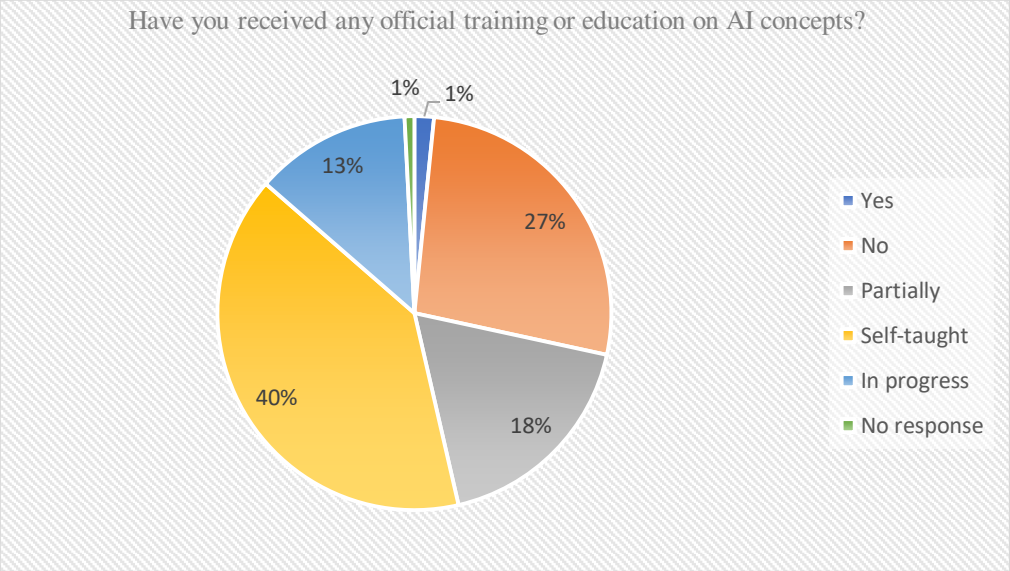
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Limited understanding	90	36.0	36.3	36.3
	Moderate understanding	102	40.8	41.1	77.4
	Advance understanding	56	22.4	22.6	100.0
	Total	248	99.2	100.0	
No	Response	2	0.8		
Total		250	100.0		

Table 6, presents the findings on understanding of Artificial Intelligence (AI).

Table 6, indicate the Results on awareness of Artificial Intelligence (AI). Responses are categorized into three levels of understanding; Limited, Moderate and Advanced. Of the 250 responses collected, 248 contained usable answers (99.2% completion rate, missing 2 responses).

Participants have varied understandings about AI, as the survey results reflect. A total of 90 people (36.0%) stated they have a basic understanding of AI (the largest group). That means the average person may need basic education about it. The other group in question was the second highest, with 102 (40.8%) participants reporting their understanding as moderate. This means that although they know something about AI, they still have abundant opportunities to learn more to learn. Finally, most (22.4%, n = 56) had an advanced knowledge of AI.

4.7 Table 7: Have you had any official training or education on AI concept?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	4	1.6	1.6	1.6
	No	67	26.8	27.0	28.6
	Partially	45	18.0	18.1	46.8
	Self-taught	100	40.0	40.3	87.1
	In progress	32	12.8	12.9	100.0
	Total	248	99.2	100.0	
No	Response	2	0.8		
	Total	250	100.0		

Table 7, Have you had any official training or education on AI concepts?

Table 7, represent the responses to the question on whether participants had received any official training or education related to Artificial Intelligence (AI) concepts. There were 248 valid responses and 2 no response.

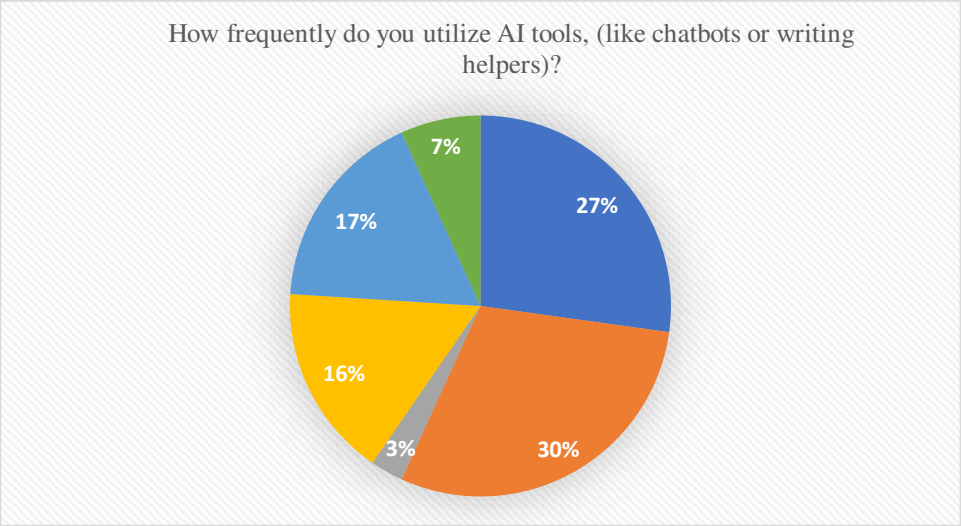
There are differences in the education given to participants when it comes to AI, with the survey results reflecting this. Just 4 people (1.6%) reported that they have received formal education in AI, a clear indication that formal training in this domain is still very limited. In our study, on the contrary, a good number of the participants, 67 (26.8%), stated that they had received no education or training in AI whatsoever, indicating many have no basic knowledge in this rapidly evolving field. 45 respondents (18.0%) reported having some training — likely those who have taken introductory classes or attended workshops without completing a full program.

The largest group of participants, N = 100 (40.0%), were self-taught in AI concepts. This adds to the importance of self-study, as essentially everyone has to — there aren't many other options for formalized learning. Finally, 32 participants (12.8%) confirmed that they are currently preparing for education or training in AI, which highlights an increasing interest and ongoing struggle to gain profound and adequate knowledge about this mainstream concept.

Cumulative Percentages

At the "Partially" mark, 46.8% of the respondents have some kind of experience in AI education, whether formal or informal, as seen from the cumulative percentages. That implies that while education is limited, many of our participants are finding alternative means to learn about AI.

4.8 Table 8: How frequently do you utilize AI tools, (like chatbots or writing helpers)?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	68	27.2	29.2	29.2
	Several times a week	74	29.6	31.8	60.9
	Once a week	7	2.8	3.0	63.9
	Occasionally	41	16.4	17.6	81.5
	Rarely	43	17.2	18.5	100.0
	Total	233	93.2	100.0	
No	Response	17	6.8		
Total		250	100.0		

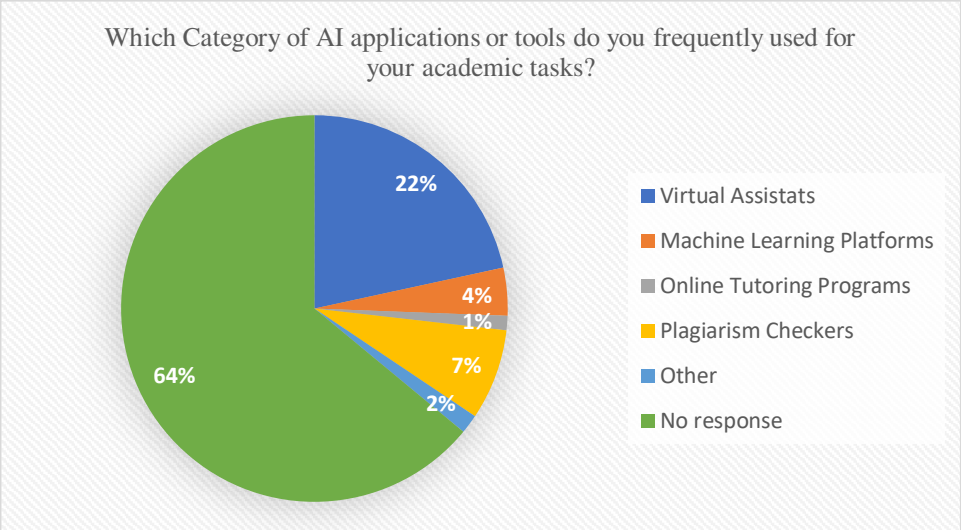
Table 8, displays the survey results on how often participants use AI tools

Table 8, show the number of participants who use the AI tools according to the survey results. The data suggest varying degrees of use for tools such as chatbots and writing assistants. The table shows the responses of 250 people, out of which 233 (93.2% of total) were valid and 17 responses were excluded (6.8%).

This survey measures how often people utilize the AI tools in their daily lives. The largest group, comprising 74 respondents (29.6%), answered that they use AI tools several times a week, which means a considerable number of people have frequent contact with these technologies. Second, 68 (27.2%) mentioned daily usage of AI tools, indicating that they depend on AI tools in their daily life. A by a much smaller margin of 41 (16.4%) reporting incorporating the use of AI tools in their work on an occasional basis suggests moderate usage. This suggests that use is infrequent and relatively small as 7 participants (2.8%) said they will use these tools only once a week. Finally, 43 participants (17.2%) indicated that they rarely

use AI tools, suggesting that while a lot use AI for the purposes of getting such tasks done, a significant number of people do not integrate AI into their day-to-day.

4.9 Table 9: Which Category of AI application or tools do you frequently used/1 for your academic task?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Virtual Assistants	54	21.6	60.0	60.0
	Machine Learning Platforms	10	4.0	11.1	71.1
	Online Tutoring Programs	3	1.2	3.3	74.4
	Plagiarism Checkers	19	7.6	21.1	95.6
	Other	4	1.6	4.4	100.0
	Total	90	36.0	100.0	
No	Response	160	64.0		
Total		250	100.0		

Table 9, shows Interpretation of Survey Results on AI Tools for Academic Tasks

Table 9, shows what types of AI tools or applications participants had commonly used for their academic tasks. Of the 250 respondents 90 provided valid answers, these 90 are potentially interested in accessing AI technologies in school.

Participants were asked to select all AI tools that they used in responding to academic activities. The category with the highest number of users was virtual assistants, with 54 users, or 21.6% of the total. This indicates that students have started to use AI to help manage their schoolwork, probably around scheduling, reminders or searching for information. In contrast, only 10 (4.0%) respondents used machine learning platforms. The low number could indicate

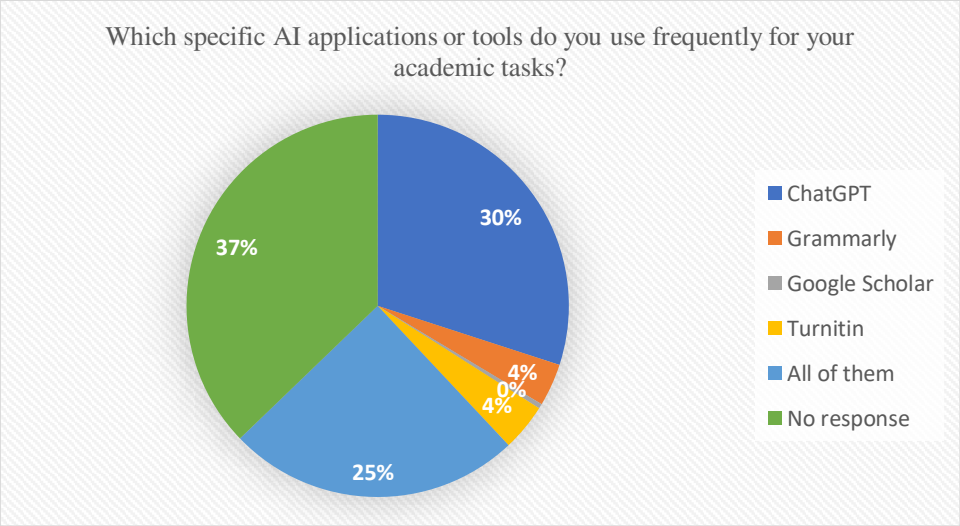
that participants are not very familiar with these tools, or that these tools are primarily used in more advanced academic settings.

