

Investigating Impact of ChatGPT on Creativity Among Literature and Non-English Majors in Bangladeshi Private Universities

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Article Info	Abstract
Received: 20 July 2025 Reviewed: 1 August 2025 - 10 December 2025 Accepted: 21 December 2025 Published: 31 December 2025	<p>Purpose</p> <p>The rapid rise of artificial intelligence tools, particularly ChatGPT, has transformed academic learning and creativity among university students. This study explores the comparative impact of ChatGPT usage on creativity among literature students and non-English majors. Specifically, it examines how students use ChatGPT, the challenges they face, and the effects of AI reliance on creative thinking and problem-solving.</p> <p>Methodology</p> <p>A mixed-methods approach was adopted, utilizing a structured questionnaire to collect data from both groups. The quantitative component, through a structured survey, will measure usage patterns, perceived benefits, challenges, and the perceived impact on creativity. The qualitative component, using open-ended survey responses, will capture deeper insights into students' experiences, helping to explain the patterns observed in the quantitative data. This approach allows for triangulation, enhancing the validity and reliability of the study's findings.</p> <p>Results/Findings</p> <p>Findings suggest that while literature students tend to use ChatGPT as a tool to enhance idea generation and critical thinking, non-English majors are more likely to depend on it for ready-made answers, potentially limiting their creative engagement. Common challenges identified include inaccurate outputs, difficulty in formulating effective prompts, and occasional over-reliance on AI assistance. The study proposes a "Differential AI-Mediated Creativity" framework, highlighting that the impact of AI on creativity is mediated by students' academic background, motivation, and engagement.</p> <p>Implication</p> <p>These insights emphasize the need for guided AI integration in academic settings, enabling students to harness ChatGPT effectively without compromising independent thinking. The research contributes to understanding how AI tools can be leveraged to foster creativity while minimizing dependency across diverse academic disciplines.</p>

Keywords: Artificial intelligence; ChatGPT; Academic learning; Creativity; University students

1. Introduction

Artificial Intelligence (AI) has emerged as a transformative force in education, with tools like ChatGPT offering students novel avenues for learning and creativity. ChatGPT, developed by OpenAI, is a large language model capable of understanding and generating human-like text based on input prompts. Its applications in

academia range from assisting with brainstorming and summarization to providing explanations of complex concepts (Habib, 2024; Jose, 2025). Students across disciplines have adopted ChatGPT to enhance their learning experiences. Literature students often utilize the tool to explore diverse perspectives, generate creative ideas, and refine their writing. In contrast, non-English majors may employ ChatGPT for more utilitarian purposes, such as translating texts or clarifying subject-specific terminology. However, the extent and manner of AI usage can influence cognitive engagement and creativity (Fisher, 2025).

In the context of Bangladesh, private university students from both literature and non-English majors are increasingly incorporating ChatGPT into their academic routines. Research indicates that students in urban, technology-rich environments tend to adopt AI tools readily, using them for activities such as essay writing, idea generation, translation, and comprehension of complex subjects (Habib, 2024; Fisher, 2025). Literature students often leverage ChatGPT to brainstorm, enhance narrative creativity, and refine critical analyses, whereas non-English majors are more likely to rely on the tool for functional purposes, such as simplifying content or obtaining direct answers for assignments (Jose, 2025). While these practices demonstrate the potential of ChatGPT to support learning, over-reliance may reduce independent critical thinking and creative engagement (Sweller, 1988; Piaget & Vygotsky, 1978). This trend highlights the necessity of examining how AI integration affects creativity and learning outcomes among diverse student populations in Bangladeshi private universities.

