A Comparative Study on AI Reliance Among the BSBA Students of Monkayo College of Arts, Sciences, and Technology (MonCAST)

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Abstract

The integration of Artificial Intelligence (AI) in higher education is transforming academic engagement by enhancing learning experiences and improving efficiency in reading, writing, and numeracy tasks. However, this growing reliance raises concerns about overdependence, academic integrity, and the decline of foundational skills. This study examined the level of AI reliance among Bachelor of Science in Business Administration (BSBA) students at Monkayo College of Arts, Sciences and Technology (MonCAST), focusing on the domains of reading, writing, and numeracy. It also explored differences in AI reliance based on students' sex, year level, and program of study. A descriptive-comparative research design was used, involving 340 students selected through stratified random sampling. Data were collected via a validated Likert-scale questionnaire and analyzed using frequency, mean, standard deviation, t-test, and one-way ANOVA. Results showed a high level of reliance on AI across all three domains. No significant differences were found based on year level or program, but males showed higher AI dependency in numeracy. The study highlights the need for balanced AI integration. Educational institutions should promote responsible AI use through digital literacy programs, ethical guidelines, and teaching strategies that preserve core academic skills.

Keywords: AI reliance, reading, writing, numeracy, BSBA students, MonCAST

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INTRODUCTION

Background of the Study

A growing reliance on Artificial Intelligence (AI) tools among students in higher education has become a significant phenomenon globally. Integrating AI in higher education significantly enhances the educational process and student outcomes (Sova et al., 2024), emphasizing its role in personalizing learning experiences, automating administrative tasks, and augmenting research capabilities (Ocen et al., 2025). For instance, AI's large language models, such as ChatGPT, Gemini, or MetaAI, reshape how learning and academic tasks are approached (Butterman et al., 2023). According to the U.S. Department of Education - Office of Educational Technology (2023), AI-driven tools have improved students' engagement, motivation, and academic performance. Moreover, UNESCO (2024) also exclaimed that AI has the potential to address the biggest challenges in education today.

However, this integration is not without challenges, such as ethical concerns, academic integrity issues, and potential overreliance. One significant concern is the impact of AI on students' cognitive abilities, as overreliance on AI dialogue systems encourages favoring fast and optimal solutions over slower, more thoughtful problem-solving processes (Wibowo, 2024). This tendency may reduce critical thinking and creativity since AI systems often provide predefined answers that limit opportunities for independent exploration and problem-solving (Al-Zahrani, 2024). Furthermore, AI writing tools potentially hamper students' ability to generate genuine ideas, as they become overly dependent on the content produced by these tools (Marzuki, 2023). The widespread use of AI among college students has also led to increased instances of plagiarism and cheating, raising serious concerns about academic integrity and the need for effective technology governance (Song, 2024; Senechal et al., 2023). Plagiarism is particularly prevalent, as AI-generated essays or rewritten content often go unreferenced, making it easy for students to misuse these tools (Senechal et al., 2023). Beyond written work, AI's capacity to create artificial artwork and fake video content allows creative students to substitute genuine creative efforts with AI-generated outputs, thereby hindering the development of their creative skills. Additionally, reliance on AI for computational tasks may cause students to lose proficiency in fundamental problem-solving techniques, as they bypass the learning process by depending on AI to perform complex calculations (Bowden, 2024). AI also presents risks related to generating false information and algorithmic biases, which can mislead students and distort learning outcomes (Zhai et al., 2024). Moreover, AI's influence extends to decision-making, personal privacy, and security concerns among university students in various countries, including Pakistan and China (Irshad et al., 2023). Finally, some studies suggest that AI use may shorten students' attention spans, negatively affecting their focus and capacity for in-depth reading (Belavadi, 2024), even though AI tools have been shown to enhance personalized learning experiences (Goce & Aydemir, 2020). Together, these challenges highlight the complex implications of AI integration in education that must be carefully managed.

Despite the growing body of research on AI adoption in higher education, there remains a notable gap in comparative analyses that examine how reliance on AI affects the foundational academic skills of reading, writing, and numeracy across demographic variables such as sex, year level, and program of study within specific institutional contexts like the Monkayo College of Arts, Sciences and Technology (MonCAST). While most existing studies broadly address AI's overall impact or adoption at institutional or national levels, they often overlook the differences among student subgroups in how AI tools influence their engagement with these core skills. Addressing this gap is essential to develop tailored AI integration strategies that not only enhance students' proficiency in the 3Rs (reading, writing, and numeracy) but also accommodate diverse learning needs, promote equitable access to AI's educational benefits, and mitigate associated risks such as overdependence or academic dishonesty.