Moreover, only 3 (1.2%) reported using online tutoring programs. Furthermore, this small percentage might reflect limited availability of these tools, or students opting for conventional learning techniques over AI-based tutoring. Nineteen respondents (7.6%) used plagiarism checkers because one of the most important aspects of writing is being an honest student, and AI can help them cement the fact that the content generated is theirs. Finally, some respondents (n=4, 1.6%) mentioned that they use other (unspecified) AI tools.

Missing Data

It is also necessary to indicate that 160 answers were missing, which represent 64.0% of the total. This indicates that a significant number of respondents either did not use AI tools or skipped answering this question.

4.10 Table 10: Which specific AI applications or tools do you use frequently for your academic tasks?



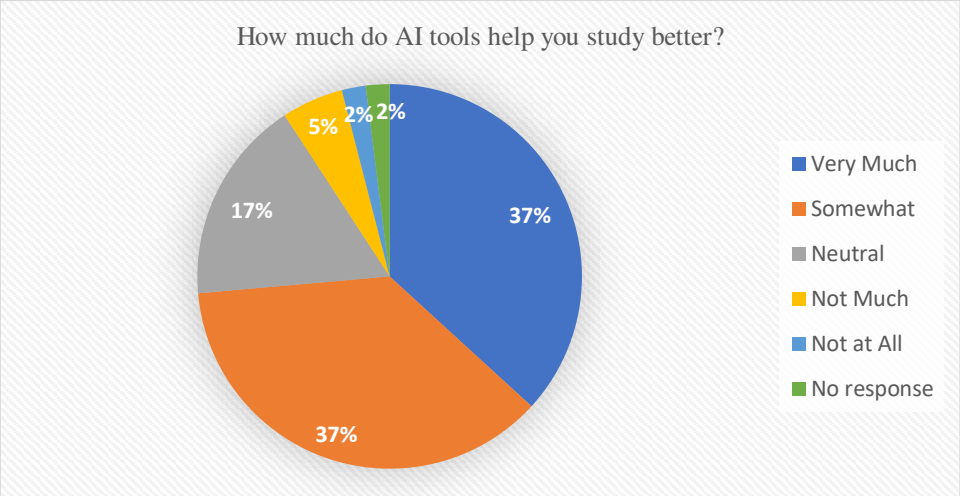
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ChatGPT	75	30.0	47.8	47.8
	Grammarly	9	3.6	5.7	53.5
	Google Scholar	1	0.4	0.6	54.1
	Turnitin	10	4.0	6.4	60.5
	All of them	62	24.8	39.5	100.0
	Total	157	62.8	100.0	
No	Response	93	37.2		
Total		250	100.0		

Table 10, shows the responses about the specific use of AI tools or apps that participants regularly

Table 10, presents participants' answers regarding the specific AI tools or apps they regularly utilize for their schoolwork. A total of 93 answers were missing, and 157 answers were valid, leading to a rate of 62.8%.

The most popular tool, used regularly by 75 of respondents, or 30.0% of those who answered, is ChatGPT. This indicates that conversational AI is gaining increased adoption for text generation, question answering, and assistance in research-type activities. Next, after ChatGPT, 9 respondents (3.6%) said they used Grammarly, a writing assistant that helps with grammar and style, and is very useful for academic work. On the other hand, only 1 (0.4%) reported using Google Scholar regularly. The other most-used tool was Turnitin, a widely known plagiarism checking tool, used by 10 (4.0%) respondents. However, its relatively low usage compared to the others suggests that a checking service is much less used for everyday tasks. A notable 62 respondents (24.8%) said that they use all of the tools listed, indicating comprehensive approach to using multiple AI resources to support the schoolwork that they do.

4.11 Table 11: How much do AI tools help you study better?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Much	92	36.8	37.6	37.6
	Somewhat	92	36.8	37.6	75.1
	Neutral	43	17.2	17.6	92.7
	Not Much	13	5.2	5.3	98.0
	Not at All	5	2.0	2.0	100.0
	Total	245	98.0	100.0	
No	Response	5	2.0		
Total		250	100.0		

Table 11, presents the Explanation of Survey Results on the Impact of AI Tools on Studying

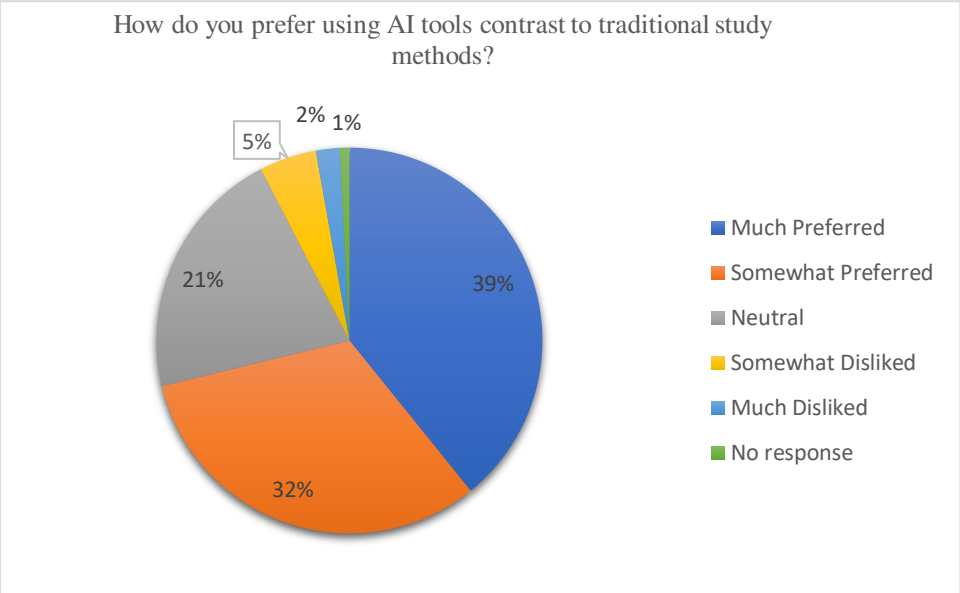
Table 11, show how participants feel AI tools help them study. The valid number of responses was 245, with 5 missing responses, for a total response rate of 98.0 %.

Survey result shows AI tools help them "very much" and 92 out of 250 responses, accounting for 36.8% of the total valid responses, have chosen this option which suggested a relatively strong idea of AI tools to improve this study habit. A further 92 respondents (again 36.8%) said AI tools help them "somewhat," indicating a moderate level of effectiveness perceived by a large portion of respondents.

On the other hand, 43 respondents (17.2%) were neutral, meaning they do not feel strong benefits or drawbacks when it comes to using AI tools, indicating perhaps mixed experiences among users. Also, a minority of respondents — just 13 (5.2%) — said AI tools help them “not much,” indicating a minority generally isn’t clear whether these tools help them or not. Finally, only 5 respondents (2.0%) said that AI tools do not help them at all, meaning

almost every participant finds at least some utility in using AI for their studies. Overall, these findings indicate a general trend in favor of the use of AI for academia.

4.12 Table 12: How do you prefer using AI tools in contrast to conventional study techniques?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Much Preferred	98	39.2	39.5	39.5
	Somewhat Preferred	80	32.0	32.3	71.8
	Neutral	53	21.2	21.4	93.1
	Somewhat Disliked	12	4.8	4.8	98.0
	Much Disliked	5	2.0	2.0	100.0
	Total	248	99.2	100.0	
No	Response	2	0.8		
Total		250	100.0		

Table 12, displays preferences for using AI tools in comparison to traditional study methods.

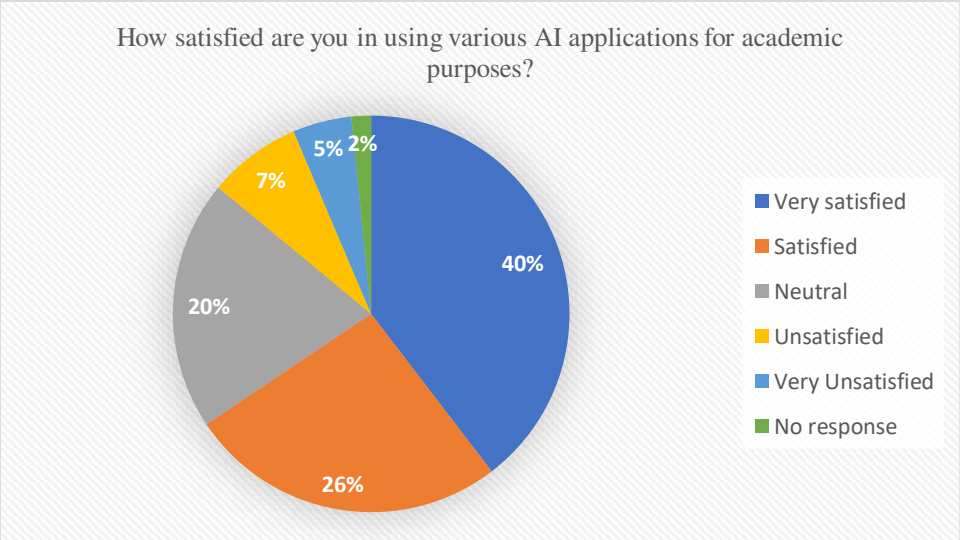
Table 12, illustrates the answers regarding participant preferences to use an AI tool instead of ancient traditional study methods. Out of all, 2 responses were invalid, and 248 participants what we obtained valid responses, leading to 99.2% of total response rate.

We can see how respondents feel about the AI use of tools vs study. A total of 98 respondents (39.2% of valid responses) indicated they "much preferred" using AI tools. Which shows that they very much like what AI can offer to their study experience. Another 80 participants (32.0%) indicated that they "somewhat preferred" AI tools, indicating that they

understand the advantages of AI, although they are not as enthusiastic about it as those who said that they "much preferred" AI tools.

On the other hand, 53 (21.2%) perceived a neutral attitude that implies they are not significantly in favor or against utilizing AI tools against traditional methods. Just 12 respondents (4.8%) said they “somewhat disliked” AI tools, indicating some dissatisfaction with these resources. Lastly, only 5 participants (2,0%) indicated that they "much disliked" the employment of AI tools, suggesting that the respondents mostly favored the study methods that at least included the AI tools.

4.13 Table 13: How satisfied are you in using various Applications of AI in education purposes?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very satisfied	99	39.6	40.2	40.2
	Satisfied	65	26.0	26.4	66.7
	Neutral	51	20.4	20.7	87.4
	Unsatisfied	19	7.6	7.7	95.1
	Very Unsatisfied	12	4.8	4.9	100.0
	Total	246	98.4	100.0	
No	Response	4	1.6		
Total		250	100.0		

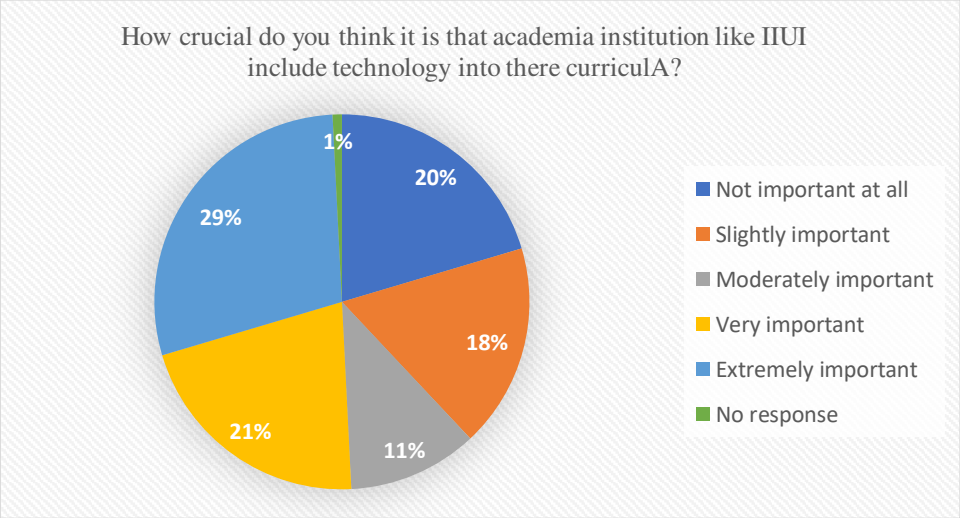
Table 13, Explanation of Survey Results on Satisfaction with AI Applications

Table 13, represent the total, 246 people gave valid responses (4 missing responses), making for a 98.4% overall response rate.