This study aims to investigate how literature students and non-English majors use ChatGPT, the challenges they encounter, and its impact on their creative processes. By understanding these aspects, the research seeks to inform strategies that optimize AI integration in education, balancing technological assistance with the cultivation of independent, creative thought

2. Literature review

2.1. ChatGPT's Role in Academic Learning

In university tasks, creativity refers to students' ability to generate ideas or solutions that are both original and appropriate to the assignment (Runco & Jaeger, 2012). It involves fluency, producing multiple relevant ideas; flexibility, adapting perspectives and approaches to problems; originality, offering unique and innovative insights; and elaboration, expanding ideas with depth and structured reasoning (Guilford, 1967). For example, a literature student may present a distinctive interpretation of a poem, while a non-English major might propose a novel solution to a practical problem. Creativity thus reflects the integration of imagination, critical thinking, and knowledge to achieve meaningful outcomes (Craft, 2005)

In Bangladeshi universities, the OBE curriculum requires students to analyze, evaluate, and create in their academic tasks. To meet these higher-order outcomes effectively, students increasingly use tools like ChatGPT to generate ideas, explore multiple perspectives, and expand their work, enhancing both productivity and creativity while fulfilling curriculum demands. The integration of ChatGPT into higher education in Bangladesh has been met with both enthusiasm and caution. A study by Rahman et al. (2025) found that students in social science faculties of public and private universities are increasingly adopting ChatGPT for academic tasks. While some educators view this as a positive development, others express concerns about the potential for academic dishonesty and the erosion of critical thinking skills.

In the context of literature students, ChatGPT serves as a tool for brainstorming, idea generation, and refining writing. However, over-reliance on AI-generated content may hinder the development of original thought and creativity. Non-English majors, on the other hand, often utilize ChatGPT for translation and comprehension assistance, which can be beneficial for understanding complex texts but may also lead to passive learning if not used judiciously.

EFL researchers Marjan, Ebadi, and Mohammadi from Iranian universities conducted a study examining the impact of integrating teacher feedback with ChatGPT-generated feedback on students' EFL writing skills. Their findings revealed that learners who utilized both their teachers' feedback and ChatGPT's feedback on their essays demonstrated significantly greater improvement in their writing proficiency compared to those who relied solely on teacher feedback. This suggests that the combination of human and AI-mediated feedback can enhance EFL learners' overall writing development and foster more effective language learning outcomes. The Technology Acceptance Model (TAM) has been employed to understand the factors influencing ChatGPT usage among Bangladeshi university students. A study by Howlader (2025) revealed that perceived ease of use and perceived usefulness significantly impact students' intention to use ChatGPT. Additionally, trust in the technology and its perceived reliability play crucial roles in its adoption. Despite the advantages, challenges persist. Alam et al. (2023) highlight issues such as inadequate linguistic support, underdeveloped curricula, and unequal access to digital learning resources, which can impede the effective use of AI tools like ChatGPT. Moreover, ethical concerns regarding data privacy and the potential for misuse remain prevalent among both students and educators.

In conclusion, while ChatGPT holds promise for enhancing learning experiences in Bangladeshi private universities, its integration must be approached with careful consideration of the associated challenges and ethical implications.

2.2. Theoretical and conceptual framework

Theoretical frameworks offer insights into these dynamics. Cognitive Load Theory suggests that external aids, such as ChatGPT, can reduce cognitive effort, potentially freeing up resources for creative thinking (Sweller, 1988). Constructivist Learning Theory emphasizes active knowledge construction, which may be compromised if students over-rely on AI-generated content (Piaget & Vygotsky, 1978). Additionally, Self-Determination Theory posits that intrinsic motivation fosters creativity, which could be undermined if AI tools are perceived as shortcuts (Deci & Ryan, 1985; Xia, 2022).