The increasing integration of AI in education raises questions about student reliance, and this study addresses that by applying Self-Determination Theory (SDT). SDT (Deci & Ryan, 1985) offers a lens through which to understand how students' psychological needs for autonomy, competence, and relatedness influence their AI tool usage. Specifically, this study aims to discern whether BSBA students at MonCAST are using AI to genuinely enhance their learning (intrinsic motivation) or if their use is driven by extrinsic factors that could lead to unhealthy dependency and undermine self-regulated learning. The results of this comparative study will be vital for developing institutional policies and teaching practices that may lead to the autonomous, competent, and meaningful integration of AI to ensure optimal student learning outcomes and uphold academic integrity in the evolving educational landscape.

Research Questions

This study sought to examine the extent of AI reliance among BSBA students of MonCAST. Specifically, it seeks to answer the following questions:

1. What is the profile of BSBA students in terms of:
   1.1 Sex;
   1.2 Year Level; and
   1.3 Program of Study?
2. What is the extent of AI dependency among the students in terms of:
   2.1 Reading;
   2.2 Writing, and
   2.3 Numeracy?
3. Is there a significant difference among the three domains of AI dependency intelligence when respondents are grouped according to their profile?

Null Hypotheses

Ho1: There is no significant difference in AI dependency between the sexes of the students across the academic domains of reading, writing, and numeracy.

Ho2: There is no significant difference in AI dependency between the year level of the students across the academic domains of reading, writing, and numeracy.

Ho3: There is no significant difference in AI dependency between programs of study of the students across the academic domains of reading, writing, and numeracy.

METHODOLOGY

Research Design

This study employed a descriptive-comparative approach to prudently examine the difference between the profile of the respondents towards AI reliance, specifically, in the 3R's: reading, writing, and numeracy. By employing this design, the study will uncover whether the students' profiles are comparable with AI reliance.

Research Locale and Respondents

The study was conducted in a local college in the Municipality of Monkayo, province of Davao de Oro, with 5,401 student population as of the academic year 2024-2025. The Monkayo College of Arts, Sciences and Technology (MonCAST) offers a variety of programs, which include the Bachelor of Science in Business Administration with 3 major programs: Financial Management, Human Resource Management, and Marketing Management. The target number of respondents of this study was 340 BSBA students. These respondents were enrolled in any of the three major programs.

Furthermore, this study used a stratified random sampling to obtain the respondents. This sampling technique divides the population into subgroups based on shared characteristics, and then random samples are drawn from each stratum, ensuring that each subgroup is represented in the sample, which will provide more accurate and reliable results (Bisht, 2024). Respondents who were hesitant or not interested in filling out the questionnaire completely were excluded. All the participant were provided with informed consent before giving their responses.

Research Instrument and Data Gathering Method

The study utilized a survey questionnaire adapted from Capining (2024). The construct of the domains has an excellent reliability coefficient (*reading=0.89, writing=0.91, numeracy=0.90*), suggesting a strong level of consistency within each factor. A 5-point Likert Scale was used in examining the level of AI reliance, in which 5 = strongly agree and 1 = not agreeable. Survey questionnaires were distributed among the respondents after securing a clearance certificate from the Research, Development and Extension Office. The purpose and content of the questionnaire were explained thoroughly to the respondents. By acknowledging the potential vulnerability of the respondents, the researchers took all diligent steps to mitigate any risks.

Data Analysis

This study utilized various statistical tools for data analysis. Frequency was used to count data points such as sex, year levels, and program of study. Mean and standard deviation were used to determine the level of AI reliance among the BSBA students and to assess the consistency and dispersion of the responses. The independent t-test and one-way ANOVA were used to compare the means of sex, year level, and program of study of the respondents towards AI reliance in order to verify if there is a significant difference between them. Additionally, Cohen's d was also utilized in assessing the magnitude of the difference between sexes, expressing the difference in terms of standard deviations. It quantifies how much the means differ relative to the variability between sexes. A larger Cohen's d value means a greater difference between the means, indicating a stronger effect.

RESULTS AND DISCUSSIONS

The results of this study are presented below. Table 1 shows the demographic profile of 340 respondents in terms of sex, year level, and program of studies. Of the total participants, a majority are female (57.4%) compared to males (42.6%). Students are fairly distributed across year levels, with second-year students forming the largest group (30.3%), closely followed by first-year students (29.4%), and then fourth-year (20.3%) and third-year (20.0%) students. In terms of program of study, Marketing Management is the most popular with 41.2% of the participants, followed by Human Resource Management (33.8%), and then Financial Management (25%).