The survey results reveal what participants think about length of usage of AI applications for academic purpose. Of these tools, 99 respondents, or 39.6 percent of valid responses, reported they were "very satisfied." Results indicate people have a very positive perspective on the implications of AI applications on their academic lives. In addition to 128 respondents (51.2%) who replied "satisfied" meaning They typically hold favorable opinions about AI tools; however, their satisfaction may not be as high compared to the very satisfied.

Overall, 51 (20.4%) individuals rendered a neutral opinion and neither feel satisfied with their use of AI applications or the opposite. Meanwhile, 19 respondents (7.6%) indicated that they were "unsatisfied," indicating Twelve participants, (4.8%) reported being “very unsatisfied,” which suggests a very small subset with a negative perception of using AI tools. Overall, these results show that participants generally find AI applications more favorable, and many report being very satisfied.

4.14 Table 14: How crucial do you think it is that academic institutions like IIUI include AI technology into their curricula?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not important at all	51	20.4	20.6	20.6
	Slightly important	44	17.6	17.7	38.3
	Moderately important	28	11.2	11.3	49.6
	Very important	53	21.2	21.4	71.0
	Extremely important	72	28.8	29.0	100.0
	Total	248	99.2	100.0	
No	Response	2	0.8		
	Total	250	100.0		

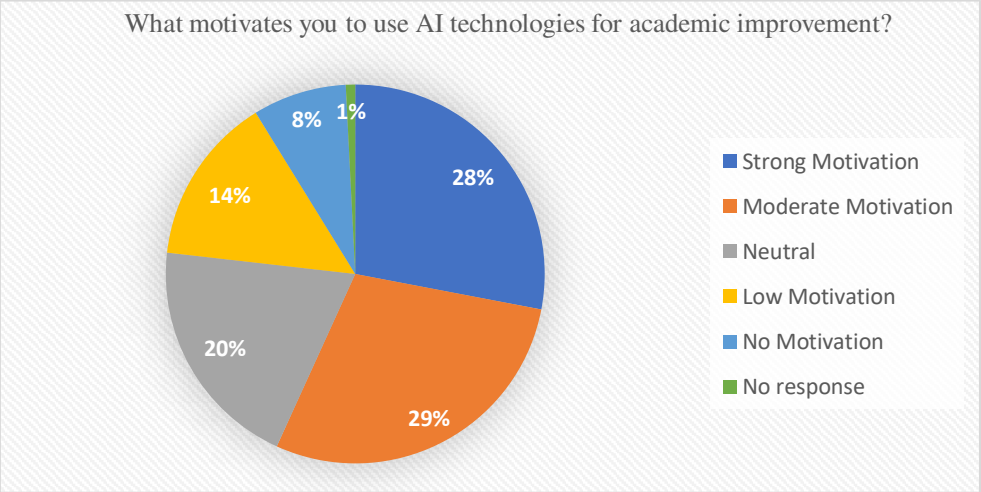
Table 14, shows the responses regarding participants' views on the importance of adding AI

Table 14, show valid participant response total 248, with 2 item missing, for a total response 99.2%

These are the survey results, showing how important it is for the participants to incorporate AI technologies in their environment. Sixty-seven participants (27.0% of valid answers) indicated that integrating AI is "not important at all," suggesting that some respondents do not believe AI can be useful in their studies. Similarly, "slightly important" was chosen by 44 respondents (17.6%), suggesting limited acknowledgment of potentially favorable impact.

Conversely, 28 participants (11.2%) thought AI integration was "moderately important," demonstrating a neutral stance regarding the issue. In comparison, a sizeable portion of those surveyed 53 respondents (21.2%) held the view that the introduction of AI is "very important," indicating the tremendous potential that AI can offer to improve educational outcomes. Lastly, the most significant number of respondents, 72 (28.8%) rated integration of AI technologies as "extremely important," indicating that many participants strongly agreed about the essential nature of AI in academic programs. overall, these results show the mixed feelings about the need for AI integration in education.

4.15 Table 15: What motivates you to use AI technologies for academic improvement?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strong Motivation	70	28.0	28.2	28.2
	Moderate Motivation	72	28.8	29.0	57.3
	Neutral	50	20.0	20.2	77.4
	Low Motivation	36	14.4	14.5	91.9
	No Motivation	20	8.0	8.1	100.0
	Total	248	99.2	100.0	
No	Response	2	0.8		
Total		250	100.0		

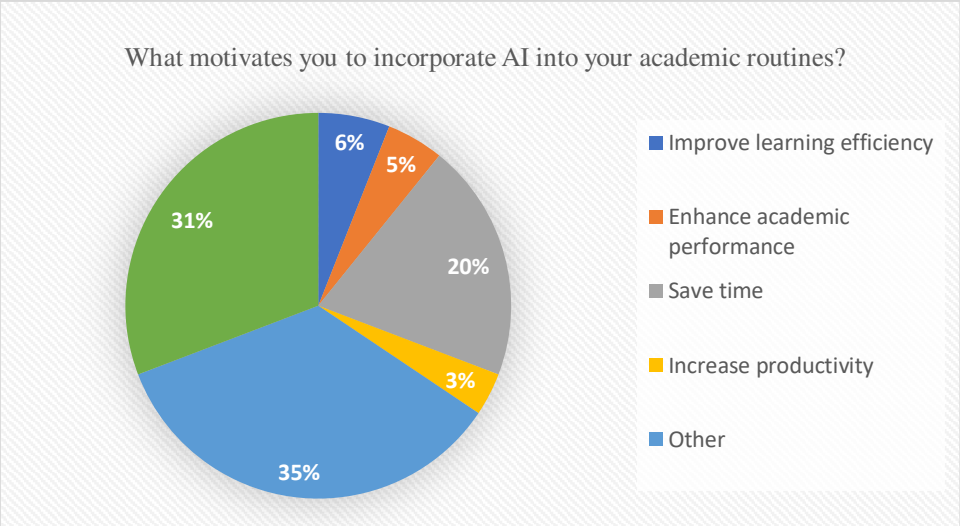
Table. 15, presents the Explanation of Survey Results on Motivation to Use AI Technologies

Table 15, shows their responses about to use AI technologies to enhance their academic performance. In total, 248 people responded, including 2 valid responses (+99.2% response rate).

The findings from the survey show why participants are motivated to use AI technologies for their studies. Out of the total respondents (250), 28% (70) responded, including "strong motivation." That is an indication that many respondents are highly enthusiastic to take advantage of AI to improve their academic work. Also, 72 respondents (28.8%) stated that they were of "moderate motivation," meaning they understand the benefits associated with AI but were not as strongly motivated as strong motivators.

Conversely, 50 participants (20.0%) had a neutral opinion, indicating a meaningless level of motivation towards whether to use AI technologies or not. The option “low motivation” was selected by only 36 respondents (14.4%), suggesting that this group does not find value in these tools.

4.16 Table 16: What motivates you to incorporate AI into your academic routines?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Improve learning efficiency	15	6.0	8.7	8.7
	Enhance academic performance	12	4.8	6.9	15.6
	Save time	50	20.0	28.9	44.5
	Increase productivity	9	3.6	5.2	49.7
	Other	87	34.8	50.3	100.0
	Total	173	69.2	100.0	
No	Response	77	30.8		
Total		250	100.0		

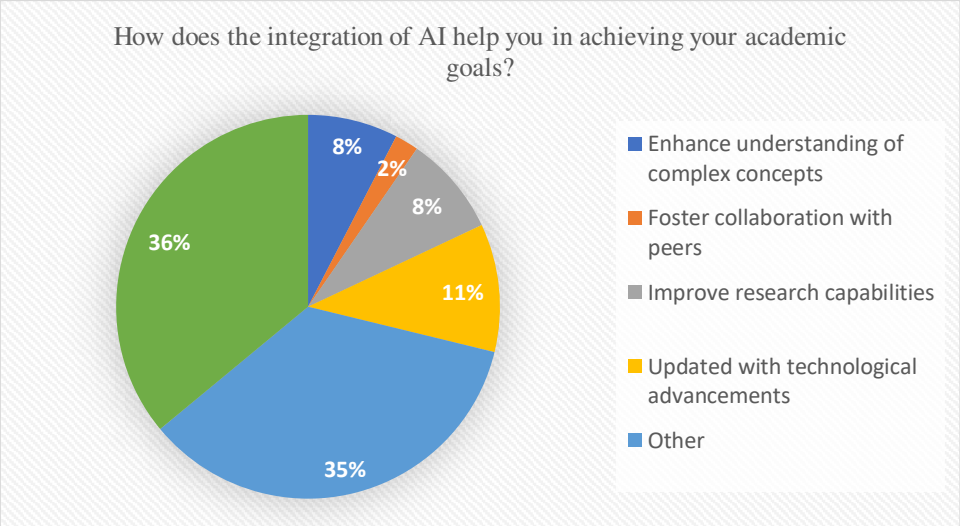
Table 16, Explanation of Survey Results on Motivations to Incorporate AI

Table 16. Valid responses were obtained from 173 participants in total; 77 of the responses were missing, attaining a total response rate of 69.2%.

The different reasons these students gave for using AI technologies in their studies can be seen in the survey results above. Improving learning efficiency was reported as a motivation for using AI by only 15 participants, accounting for 6.0% of the valid responses, suggesting that while efficiency is important, it may not necessarily be the primary reason for most respondents to use AI. In a similar vein, only 12 participants (4.8%) mentioned that being better at academia motivates them, suggesting that this is not strongly driving usage of AI.

The strongest driving factor is the need for time saving reported by 50 respondents (20.0%). This indicates that participants value AI technologies for simplifying tasks and

minimizing time spent on academic work. Furthermore, nine (3.6%) of the participants reported that they are motivated to integrate AI into their daily routine to improve productivity, Remarkably, 87 of them (34.8%) answered "other" to what motivated them.



4.17 Table 17: How does the integration of AI help you in achieving your academic goals?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Enhance Understanding of complex concepts	19	7.6	11.9	11.9
	Foster collaboration with peers	5	2.0	3.1	15.0
	Improve research capabilities	21	8.4	13.1	28.1
	Updated with Technological advancements	27	10.8	16.9	45.0
	Other	88	35.2	55.0	100.0
	Total	160	64.0	100.0	
No	Response	90	36.0		
Total		250	100.0		

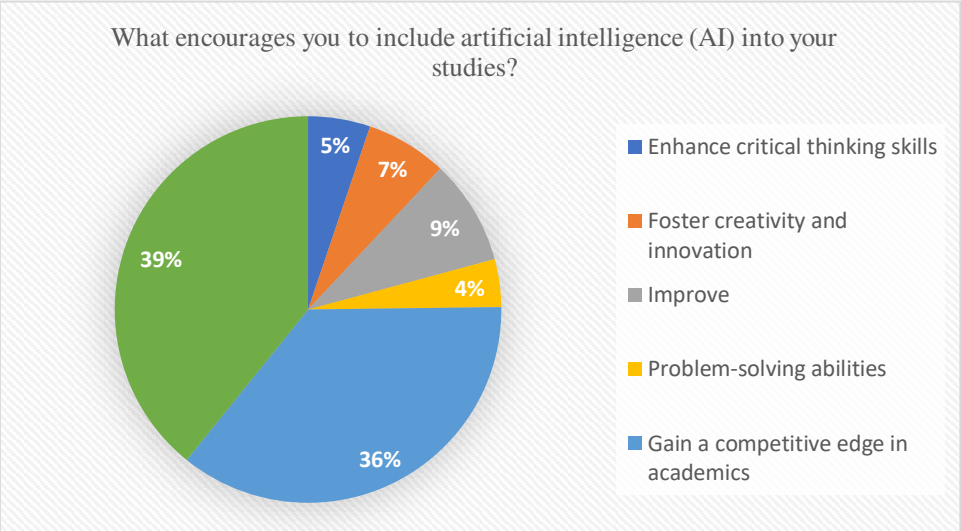
Table 17, shows the Explanation of Survey Results on the Integration of AI for Academic Goals

Table 17, interest in the role played by AI in assisting participants in achieving their academic goals. A valid response was received from a total of 160 participants, while 90 responses (36.0%) were unretrieved; a total response rate of 64.0%.