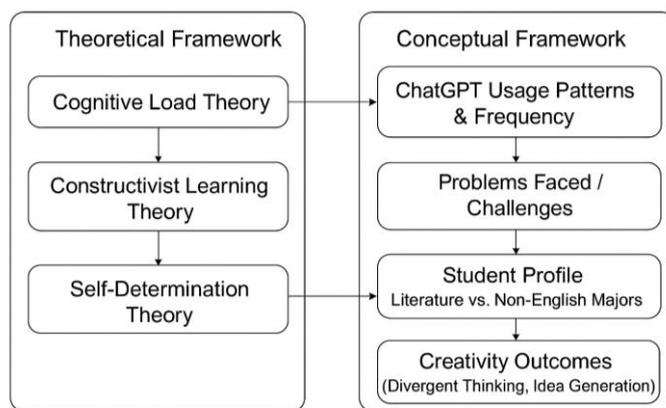


Figure 1: Theoretical & conceptual framework

Figure 1 presents the theoretical and conceptual framework of the study. The framework is grounded in Cognitive Load Theory, Constructivist Learning Theory, and Self-Determination Theory, which explain how students interact with ChatGPT in academic contexts. These theories inform the analysis of ChatGPT usage patterns, challenges faced by students, and differences between English and Non-English Majors, leading to varying creativity outcomes, particularly in terms of divergent thinking and idea generation.

3. Methods

3.1. Research design

This study adopts a mixed-methods approach to investigate the use of ChatGPT and its impact on creativity among Literature students and Non-English majors in Bangladeshi private universities. The research combines quantitative and qualitative data to provide a comprehensive understanding of the phenomenon. The quantitative component, through a structured survey, will measure usage patterns, perceived benefits, challenges, and the perceived impact on creativity. The qualitative component, using open-ended survey responses, will capture deeper insights into students’ experiences, helping to explain the patterns observed in the quantitative data. This approach allows for triangulation, enhancing the validity and reliability of the study’s findings.

3.2. Population and sample

The population of this study consists of tertiary-level students enrolled in Literature and Non-English majors at private universities in Bangladesh. A purposive sampling technique was employed to select participants who are actively using or have prior experience with ChatGPT. The total sample comprises approximately 150 students, including 73 from Literature departments and 77 from Non-English disciplines such as Computer Science, Law, Microbiology, and Business. The selection was made to ensure adequate representation of both groups, thereby allowing for a meaningful comparative analysis.

Table 1: Number of participants

		Frequency	Percent	Valid Percent
Valid	Literature	73	48.7	48.7
	Non-English Major	77	51.3	51.3
	Total	150	100.0	100.0

Table 1 presents the distribution of participants, indicating that 73 students were from Literature departments and 77 students were from Non-English majors selected for the study

3.3. Data collection methods

Data was collected primarily through a structured student survey consisting of 30 items on a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). The survey includes sections on usage patterns, perceived benefits, challenges, and impact on creativity. In addition, selected open-ended questions within the survey will allow students to provide qualitative insights on how ChatGPT affects their creative thinking, problem-solving, and learning processes. The survey was distributed in-person depending on accessibility and convenience for the students.

3.4. Instruments

The following instruments were used to collect data for the survey:

3.4.1. Questionnaire Survey

3.4.2. Face to face interview

3.4.3. Focus group discussion

3.4.4. Content analysis

The quantitative survey data were analyzed using descriptive statistics, including mean, standard deviation, and frequency, to summarize patterns of ChatGPT usage and its perceived effects on creativity. To compare differences between Literature students and Non-English majors, independent-samples t-tests and ANOVA were conducted. In addition, correlation analysis was used to examine the relationships between the frequency of ChatGPT use and creativity-related outcomes. Qualitative responses from open-ended questions underwent thematic analysis to identify recurring patterns and insights into students' experiences. These qualitative findings complemented the quantitative results, offering a more comprehensive understanding of ChatGPT's role in students' academic and creative activities within the context of Bangladeshi private universities. Finally, data triangulation was employed to confirm the validity and reliability of the findings.

4. Results and discussion

The researcher aimed to determine the frequency and duration of internet usage among the respondents. The findings revealed an alarming trend, as more than 60 percent of the students reported using the internet for over six hours per day.

Table 2: Frequency of usage of internet

		Frequency	Percent
Valid	1-2 hours	41	27.3
	2-6 hours	15	10.0
	More than 6 hours	94	62.7
Total		150	100.0

The table above indicates that more than 60 percent of the respondents reported using the internet for six hours or more per day.