Table 1

Demographic Profile

Profile	*n*	*%*
Sex		
Male	145	42.6
Female	195	57.4
Year Level		
First Year	100	29.4
Second Year	103	30.3
Third Year	68	20.0
Fourth Year	69	20.3
Program of Study		
Financial Management	85	25
Human Resource Management	115	33.8
Marketing Management	140	41.2

Table 2 presents the results of the level of AI dependency among the students. It can be observed that the overall mean is 3.71, described as high. This connotes that students' dependency on AI in the 3Rs is evident most of the time. Students utilized AI to aid them in meeting academic requirements, specifically in reading, writing, and numerical algorithms. The standard deviation ranges from 0.58 to 0.66, signifying homogeneity of the responses.

The indicators Reading, Writing, and Numeracy obtained a mean score of 3.76, 3.75, and 3.62, respectively. This result implies that the AI has been part of the student's approach to learning and academic tasks (Butterman et al., 2023). In addition, students integrate AI in the educational process to personalize their experience, automate difficult tasks, and augment research capabilities (Ocen et al., 2025).

Table 2

Level of AI Reliance Among BSBA Students of MonCAST

Indicators	*Mean*	*SD*	*Description*
Reading	3.76	0.58	High
Writing	3.75	0.60	High
Numeracy	3.62	0.66	High
Overall	*3.71*	*0.57*	*High*

Ho1: There is no significant difference in AI dependency between the sexes of the students across the academic domains of reading, writing, and numeracy.

Table 3 presents the results of a comparative analysis of AI dependency between male and female students across three academic domains: reading, writing, and numeracy. The findings indicate no significant difference in AI dependency between males and females in reading (p = 0.455, Cohen's d = 0.085) and writing (p = 0.158, Cohen's d = 0.149), as reflected by the acceptance of the null hypotheses (Ho1 and Ho2) and very small effect sizes. However, a significant difference is observed in numeracy (p = 0.009, Cohen's d = 0.290), with males reporting higher AI dependency than females, leading to the rejection of the null

hypothesis (Ho3) and suggesting a small but meaningful gender disparity in the use of AI tools for numeracy tasks. Although, these findings relate to the study of Iddrisu et al. (2025) that there were no significant differences between male and female students' perceptions of the effectiveness of AI tools, however, Ofuso-Ampong (2023) highlights that gender is a significant determinant of students' use of AI-based tools in education, and further posits that there is a significant disparity in perceived innovation characteristics based on gender. Maurat et al. (2025) supported this idea by stressing that male student show a preference for specific AI instruments that will help them in their academic activities over their female counterparts. As emphasized by Tomas et al. (2025) in their study that females exhibit lower levels than their male counterparts concerning perceived knowledge on AI, perceived ability to apply AI, and positive expectations towards AI.

Table 3
Significant Difference in AI Dependency Among Students
When Grouped According to Sex

Parameters	Male		Female		t	p	Decision	Cohen's d
	M	SD	M	SD				
Reading	3.79	.59	3.74	.58	0.748	0.455	Accept Ho	0.085
Writing	3.80	.62	3.71	.59	1.413	0.158	Accept Ho	0.149
Numeracy	3.73	.64	3.54	.67	2.620	0.009	Reject Ho	0.290

Ho2: There is no significant difference in AI dependency between the year level of the students across the academic domains of reading, writing, and numeracy.

Table 4 presents the test results for the significant difference in AI dependency in terms of the respondents' year level. The mean scores for each domain show a slight upward trend from the 1st year to the 4th year, suggesting a modest increase in AI dependence as students' progress academically. Since the p-values of AI dependencies in the three domains, when grouped according to year level, are 0.103, 0.211, and 0.233, all yield above the conventional significance threshold of 0.05, indicating that these increases are not statistically significant. This implies that students' dependency on AI for academic tasks remains relatively consistent regardless of their year level. It reflects a uniform integration of AI technologies into educational experience across the year level. The result supports the study findings of Dela Rosa et al. (2024), investigating the prevalent use of AI among college students in Far Eastern University, indicating that there were no significant differences in the probable use of AI for academic purposes regardless of their year level.

Table 4
Significant Difference in AI Dependency Among Students
When Grouped According to Year Level

Parameters	1st Year		2nd Year		3rd Year		4th Year		F	p	Decision
	M	SD	M	SD	M	SD	M	SD			
Reading	3.71	.53	3.68	.60	3.83	.50	3.88	.68	2.262	0.103	Accept Ho
Writing	3.69	.60	3.70	.59	3.82	.52	3.85	.68	1.571	0.211	Accept Ho
Numeracy	3.58	.63	3.54	.71	3.66	.60	3.74	.70	1.432	0.233	Accept Ho

Ho3: There is no significant difference in AI dependency between programs of study of the students across the academic domains of reading, writing, and numeracy.