The results of this survey show, in particular, the participants' perceptions of the advantages of adopting AI technologies during their cognitive process. Only 19 participants (7.6% of valid responses) reported that AI are helping them to understand complex concepts

better. This indicates to me that some people at least recognize AI's capacity to simplify challenging topics. Conversely, only 05 (2.0%) of participants claim that AI promotes collaborative work with colleagues. Moreover, 21 participants (8.4%) reported that AI enhances their research capabilities, indicating that they recognize AI's potential to facilitate information searching and analysis. Additionally, 27 participants (10.8%) stated that AI helps them remain updated on the latest advances in technology.

In particular, 88 participants (35.2%) selected "other" as a means in which AI assists them in reaching their academic goals. This suggests that there are many more motivators and benefits not captured by the predefined categories. Overall, findings explain that not only do participants rely on (or experience specific benefits of) AI but they also envision AI to support them in more ways in terms of their academic success.



4.18 Table 18: What encourages you to include artificial intelligence (AI) into your studies?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Enhance critical thinking skills	13	5.2	8.6	8.6
	Foster creativity and innovation	17	6.8	11.2	19.7
	Improve	22	8.8	14.5	34.2
	Problem-solving abilities	10	4.0	6.6	40.8
	Gain a competitive edge in academics	90	36.0	59.2	100.0
	Total	152	60.8	100.0	
No	Response	98	39.2		
Total		250	100.0		

Table 18, shows Explanation of Survey Results on Encouragement to Integrate AI Technologies

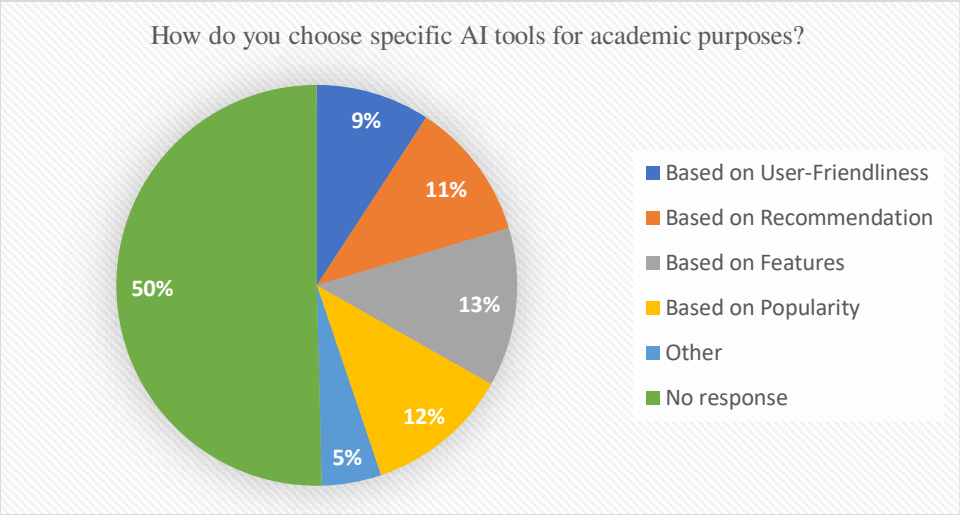
Table 18, A valid response was returned by a total of 152 participants, while 98 responses were missing, resulting in a total response rate of 60.8%.

Here are the reasons participants said they use AI technologies, according to the survey results. Enhancing critical thinking skills was mentioned by 13 participants or 5.2% of responses that were valid. This indicates that not much is being perceived of AI in terms of broader speaking ability relating to capacity building, to develop analytical abilities. Likewise, motivating them through fostering creativity and innovation was shown to 17 participants (6.8%), a small recognition they can apply to AI to give birth to new ideas and approaches to be took further in their academic background.

Further, 22 participants (8.8%) indicated that the benefit of using AI technologies with regard to improvements in different fields motivates them to use it, although it is a little ambiguous and should be defined more in subsequent surveys. In addition, only 10 respondents (4.0%) mentioned that enhancing problem-solving skills is a motivational factor,

The most important motivator, cited by 90 participants (36.0%), is to obtain an academic advantage. Many students see AI technologies as valuable resources to enhance their performance and thus gain an edge in their academic endeavors.

4.19 Table 19: How do you choose specific AI tools for academic purposes?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Based on User Friendliness	23	9.2	18.5	18.5
	Based on Recommendation	28	11.2	22.6	41.1
	Based on Features	32	12.8	25.8	66.9
	Based on Popularity	29	11.6	23.4	90.3
	Other	12	4.8	9.7	100.0
	Total	124	49.6	100.0	
No	Response	126	50.4		
Total		250	100.0		

Table 19, shows the Explanation of Survey Results on Choosing AI Tools

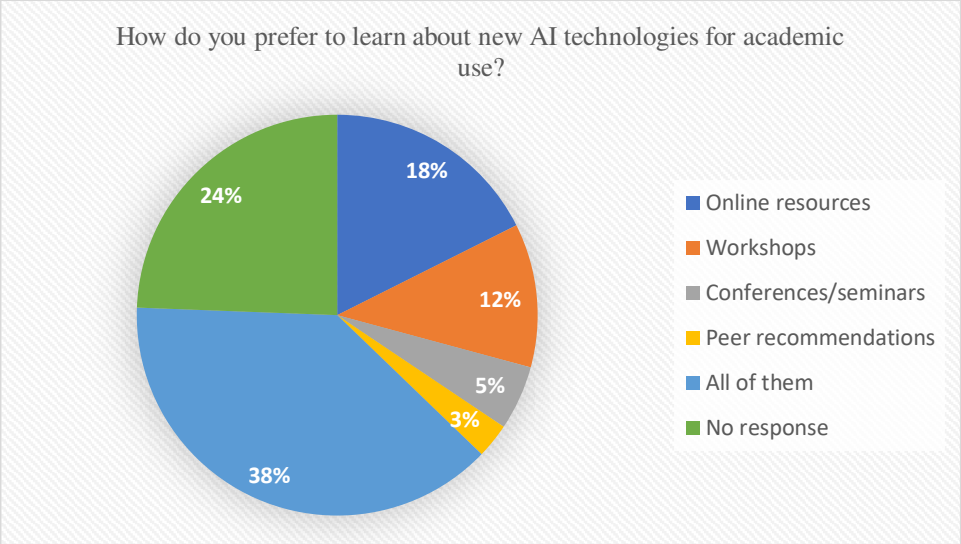
Table 19; shows the responses to how the participants select the specific AI tools to use for academic purposes. The final number of valid responses was 124 participants (total: 49.6%), with a total of 126 missing responses.

Out of the total number of valid responses, 23 participants (9.2%) selected user-friendliness as a significant consideration in their selection process. This indicates that ease of use is for some, but not the top priority. Furthermore, 28 respondents (11.2%) said they choose tools based on the suggestions of friends or teachers, and evidence that they themselves rely on advice from others. Likewise, 32 respondents (12.8%) noted that they choose AI tools based on features, suggesting that specific functions are crucial in choosing the right tool for academic tasks.

Additionally, 29 (11.6%) reported that the popularity of a tool has an impact on their decisions, which might imply that students see tools that have a broad adoption as being more

likely to work for them. The last 12 respondents (4.8%) chose "other," suggesting that there are additional, not quite listed factors influencing their decisions.

4.20 Table 20: How do you prefer to learn about new AI technologies for academic use?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Online resources	44	17.6	23.3	23.3
	Workshops	29	11.6	15.3	38.6
	Conferences/seminars	13	5.2	6.9	45.5
	Peer recommendations	7	2.8	3.7	49.2
	All of them	96	38.4	50.8	100.0
	Total	189	75.6	100.0	
No	Response	61	24.4		
Total		250	100.0		

Table 20, show the Explanation of Survey Results on Learning Preferences for AI Technologies

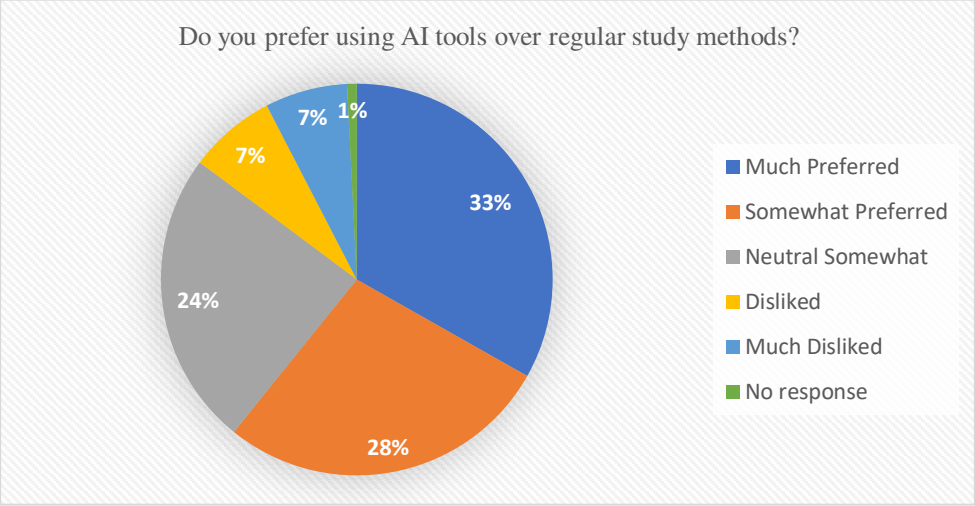
Table 20 presents responses concerning participants' preferred method of learning about new AI technologies for use in academia. 189 responses were valid and 61 were missing, for a total response rate of 75.6%.

This table show that Thirty-two participants or 12.8% of valid responses like to use online resources. That means most people turn to digital platforms for information and education about AI. Another 29 (11.6%) helped us understand that they are traditional learners

who appreciate bringing workshops into the mix to build tactile familiarity with the technology.

Five participants (2.7%) preferred conferences or seminars for education about AI, indicating minimal interest towards formal events. On the other hand, only seven (2.8%) respondents said they learn best through advice from friends. It is noteworthy that the 36.8% of 96 participants reported that they would want to learn about new AI technologies by every means. It shows they enjoy a more well-rounded way of learning and value many different methods of gathering information in pursuit of better understanding AI tools.

4.21 Table 21: Do you prefer using AI tools over regular study methods?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Much Preferred	83	33.2	33.5	33.5
	Somewhat Preferred	69	27.6	27.8	61.3
	Neutral Somewhat	61	24.4	24.6	85.9
	Disliked	18	7.2	7.3	93.1
	Much Disliked	17	6.8	6.9	100.0
	Total	248	99.2	100.0	
No	Response	2	0.8		
Total		250	100.0		

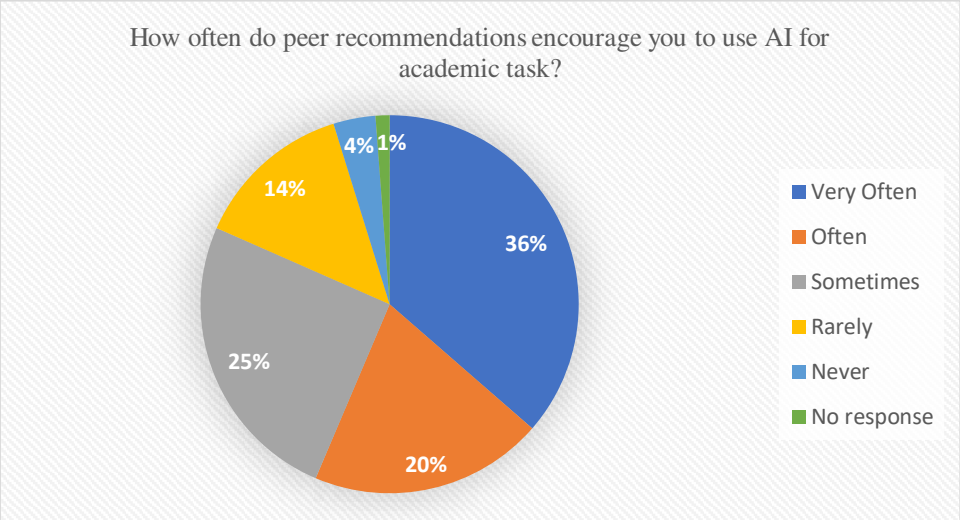
Table. 21, shows the Explanation of Survey Results on Preference for AI Tools

Table 21, show A total of 248 valid responses were collected, with 2 missing responses (total response rate 99.2%)

In total, 83 participants, or 33.2% of valid responses, reported “much preferred” using AI tools. It demonstrates how a large number of people think that AI truly can enhance their learning experience. Also, 69 respondents (27.6%) said they "somewhat preferred" AI tools, indicating they find benefits, but not so strongly as those who "much preferred" them.