Table 3: English and non-English majors in terms of their frequency of internet use

Anova Table		Sum of Squares	Mean Square	Sig.
Frequency_of_Use * demographic	Between Groups (Combined)	42.257	42.257	.000
	Within Groups	74.016	.500	
	Total	116.273		

Table 3 indicates a significant difference between English and Non-English majors in terms of their frequency of internet use. A closer analysis of the data reveals that Non-English majors tend to spend more time online than Literature students. This pattern suggests that students from disciplines such as Business, Law, Microbiology, and Computer Science rely more extensively on digital resources and online platforms to support both their academic tasks and personal activities, compared to their counterparts in Literature departments.

Table 4: Variation in ChatGPT adoption across student groups

Independent Sample T test	Levene's Test for Equality of Variances			
	F	Sig.		
I use chatgpt for academic task	48.101	.000	-17.250	.000
			-16.969	.000
I use chatgpt to get ideas for assignments	9.657	.002	-16.278	.000
			-16.332	.000
I use chatgpt to check grammar and language	7.329	.008	2.270	.025
			2.285	.024

Table 4 indicates a statistically significant difference in the patterns of ChatGPT use between non-English majors and Literature students. The findings reveal that non-English majors demonstrate a higher tendency to rely on ChatGPT for completing academic tasks compared to their counterparts in Literature, suggesting a disciplinary variation in the adoption and utilization of AI-assisted learning tools.

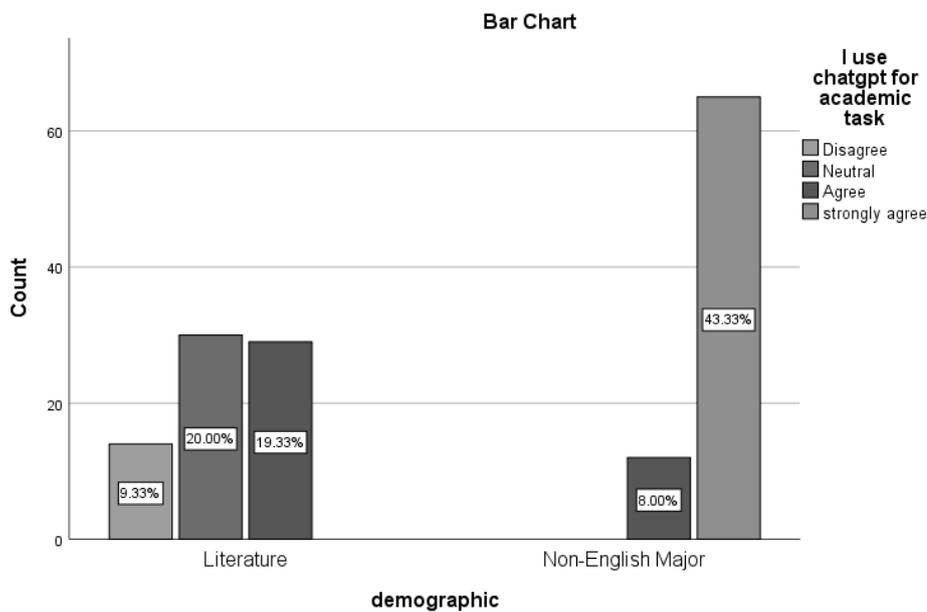


Figure 2: Student use of ChatGPT for academic work

The above graph illustrates that over 40% of Non-English Majors (NEMs) use ChatGPT for completing academic tasks, whereas only 19% of Literature students report the same. This notable difference clearly suggests that Non-English Majors demonstrate a greater dependence on AI-generated learning support compared to their counterparts in Literature, reflecting divergent attitudes toward the integration of artificial intelligence in academic practices.