Table 5 exhibits the test results for the significant difference in AI dependency in terms of respondents' program of study. It can be gleaned that the mean scores of every domain with the program of study of the respondents are closely aligned (Reading: M = 3.73, 3.72, and 3.81; Writing: 3.69, 3.73, and 3.80; Numeracy: M = 3.54, 3.64, and 3.65). The p-values are 0.430, 0.962, and 0.429, respectively. Each p-value yield is above the 0.05 significance threshold; thus, this indicates that there is no significant difference in AI dependency when respondents are grouped according to their program of studies. This finding is supported by the research of Holmes et al. (2019), who noted that AI adoption in education tends to be influenced more by institutional policies and the availability of technology than by specific academic disciplines, which underscores the importance of broad-based digital literacy initiatives over program-specific interventions.

Table 5
Significant Difference in AI Dependency Among Students
When Grouped According to Program of Study

Parameters	Financial Management		Human Resource Management		Marketing Management		F	p	Decision
	M	SD	M	SD	M	SD			

Reading	3.73	.55	3.72	.60	3.81	.58	0.846	0.430	*Accept Ho*
Writing	3.69	.60	3.73	.60	3.80	.60	0.962	0.383	*Accept Ho*
Numeracy	3.54	.67	3.64	.60	3.65	.71	0.848	0.429	*Accept Ho*

Theoretical Implication

In relation to Self-Determination Theory (SDT), the results of this study suggest that students' reliance on AI tools may be influenced by the extent to which their basic psychological needs for autonomy, competence, and relatedness are satisfied. For instance, the observed gender differences in numeracy-related AI use could reflect variations in how these needs are supported among male and female students. Prior research indicates that when educational environments and technologies fulfill these needs, students exhibit higher intrinsic motivation and engagement with AI-enhanced learning (Xia et al., 2022), leading to more positive learning outcomes and reduced dependency risks (Chiu, 2024). Therefore, utilizing AI that supports students' autonomy and competence is an important consideration to promote self-regulated learning rather than passive reliance on AI tools. This aligns with findings that teacher support and instructional design significantly impact motivation and needs satisfaction in AI learning contexts (Chiu et al., 2023).

CONCLUSION AND RECOMMENDATION

This study provides a plausible insight into comparing AI reliance among Bachelor of Science in Business Administration (BSBA) students at Monkayo College of Arts, Sciences and Technology (MonCAST) by sex, year level, and program of study.

This study reveals a high level of reliance on AI among the BSBA students, particularly in the domains of reading, writing, and numeracy (3Rs). While AI integration enhances academic efficiency and personalizes learning, it also raises concerns about overdependence and its impact on foundational skills.

The overall mean AI reliance score among students was 3.71, indicating frequent use of AI for academic tasks in the 3Rs. Both male and female students exhibited similar levels of AI reliance in reading and writing, but males showed significantly higher dependency in numeracy-related tasks. No statistically significant differences in AI dependency were found across different year levels. Suggesting that reliance on AI is consistent throughout the academic journey. The integration of AI was prevalent across all BSBA programs, with students leveraging these tools to personalize learning and automate complex academic requirements.

It is recommended that institutions should proactively develop a comprehensive AI literacy program tailored to their student population. This program should focus on equipping students with not only technical skills to use AI responsibly but also the critical thinking and ethical frameworks necessary to avoid overdependence and uphold academic integrity. Faculty development workshops are recommended to aid instructors in integrating AI into their teaching in ways that enhance, rather than replace, foundational skills in reading, writing, and numeracy. The school should implement regular assessments of students' core academic skills to monitor any negative impact of AI reliance and adjust policies as needed. Additionally, MonCAST should establish clear guidelines for the ethical use of AI in coursework, including transparent policies on plagiarism and originality.

Limitation of the Study: To broaden the scope of the study, it is recommended to include students from multiple institutions, diverse academic programs, and varied geographic regions to enhance the generalizability of findings on AI reliance. Expanding beyond a single college will capture a wider range of demographic and contextual factors influencing AI use. Methodologically, incorporating mixed-methods designs that combine quantitative surveys with qualitative approaches such as interviews, focus groups, and classroom observations will provide richer understandings of students' motivations, experiences, and challenges with AI tools. Longitudinal studies are also recommended to track changes in AI reliance and its impact on learning outcomes over time, which may reveal how students evolve the usage of AS tools as it becomes more embedded in education.

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