Conversely, 61 individuals (24.4%) were neutral, indicating that they neither favored nor opposed using AI tools vs. traditional methods. Additionally, 18 respondents (7.2%) described their relationship with AI tools as one of "dislike", indicating a low level of dissatisfaction. Finally, 17 (6.8%) found using AI tools "much disliked"; they are a minority that would prefer the traditional modes of study.

4.22 Table 22: How often do peer recommendations encourage you to use AI for academic task?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Often	91	36.4	36.8	36.8
	Often	50	20.0	20.2	57.1
	Sometimes	63	25.2	25.5	82.6
	Rarely	34	13.6	13.8	96.4
	Never	9	3.6	3.6	100.0
	Total	247	98.8	100.0	
No	Response	3	1.2		
Total		250	100.0		

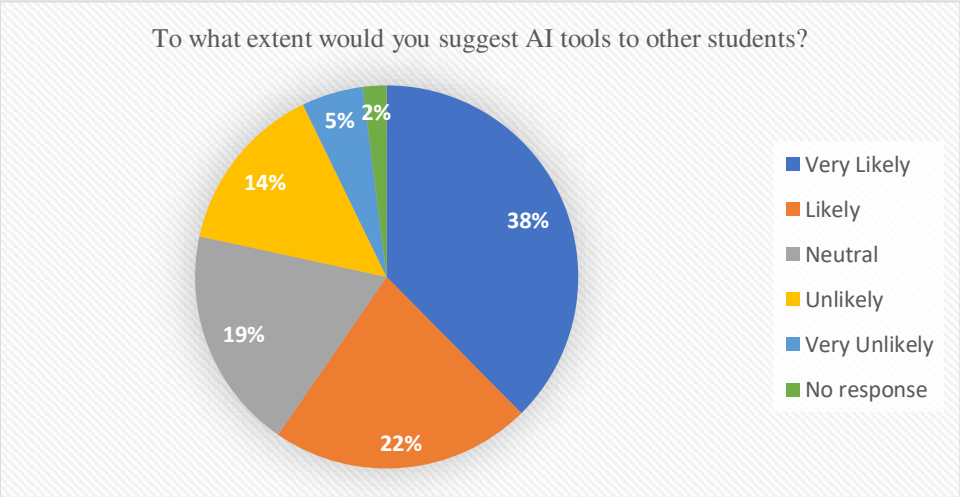
Table 22, shows the Explanation of Survey Results on Peer Recommendations

Table 22, presents the responses indicating peer recommendations as a reason why participants are encouraged to use AI for academic purposes. In total, 250 participants took part in the survey; valid responses accounted for 247, 3 missing responses, and total response was 98.8%.

According to the survey results, peer recommendations influence how participants use the AI tools. Ninety-one participants (36.4% of valid responses) said peer recommendations make them use AI “very often.” This means that they rely heavily on their peers for advice on deploying AI technologies. Similarly, 50 respondents (20.0%) indicated that they are motivated by peer recommendations "very often “which supports the argument that friends have a large effect on making a decision.

In comparison, 63 respondents (25.2%) claimed that peer recommendations "sometimes" motivate them. This means that while friends do have an impact on their decisions, this impact may not be as pronounced for everyone who is in a network. Additionally, 34 (13.6%) participants thought that peer recommendations persuade them “rarely,” suggesting that peer influence is of minor importance for some people. Finally, a small number (3.6%, or nine respondents) reported that peer recommendations always encourage the use of AI tools.

4.23 Table 23: To what extent would you suggest AI tools to other students?



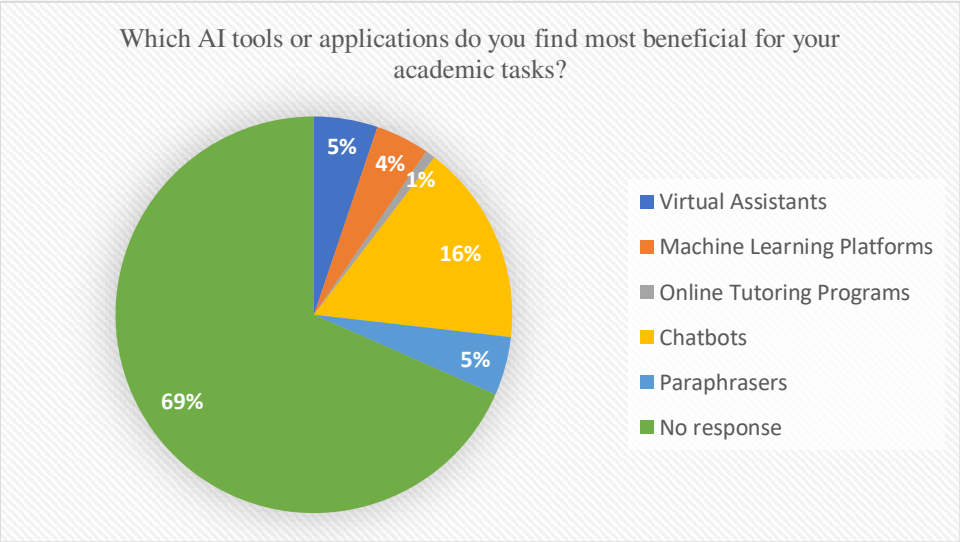
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Likely	94	37.6	38.4	38.4
	Likely	55	22.0	22.4	60.8
	Neutral	47	18.8	19.2	80.0
	Unlikely	36	14.4	14.7	94.7
	Very Unlikely	13	5.2	5.3	100.0
	Total	245	98.0	100.0	
No	Response	5	2.0		
Total		250	100.0		

Table 23, shows the Explanation of Survey Results on Recommendations of AI Tools

Table 23, presents responses on whether participants would recommend AI tools to other students and how likely they are to do so. In total, 245 responses were valid, whereas 5 responses were incomplete; hence, the response rate was 98.0%.

The survey results demonstrate Participants willingness to recommend AI tools to others. Overall, 114 respondents 45.6% of validity selected “somewhat likely,” while a total of 94 (37.6%) said they are “very likely” to recommend these tools. Notably, 55 participants (22.0%) mentioned that they are "likely" to recommend AI tools which further indicates that students are experiencing various benefits from AI during their study. There is a neutral response (n = 47; 18.8%) when respondents did not serve for strong support or opposition regarding AI tools recommendations. That indicates some of the people involved may be questioning how well these technologies work. In fact, 36 (14.4%) said they are “unlikely” to recommend AI tools, Finally, 13 respondents (5.2%) answered this question “very unlikely” to recommend AI tools, this a small subset with no value in using this technology.

4.24 Table 24: Which AI tools or application do you find most beneficial for your academic task?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Virtual Assistants	13	5.2	16.5	16.5
	Machine Learning Platforms	11	4.4	13.9	30.4
	Online Tutoring Programs	2	0.8	2.5	32.9
	Chatbots	41	16.4	51.9	84.8
	Paraphrasers	12	4.8	15.2	100.0
	Total	79	31.6	100.0	
No	Response	171	68.4		
Total		250	100.0		

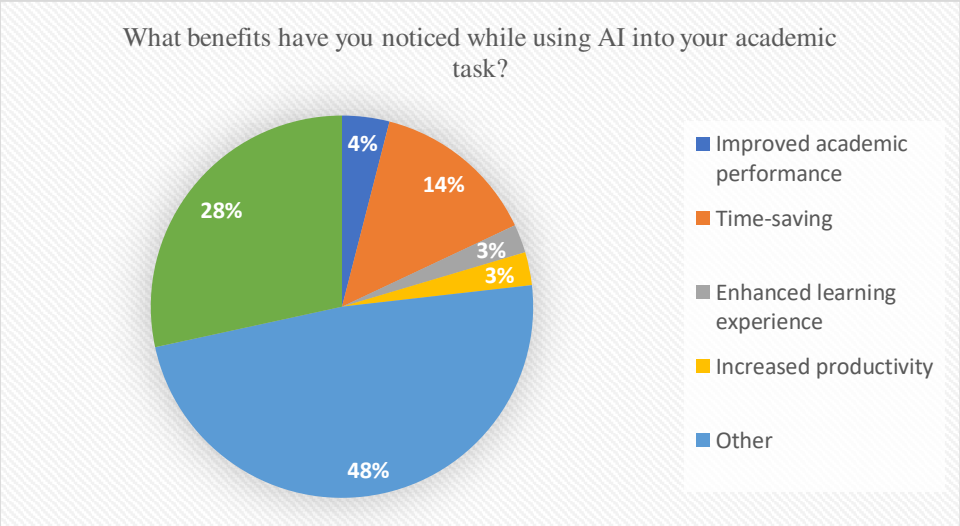
Table 24, shows the Explanation of Survey Results on Beneficial AI Tools

Table 24, provides an overview of the kinds of reflective responses of the participants to the AI tools or applications they have found to be the most helpful in performing their academic work. Of the 250 people invited, 79 provided valid responses and 171 were missing, leading to the overall response rate of 31.6%.

The first three explore how participants perceive various AI tools and the perceived benefits of those tools. A total of 13 participants, or 5.2% of valid responses, say they find virtual assistants helpful, suggesting that these tools are not widely used among respondents. Equally, 11 (4.4%) of the participants reported that machine learning platforms are useful, indicating even less awareness of these tools in the academic context.

Interest in online tutoring programs was incredibly low, with just two (0.8%) participants saying they found whatever they manage to offer helpful. Low engagement with this AI application type signifies this. In comparison, a large proportion of respondents, 41 (16.4%), selected chatbots as helpful, rendering them the most favored AI tool in the survey. This means that participants do find chatbots a valuable tool to solve academic tasks. Finally, 12 participants (4.8%) mentioned that paraphrasers are helpful.

4.25 Table 25: What benefits have you noticed while using AI into your academic task?



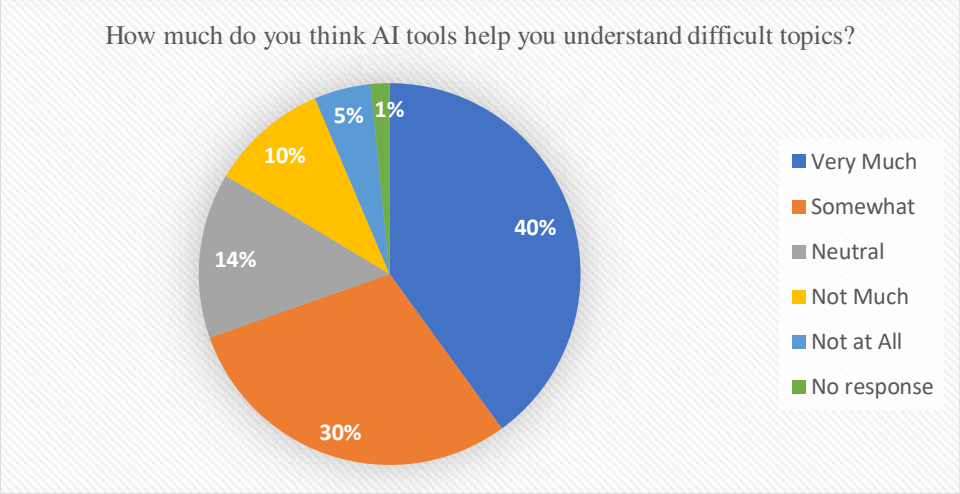
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Improved Academic performance	10	4.0	5.6	5.6
	Time-saving	35	14.0	19.6	25.1
	Enhanced learning experience	6	2.4	3.4	28.5
	Increased productivity	7	2.8	3.9	32.4
	Other	121	48.4	67.6	100.0
	Total	179	71.6	100.0	
No	Response	71	28.4		
Total		250	100.0		

Table 25, shows the Explanation of Survey Results on Benefits of Integrating AI

Table 25 depicts the responses regarding the advantages participants have gained through the use of artificial intelligence in their academic activities. In total, 179 provided valid information, 71 responses were missing (total response rate 71.6%).