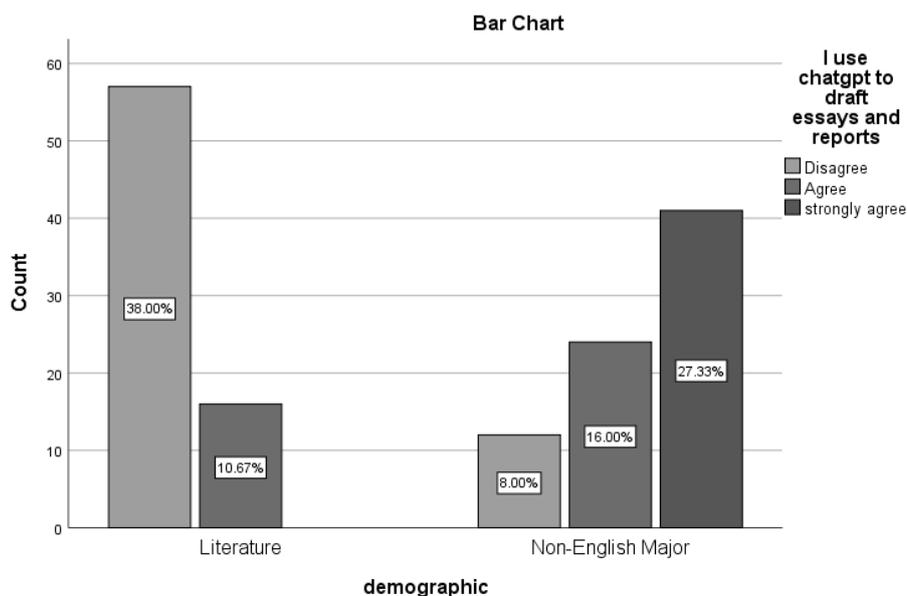


Figure 3: Student use of ChatGPT for drafting essays and reports

A similar pattern is evident in the findings related to Usage Patterns, where the researcher sought to determine the extent to which students rely on ChatGPT for drafting essays and reports. The results reveal that Non-English Majors tend to depend more heavily on ChatGPT than Literature students. In Bangladesh, Non-English Majors are often required to write paragraphs, practice essays, or complete assignments in English as part of composition or introductory language courses. During these tasks, many students use ChatGPT to produce grammatically accurate and well-structured essays. However, their reliance on the tool often leads to limited critical engagement and reduced creativity due to ineffective or excessive use. In contrast, English Literature majors tend to use ChatGPT less frequently, as their academic requirements involve in-depth analysis of novels, poems, and dramas—areas where AI tools offer limited assistance in developing interpretive and analytical skills.

Table 5: Usage patterns of ChatGPT among literature and non-English major students

No.	Statement	Literature Students (N=73)	Non-English Majors (N=77)	Key Observation
1	I use ChatGPT to get ideas for assignments	Neutral 58.9%, Disagree 41.1%	Agree 68.8%, Neutral 15.6%, Strongly Agree 15.6%	NEMs rely much more on ChatGPT for idea generation than Lit students.
2	I use ChatGPT to check grammar and language	Agree/Strongly Agree 61.7%, Neutral 38.4%	Agree/Strongly Agree 49.4%, Neutral 35.1%, Disagree 15.6%	Both groups use ChatGPT for grammar; Lit students slightly more consistent.
3	I use ChatGPT for summarizing readings and notes	Agree 20.5%, Neutral 41.1%, Disagree 38.4%	Agree 53.2%, Strongly Agree 46.8%	NEMs overwhelmingly use ChatGPT for summarization; Lit students rarely.
4	I use ChatGPT to draft essays and reports	Agree 16.4%, Neutral 27.4%, Disagree 56.1%	Agree 53.2%, Strongly Agree 46.8%	NEMs likely rely more on ChatGPT for essay/report drafting.
5	I spend more than 1 hour per week on ChatGPT	Agree 20.5%, Disagree 79.5%	Agree/Strongly Agree 80.6%, Strongly Disagree 19.5%	NEMs spend significantly more time using ChatGPT than Lit students.
6	I rely on ChatGPT more than traditional study materials	Neutral 57.5%, Disagree 42.5%	Agree/Strongly Agree 62.4%, Disagree 37.7%	NEMs are more dependent on ChatGPT than Lit students.
7	I use ChatGPT for creative writing tasks	Agree/Strongly Agree 58.9%, Neutral 41.1%	Agree/Strongly Agree 80.6%, Neutral 19.5%	NEMs use ChatGPT more for creative tasks than Lit students.
8	I feel confident using ChatGPT for academic purposes	Strongly Agree 19.2%, Neutral 39.7%, Disagree 41.1%	Strongly Agree 31.2%, Agree 18.2%, Neutral 50.6%	NEMs show slightly higher confidence than Lit students.