Survey results show how much they believe in the ability of AI to assist them. Only 10 participants (4.0% of valid responses) reported better academic performance issues thanks to AI. So only a small number of people appreciate AI's effect on their grades. In comparison, more reported that using AI has saved them time, 35 participants (14.0%). This means a growing number of people multiple to see AI as beneficial for making work easier and more efficient. Only 6 (2.4%) of the respondents claim that AI has made learning easier in addition to the fact that some students find AI useful for learning, the figure is low. Seven respondents (2.8%) indicated they have become more productive using AI, suggesting that while there are benefits in terms of productivity, they are far from being commonplace. Notably, a large majority (121 participants, 48.4%) composite "other" a benefit. It highlights the various experiences and strengths that fall outside of the standardized categories given.

4.26 Table 26: How much do you think AI tools help you understand difficult topics?



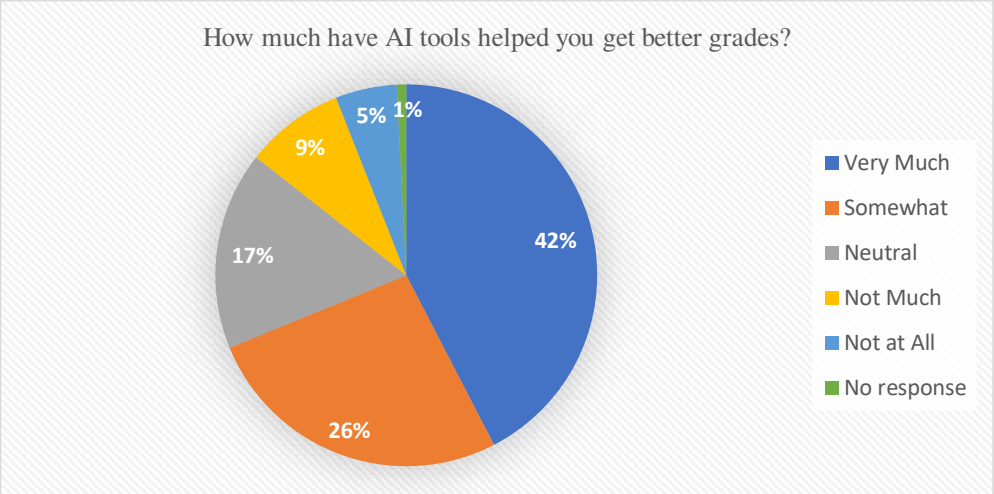
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Much	100	40.0	40.7	40.7
	Somewhat	74	29.6	30.1	70.7
	Neutral	35	14.0	14.2	85.0
	Not Much	25	10.0	10.2	95.1
	Not at All	12	4.8	4.9	100.0
	Total	246	98.4	100.0	
No	Response	4	1.6		
Total		250	100.0		

Table 26, shows the Explanation of Survey Results on AI Tools and Understanding Difficult Topics

Table 26, where the responses about how much participants think AI tools help them understand difficult topics. There were 4 missing responses, and 246 valid responses, giving a total response rate of 98.4%.

Total 250 valid responses out of which a total of 100 (40.0%) said that AI tools "very much" help him/her to understand the content he/she is learning. Similarly, 74 participants (29.6%) said AI tools are "somewhat" helpful, a positive perception but much milder than those who feel AI helps them a lot. Responses that are neutral, meaning neither strongly agree nor strongly disagree regarding overall how useful are AI tools for understanding, yielded a neutral opinion in 35 of the respondents (14.0%). Also, 25 participants (10.0%) said that AI tools help them only "not much," thus expressing some doubt as to how useful AI is for understanding. Finally, 12 respondents (4.8%) indicated that AI tools assist them at all "not at all," a small group that finds no value in the use of AI for navigating complicated subjects.

4.27 Table 27: How much have AI tools helped you get better grades?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Much	106	42.4	42.7	42.7
	Somewhat	66	26.4	26.6	69.4
	Neutral	42	16.8	16.9	86.3
	Not Much	21	8.4	8.5	94.8
	Not at All	13	5.2	5.2	100.0
	Total	248	99.2	100.0	
No	Response	2	0.8		
Total		250	100.0		

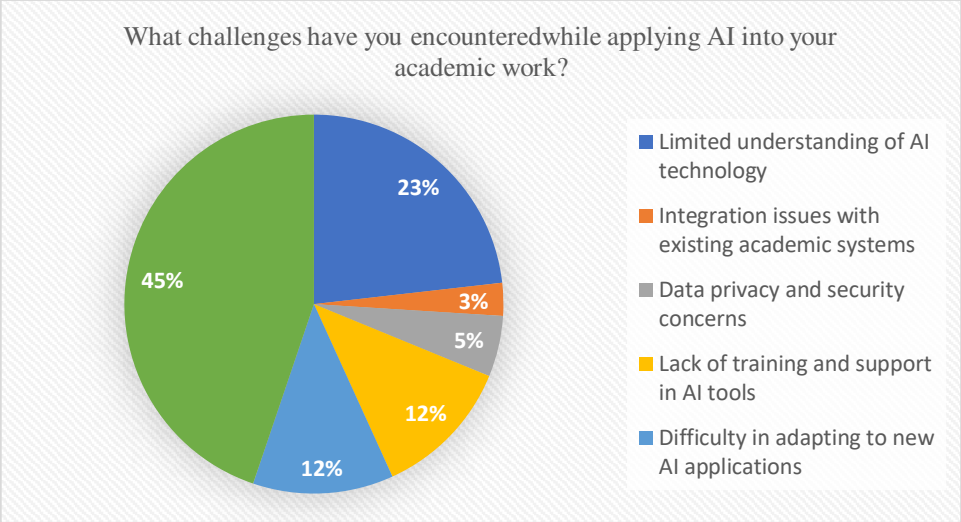
Table 27, shows the Explanation of Survey Results on AI Tools and Academic Performance

Table 27 shows the participants believe AI tools have helped them achieve better grades. A total of 248 participants provided valid responses, while 2 responses were missing, resulting in a total response rate of 99.2%.

According to the results of the survey, how the respondents feel about AI tools influencing their performance, particularly grades, can be identified. In fact, out of 106 valid responses or 42.4% of all responses, "very much" indicates how much these tools are seen to influence respondents in an effective manner towards their success in academic fields. Meanwhile, 66 or 26.4% respondents claim that AI tool helped them somewhat.

On the other hand, 42 participants (16.8%) have a neutral opinion about how AI tools affect their grades; in other words, they neither feel very positive nor negative about these tools. Finally, 21 participants (8.4%) answered that AI tools have helped them "not much," indicating some degree of doubt regarding the effect these tools have on their academic performance. Finally, 13 respondents (5.2%) reported that AI tools helped them "not at all," which represents a minor group of people who apparently find no value in using AI to improve their grades.

4.28 Table 28: What challenges have you encountered while applying AI into your academic work?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Limited understanding of AI technology	58	23.2	42.0	42.0
	Integration issues with existing academic systems	7	2.8	5.1	47.1
	Data privacy and security concerns	13	5.2	9.4	56.5
	Lack of training and support in AI tools	30	12.0	21.7	78.3
	Difficulty in adapting to new AI applications	30	12.0	21.7	100.0
	Total	138	55.2	100.0	
No	Response	112	44.8		
Total		250	100.0		

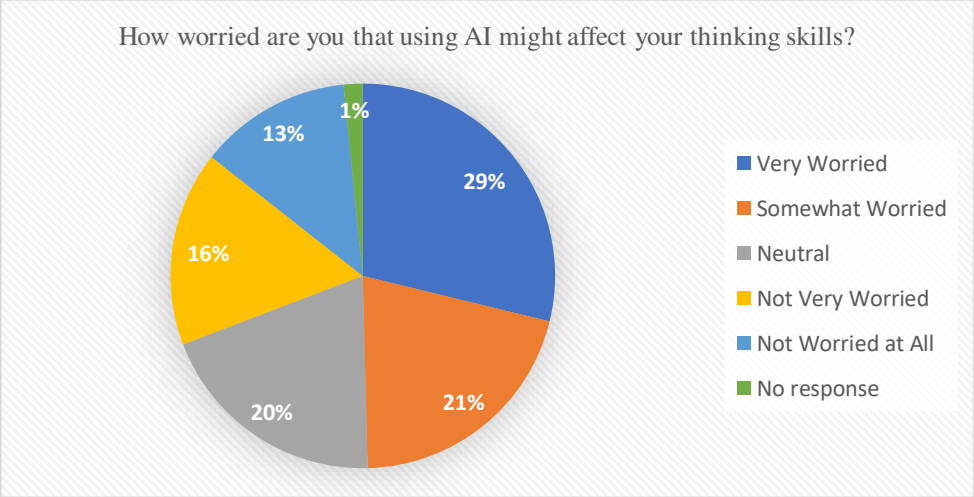
Table 28, Explanation of Survey Results on Challenges in Utilizing AI

Table 28, presents the answers to how hard participants have found the tasks involving AI for research use. Valid responses were reported from 138 participants; meanwhile, there were missing responses in typically cases, the overall response rate therefore was 55.2%.

The survey results show varied challenges that participants face with AI technologies. A total of 58 participants, or 23.2% of valid responses, said they have difficulties due to a limited understanding of AI technology. This means that knowledge gaps may prevent users from making the most of AI tools. Seventeen participants (2.8%) reported having integration issues of AI with the available academic systems that they operate. This suggests that issues with compatibility may not even arise as a minor issue to be concerned with by several of the users. The privacy and security of the data was a concern that rose to the surface from the

expressions of 13 participants that comprised 5.2%. Furthermore, 30 participants (12.0%) indicated that lack of training and support is a challenge, implying more educational resources could improve users' experience and use of AI. Similarly, another 30 participants (12.0%) reported experiencing challenges adapting to new AI applications, which implies that learning a new technology can also be a barrier to proper use.

4.29 Table 29: How worried are you that using AI might affect your thinking skills?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Worried	72	28.8	29.3	29.3
	Somewhat Worried	52	20.8	21.1	50.4
	Neutral	49	19.6	19.9	70.3
	Not Very Worried	41	16.4	16.7	87.0
	Not Worried at All	32	12.8	13.0	100.0
	Total	246	98.4	100.0	
No	Response	4	1.6		
Total		250	100.0		

Table 29, shows the Explanation of Survey Results on Concerns About AI and Thinking Skills

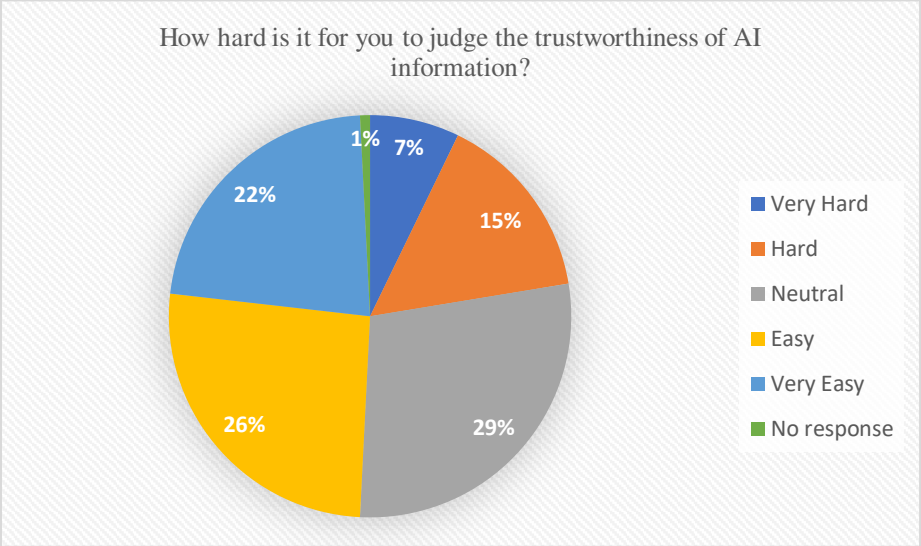
Table 29 indicates the number of participants who are concerned that the use of AI might negatively impact their thinking skills.

There were 246 valid responses, and 4 were missing, meaning the total response98.4%.

The responses of the survey demonstrate what the participants are concerned about with respect to their thinking capabilities by the influence of AI. Of the valid responses, 72 participants stated they are "very worried," amounting to 28.8%, showing that most respondents are highly concerned. Another 52 participants stated that they are "somewhat worried," at 20.8%, showing that most students fear the risk of using AI. On the other hand, 49

participants (19.6%) have a neutral opinion, meaning they neither feel very worried nor unconcerned about how AI affects their thinking skills. Moreover, 41 participants (16.4%) said they are "not very worried," showing that some respondents feel moderately reassured. Finally, 32 respondents (12.8%) stated they are "not worried at all," representing a small group who believe that AI will not harm their thinking abilities.

4.30 Table 30: How hard is it for you to judge the trustworthiness of AI information?



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Hard	18	7.2	7.3	7.3
	Hard	38	15.2	15.3	22.6
	Neutral	71	28.4	28.6	51.2
	Easy	65	26.0	26.2	77.4
	Very Easy	56	22.4	22.6	100.0
	Total	248	99.2	100.0	
No	Response	2	0.8		
Total		250	100.0		

Table 30, shows the Explanation of Survey Results on Judging Trustworthiness of AI Information

Table 30, indicates the responses regarding whether it is hard or not for the participants to decide and judge whether information obtained from AI is reliable or not. A total of 248 248 participants provided valid responses and 2 responses were missing, therefore, this made the total response rate to be 99. 2%.

The survey results show how participants feel about trusting the information created by AI. Eighteen participants, or 7.2% of valid responses, said they find it "very hard" to judge if AI information is trustworthy, indicating that a small number of respondents struggle with this issue. Additionally, 38 participants (15.2%) reported that they find it "hard" to assess the

reliability of AI-generated outputs, suggesting that some students are concerned about how reliable these technologies are.

On the other hand, 71 participants (28.4%) had a neutral opinion, meaning they neither find it particularly difficult nor easy to judge AI information. Moreover, 65 participants (26.0%) said they find it "easy" to assess the trustworthiness of AI information, showing that a good number of respondents feel confident in their ability to evaluate AI outputs Lastly, 56 respondents (22.4%) said they find it "very easy" to evaluate the trustworthiness of AI information; this indicates a strong level of confidence in the group.

5. DISCUSION & ANALYSIS,

CONCLUSION AND SUMMARY

5.1 Introduction

This Research paper has discussed in many ways, the experience of students with AI-from motivation to use these tools, their benefits, and challenges-into the question of how AI impacts students' performances and even how it makes them think. Students' reasons for using AI range from having better understanding through difficult concepts to improved learning experiences and increasing efficiency and personalizing learning. Each group have major arguments considering the advantages of using tools like AI, which among them are better grades taken out, increased confidence, capability to manage time more qualitatively, and enhancements in critical thinking.

However, despite these advantages, students face issues such as becoming too dependent on technology, issues with data quality, technical problems, and a lack of human interaction. Amongst the issues that could be mentioned, one speaks of over-reliability on AI, loss of specific abilities as a human, reliance on technology, and consequences it may have on themselves either presently or in the future related to their academic performance in particular and their thinking traits accordingly. The following major theme were identified by this study.

5.2 Discussion/Analysis subject/themes

RQ1: To what extent do the students of IIUI use AI technologies for enhancement in their academic performance?

5.2.1 Frequency of AI Tool Usage

The frequency of use of AI tools in this respect, by participants, reflects that these are turning out to be more regular in academic routines. To this end, 27.2% state they use AI tools daily, and 29.6% state they use them a few times a week. This may therefore mean that AI technologies have become important for student academic life and reflect larger trends in educational technology. It is concerning that 17.2% of participants indicated rarely using AI tools, while only 2.8% use them once a week. This means that there are students who do not find value in these tools or are hindered by some barriers from using them effectively. Understanding the reasons for this limited engagement is important in developing strategies to encourage more students to adopt AI technologies. Factors such as lack of awareness, limited training, or concerns about the effectiveness of AI tools may contribute to infrequent usage.

The most useful application of AI was found to be the chatbots, which were reported to be useful by 16.4% of the participants. The other tools like virtual assistants and online tutoring programs received very little recognition, which indicates a lack of awareness about the entire range of AI technologies that are available for academic support.

RQ2: What are the motives and preferences of the students of IIUI in adopting AI for their educational journey?

5.2.2 Motivations for Using AI Tools

The students have diverse reasons for making use of AI tools. Many stated that the main reason to make use of such AI tools is to improve performance at academic levels, because 36.0% responded with this motivation to using the tools. For these students, using the tools means that they understand topics better, they make improvements in writing, and finally, they obtain grades better than they otherwise might. This indicates that most students consider AI as a useful tool for academic success Interestingly, even though students are motivated to enhance their academic performance, it is essential to know how they define success while using AI.

The findings of the survey indicated that 14.0% of the respondents were motivated by the idea of saving time, which reflects the heavy workload students often face. This would certainly alleviate the pressure on students, who could easily find information or get help with writing. But few mentioned improving their critical thinking skills (5.2%) or fostering creativity (6.8%) as reasons for using AI tools. This indicates that even though students are aware of the cognitive benefits of AI, they often focus on immediate practical benefits.

Furthermore, a large proportion of the respondents (35.2%) chose "other" as a reason for using AI, suggesting that students have different personal reasons for using these tools. Such reasons may include interest in technology, the desire to use new learning methods, or the need for additional support in studies. This variety in reasons suggests that AI tools must be understood based on students' specific needs and preferences in education.

5.2.3 Trust and Reliability Concerns

The results also reveal that many participants (14.0%) reported that AI tools save them time, which means that efficiency is an important reason for students to adopt technology. In a fast-paced academic environment, where students often have many responsibilities, the ability to quickly find information or get writing assistance can greatly relieve their stress. However, despite appreciating time-saving features, the low percentages for enhanced learning

experiences (2.4%) and increased productivity (2.8%) suggest that while students value the convenience of AI tools, they may not be using them in ways that promote deeper learning.

This emphasizes the requirement for learning practices that challenge students to use AI tools for more than just quick fixes but rather in ways that will help them meaningfully engage with the material and thereby better understand the subject. Another issue assessed as important had to do with the reliability of information being generated through AI. A cumulated 22.4% of respondents said it is "very hard" or "hard" to decide on the reliability of output from AI. This is not less critical in the area of education, since students have been exposed to an open environment in the digital space where at any instance, spread of misinformation could be witnessed easily.

Neutrality 28.4% of the respondents shows that a significant number of students are skeptical as to whether AI tools can provide trustworthy information. This may hamper the implementation of AI technologies in schools, since students would not be very willing to use tools for which they lack confidence and trust. This calls for educational institutions to educate their students on how to critically analyze the contents generated by AI.

RQ3: What are the perceived benefits and challenges of using AI for academic performance by IIUI students?

5.2.4 Benefits of AI Tools Perceived

It is also evident that respondents believe AI tools can contribute to their academic performance positively. According to the responses, 42.4% of the respondents claim that AI tools have been helpful "very much" in improving their grades. Additionally, 26.4% of the respondents claimed some level of help from AI tools. There was an imbalance between perceptions and performance in which students perceived there to be significant benefits even though only 4.0% could say there was an actual improvement on their academic performances. While students believe that AI will be helpful for them, the relationship of using AI with better grade performance wasn't as expected. This raises questions about how students assess the effectiveness of AI tools and whether they have realistic expectations about the results of using them.

5.2.5 Impact on Thinking Skills

It also reveals extreme concerns towards participants' thinking abilities concerning the AI technology. Combined, 28.8% respond that they are "very worried" about this effect, while 20.8% say they are "somewhat worried". In any case, this worry reveals a belief in a theoretical

possibility of some changes in cognitive functions that might be associated with dependencies created by new AI technologies. Of core importance is a concern for the consequences of AI on both critical thinking and problem-solving aspects of education; after all, those are a background for great academic success and lifelong learning. Conversely, 12.8% of the respondents said they are "not worried at all," meaning that a small cohort is confident that AI will not negatively impact their cognitive abilities. This spread of opinions makes it important to continue discussing the role of AI in education. Schools should focus on teaching students how to use AI tools in such a way that promotes their learning without undermining critical thinking.

5.2.6 Challenges and Barriers to AI Use

One of the issues that participants faced was the difficulty faced when implementing AI effectively in educational environments. A significant 23.2% of respondents reported that lack of knowledge on the AI technology prevents them from using these tools effectively. This result underscores the need for extensive training and support for the students to move around AI technologies with full confidence. Additionally, 12.0% cited a lack of training and support as a significant barrier, while another 12.0% reported difficulty adapting to new AI applications. These challenges suggest that educational institutions must prioritize providing resources and training to help students understand and use AI tools effectively. By doing this, institutions can empower students to take full advantage of these technologies. Though smaller in percentage, concerns over data privacy and security were mentioned by 5.2%. These concerns indicate an important awareness of the risks that could be involved with AI use. With students relying more and more on digital tools, addressing these concerns is critical to building trust and encouraging more students to use AI technologies in schools. Educational institutions need to let the students know about privacy of data, the mechanism followed for ensuring that privacy is not invaded while handling the AI-based tools and also provide access to know that transparency in the operations helps to curb fears from AI. Students can have maximum exposure with the facility being offered with such advanced tools.

5.2.7 Variability in Experiences with AI Tools

More generally, the study reveals that students' experiences with AI tools vary. This can be attributed to differences in their technological skills, personal preferences, and educational backgrounds. For some, using AI tools becomes easy and helpful. For others, it might even appear an uphill battle to adapt to these technologies. This diversity once again suggests personalized approaches in the integration of AI in education. Teachers must take

cognizance of the diversified needs of their students and offer bespoke support to empower them in effectively using AI tools.

5.2.8 Education's Future in an AI-Powered World

The outcomes of the research also question the future of education in a world governed increasingly by AI. The future would see educational institutions adapting and equipping the students with a future in which such tools would significantly play. This is not only the provision of teaching students on effective usage of AI, but it also encourages critical involvement with technology. Thus, digital literacy and skills about critical thinking will guide how students can responsibly navigate complex learning environments with the influence of AI.

5.3 Conclusion

The conclusion of this study provided important insights on the demographics, educational background, and understanding of AI among 250 participants. It expresses deep new trends on the nature of how students appropriate the use of AI tools and perceptions about AI in education are important for developed academic programs and resources. Overall, the research shows that the students of IIUI have a positive attitude towards the use of AI technologies in their studies, appreciating the efficiency and potential benefits of the technology. However, challenges and concerns remain in some areas, especially with understanding, training, and trust. Schools should address such issues by providing better training and resources, encouraging variety in AI tools, and making students think more critically about information generated by AI.

As a conclusion, it is obvious that the age of the current study was selected 20-40 year which give authentic result to this topic. Most respondent of this study are ranging between 20-25 years which are 52.8%. This is the high engagement from undergraduate students, who constitute 60.4% of the sample. However, the sample has a strong gender imbalance, as 99.6% of the respondents are male, which means there is a need for more diverse research in technology fields, taking into account gender diversity. Most participants are pursuing undergraduate programs, with 151 Bachelor's degrees. In addition, 28.8% are in Master's programs and 10.4% in PhD programs, showing that advanced education in AI and related fields is highly valued. The highest percentage is seen in Computer Science at 28.8% and in Software Engineering at 23.6%, which again indicate the technical nature of studying AI.

Geographically, the participants are diversified to regions; the two main ones being Punjab with a share of 23.6% and Khyber Pakhtunkhwa with 21.6%. This diversity, therefore, adds a multifaceted cultural outlook in the study but also hints towards a more region-specific training strategy for education.

Concerning AI knowledge, 36.0% said that they barely know anything about AI, while 40.8% self-categorize as knowing a moderate amount. Only 22.4% said that they know a lot, which clearly shows knowledge gaps. Moreover, only 1.6% have formally learned AI, which hints at serious lack of education and training infrastructure. The number that said they it on their own" shows 40.0%, that reflects active attitude but also is an indicator that proper formal sources are scarce. The data shows that many participants actively use AI tools, with 29.6% using them several times a week and 27.2% using them daily. This reliance on AI tools for academic tasks underlines their role in enhancing study habits. Among the specific tools, the most popular is ChatGPT, which the respondents use regularly at 30.0%, followed by much less usage for tools such as Google Scholar at 0.4% and Grammarly at 3.6%, where there may be gaps in awareness and access to such resources. Participants generally viewed AI tools positively, reporting that these tools help them "very much" at 36.8%, and that they help "somewhat" at 36.8%.

Many students prefer AI tools over traditional methods of study. For example, 39.2% strongly preferred AI tools, showing that students realize the value of these technologies in improving their learning experiences. On the other hand, some respondents are skeptical about the whole thing. 21.2% reported feeling neutral about AI tools, while 6.8% had negative feelings, indicating that not all students have realized the value of AI. A significant deficiency lies in the low formal education level in AI, standing at 1.6%. This calls for well-structured learning opportunities.

The satisfaction rate is somewhat impressive, with 39.6% of participants who are "very satisfied" with the AI tools used, and 26.0% who expressed satisfaction. However, 7.6% stated they were "unsatisfied," while 4.8% were "very unsatisfied," thus requiring continued review and improvement of the said tools.

While the idea of implementing AI in educational systems seems to vary, 28.8% believe it is "extremely important," whereas 20.4% find it "not important at all." Such differences in opinion indicate that despite its many benefits, the importance of AI may not be appreciated by all as a vital component of the education system. There is also a difference in motivation to use

AI tools between respondents. The need to save time is the primary motivation, cited by 20.0% of participants. Moreover, 34.8% chose "other" motivations, which suggests that there are different reasons for using AI that may be further explored. Several benefits of AI are recognized by the participants, and 35.2% choose "other" benefits to achieve academic goals.

Participants choose AI tools for various reasons. While 12.8% are motivated by features, 11.2% by the recommendation of peers or educators. Only 9.2% value user-friendliness, showing that functionality and social validation have precedence in their selection process. The way they approach learning new AI technologies is diverse; 38.4% prefer using all the resources available. Online resources are favored by 17.6%, indicating that online platforms are vital in making AI education accessible.

The study further reveals participants prefer using AI tools compared to old methods with a preference of up to 33.2% saying they would stick to the use of the AI. Most are very willing to refer their fellow peers to use the AI tools, and this follows the response that 37.6% said that they are very likely to refer. Peer influence also drives the adoption of AI tools: 36.4% say that friends' recommendations often motivate them "very often." This clearly indicates how social networks are important factors in technology adoption. People are more found of using chatbots. It's 16.4%, who find chatbots most helpful, but other applications of AI didn't draw much attention. This shows a lack of awareness or utility of a more extensive scope of AI technologies in education, which implies that better promotion and integration are required.

Participants had mixed experiences with AI. While 14.0% mentioned saving time, only 4.0% said that their academic performance improved. This shows that students appreciate the efficiency of AI but may not fully understand its potential impact on their grades. The number of respondents who checked "other" as being a benefit (48.4%) indicates many undiscovered benefits that deserve study. Regarding AI's impact on the understanding of complex topics, 40.0% said AI helps "very much." Similarly, 42.4% believe AI tools have hugely helped them in achieving better grades, reflecting a high degree of belief in the potential of AI for facilitation of learning, although some skepticism remains, as indicated by 8.4% who felt that AI had minimal impact on their grades. Limiting challenges in the use of AI were also pointed out with 23.2% mentioning limited understanding as one of the most significant problems.

Concerning about data privacy and further training or support were also mentioned; this implies that while the students are ready to take on AI, they lack resources to properly do it. 28.8% of the participants found AI "very worrying" for their cognitive skills. This anxiety cuts

across the fact that AI-generated information is hard to assess in terms of reliability. While 22.4% found it very easy to assess, there is a lot of ambiguity that reflects the general issue with the reliability of academic work produced by AI in academia.

5.4 Summary

This study entitled as "Exploring the use of AI for Academic Purposes by IIUI Students" aims to analyze the application and influence of artificial intelligence (AI) technologies on academic experiences of International Islamic University Islamabad (IIUI) students. The research covers all aspects of how the participants use AI, such as their feelings about AI, why they engage in order to use it, what they think are the advantages and disadvantages of using AI, what motivated them, and what they prefer to learn about AI.

Key Findings:

5.4.1 Use of AI Tools:

The most useful application of AI was found to be the chatbots, which were reported to be useful by 16.4% of the participants. The other tools like virtual assistants and online tutoring programs received very little recognition, which indicates a lack of awareness about the entire range of AI technologies that are available for academic support

5.4.2 Motivation to Use AI:

Respondents had diverse reasons for using AI tools, and 28.0% said they were "highly motivated." The leading reason was saving time, cited by 20.0% of respondents, which highlighted the utility of AI in managing academic workload.

5.4.3 Participant Satisfaction:

As many as 39.6% of participants indicated being "very satisfied" with AI tools when doing academic work, while another 26.0% reported being "a little satisfied." This gives an indication that students see a lot of positivity of AI's contribution to their academic experiences.

5.4.4 Importance of AI Integration:

Feelings about the urgency of including AI in academic curricula also varied. Still, 28.8% of respondents called it "extremely important," with an even higher percentage (20.4%) calling it "not important at all." This distinction necessitates targeted learning events to assist educators in building the context of AI in the classroom setting.

5.4.5 Preferred Learning Methods:

Participants exhibited a preference for diverse learning approaches regarding AI technologies. A significant 38.4% indicated a preference for utilizing all available resources,

with online platforms being the most favored method (17.6%). This reliance on digital resources highlights the importance of accessible information for students.

5.4.6 Perceived Benefits:

While 14.0% of participants admitted that AI has saved them time, only 4.0% directly claimed an improvement in academic performance. The large 48.4% who selected "other" as a benefit indicates a wide range of unrecognized advantages that require further investigation into how AI affects academic life.

5.4.7 Challenges in AI Usage:

The study reveals that there are challenges to AI usage, with the majority of participants stating limited understanding of AI technology as a significant barrier at 23.2%. Related to data privacy and lack of training and support also came out as areas for improvement.

5.4.8 Concerns About Cognitive Skills:

Many respondents expressed apprehension regarding the potential impact of AI on their cognitive skills, with 28.8% stating they are "very worried." This highlights the necessity for educational discussions focused on balancing AI utilization with cognitive development.

5.4.9 Trustworthiness of AI Information:

Participants indicated significantly different levels of trust or confidence in judging AI-generated information as credible or not. Although 22.4% considered evaluating AI outputs "very easy," 7.2% reported it "very hard." This difference underscores the value of teaching students critical thinking skills to better address the challenge of AI-generated content.

5.4.10 Understanding Complex Topics:

A high 40.0% of respondents felt that AI tools greatly help them to understand complex subjects. Similarly, 42.4% felt that AI tools have helped them achieve better grades, though with some reservations about their effectiveness overall.

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Appendix/Appendices

Age: **1.** Under 20 **2.** 20-25 **3.** 26-30 **4.** Over 30

Gender: **1.** Male **2.** Female **3.** Other:

Program of Study: **1.** Bachelor's **2.** Master's **3.** PhD

Which department are you enrolled in at IIUI: _____

Domicile: _____

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1. How would you rate your understanding of Artificial Intelligence (AI)?

1. Limited understanding 2. Moderate understanding 3. Advance understanding

4. Proficient understanding 5. Expert understanding

2. Have you received any formal education or training on AI concepts?

1. Yes 2. No 3. Partially 4. Self-taught 5. In progress

3. How often do you use AI tools (like chatbots or writing helpers).

1. Daily 2. Several times a week 3. Once a week 4. Occasionally

5. Rarely

4. Which Category of AI tools or applications do you commonly used for your academic tasks?

1. Virtual Assistants 2. Machine Learning Platforms 3. Online Tutoring Programs

4. Plagiarism Checkers 5. Other _____

5. Which specific AI tools or applications do you use regularly for your academic tasks?

1. ChatGPT 2. Grammarly 3. Google Scholar 4. Turnitin 5. All of them

6. How much do AI tools help you study better?

1. Very Much 2. Somewhat 3. Neutral 4. Not Much 5. Not at All

7. How do you prefer using AI tools compared to traditional study methods?

1. Much Preferred 2. Somewhat Preferred 3. Neutral 4. Somewhat Disliked

5. Much Disliked

8. How satisfied are you in using various AI applications for academic purposes?

1. Very satisfied 2. satisfied 3. Neutral 4. Unsatisfied 5. Very Unsatisfied

9. In your opinion, how important is it for educational institutions like IIUI to integrate AI technologies into their academic programs?

1. Not important at all 2. Slightly important 3. Moderately important 4. Very important

5. Extremely important

10. What motivates you to use AI technologies for academic improvement?

1. Strong Motivation 2. Moderate Motivation 3.Neutral 4. Low Motivation

5. No Motivation

11. What motivates you to incorporate AI into your academic routines? (Select all that apply)

1. Improve learning efficiency 2.Enhance academic performance 3.Save time

4. Increase productivity 5. Other: _____

12. How does the integration of AI help you in achieving your academic goals? (Select all that apply)

1. Enhance understanding of complex concepts 2. Foster collaboration with peers

3. Improve research capabilities 4. updated with technological advancements 5. Other:

13. What encourages you to integrate AI technologies into your academic pursuits? (Select all that apply)

1. Enhance critical thinking skills 2. Foster creativity and innovation 3. Improve

4. problem-solving abilities 5. Gain a competitive edge in academics 6. Other: _____

14. How do you choose specific AI tools for academic purposes?

1. Based on User-Friendliness 2. Based on Recommendation 3. Based on Features

4. Based on Popularity 5. Other

15. How do you prefer to learn about new AI technologies for academic use?

1. Online resources 2. Workshops 3. Conferences/seminars 4. Peer recommendations

5. All of them: _____

16. Do you prefer using AI tools over regular study methods?

1. Much Preferred 2. Somewhat Preferred 3.NeutralSomewhat 4. Disliked

5. Much Disliked

17. How often do peer recommendations encourage you to use AI for academic purposes?

1. Very Often 2. Often 3. Sometimes 4. Rarely 5.Never

18. How likely are you to recommend AI tools to other students?

1. Very Likely 2. Likely 3. Neutral 4. Unlikely 5. Very Unlikely

19. Which AI tools or applications do you find most beneficial for your academic tasks? (Select all that apply)

1. Virtual Assistants **2.** Machine Learning Platforms **3.** Online Tutoring Programs

4. Chatbots **5.** Paraphrasers

20. What benefits have you experienced from integrating AI into your academic activities? (Select all that apply)

1. Improved academic performance 2. Time-saving 3. Enhanced learning experience

4. Increased productivity 5. Other: _____

21. How much do you think AI tools help you understand difficult topics?

1. Very Much 2. Somewhat 3. Neutral 4. Not Much 5. Not at All

22. How much have AI tools helped you get better grades?

1. A Lot 2. Somewhat 3. Neutral 4. Not Much 5. Not at All

23. What challenges have you faced while utilizing AI for academic purposes? (Select all that apply)

1. Limited understanding of AI technology

2. Integration issues with existing academic systems

3. Data privacy and security concerns

4. Lack of training and support in AI tools

5. Difficulty in adapting to new AI applications

24. How worried are you that using AI might affect your thinking skills?

1. Very Worried

2. Somewhat Worried

3. Neutral

4. Not Very Worried

5. Not Worried at All

25. How hard is it for you to judge the trustworthiness of AI information?

1. Very Hard

2. Hard

3. Neutral

4. Easy

5. Very Easy