Table 5 displays the usage patterns of ChatGPT among Literature and Non-English Major students, highlighting significant differences in engagement and reliance on AI tools. The comparative analysis of ChatGPT usage between Literature students (N = 73) and Non-English Majors (N = 77) reveals notable differences in

engagement patterns and reliance on AI tools for academic tasks. Non-English Majors demonstrate a significantly higher reliance on ChatGPT, particularly for generating ideas for assignments, summarizing readings, and completing creative writing tasks. For instance, 84.4% of NEMs agree or strongly agree that they use ChatGPT for idea generation, whereas the majority of Literature students remain neutral or disagree. Similarly, NEMs spend considerably more time on ChatGPT, with over 80% reporting usage exceeding one hour per week, compared to only 20.5% of Literature students. While both groups utilize ChatGPT to check grammar and language, Literature students show slightly higher consistency in this practice. Interestingly, all Literature students report using ChatGPT to overcome writer's block, reflecting a uniform reliance for this specific task, whereas Non-English Majors exhibit some variation. Confidence in using ChatGPT for academic purposes is moderately higher among Non-English Majors, yet Literature students appear more cautious, likely due to the demands of in-depth literary analysis and interpretation that AI tools cannot fully address. Overall, the data suggest that Non-English Majors view ChatGPT as a central academic aid, whereas Literature students employ it more selectively, emphasizing support functions such as overcoming writer's block and checking language, rather than replacing traditional study methods.

4.1. Perceived benefits by Non-English majors

Table 6: Perceived benefits of ChatGPT among non-English majors (N = 77)

Perceived Benefit	Neutral (%)	Agree (%)	Strongly Agree (%)
ChatGPT helps save time in completion of assignments	0%	35.1%	64.9%
ChatGPT improves understanding of difficult topics	31.2%	68.8%	0%
ChatGPT enhances the quality of my writing	19.5%	15.6%	64.9%
ChatGPT makes academic work more organized	53.2%	46.8%	0%
ChatGPT helps me generate new ideas	19.5%	15.6%	64.9%

The data on Non-English Majors' perceived benefits of ChatGPT (N = 77) indicate that students consider the tool highly supportive across multiple aspects of academic work. A majority of students strongly agree that ChatGPT saves time in completing assignments (64.9%), enhances the quality of writing (64.9%), and helps generate new ideas (64.9%), highlighting its role as an efficient and creative academic aid. Furthermore, 68.8% of students agree that ChatGPT improves their understanding of difficult topics, suggesting that it also functions as an effective conceptual support tool. In contrast, perceptions regarding the organizational benefits of ChatGPT are more mixed; while 46.8% of students agree that it helps structure academic work, a slightly higher proportion (53.2%) remain neutral, indicating a moderate impact on task organization. Overall, the findings demonstrate that Non-English Majors regard ChatGPT as a valuable resource for enhancing efficiency, creativity, and comprehension in their academic activities, although its usefulness for organizing work is less pronounced. At the same time, the data also point to potential overdependence and overreliance among Non-English Majors who frequently use the tool.

4.2. Perceived benefits of ChatGPT among English majors

Table 7: Perceived benefits of ChatGPT among English majors (N = 73)

Perceived Benefit	Response	Frequency	Percent (%)	Remarks
ChatGPT helps save time in completion of assignments	SD	14	19.2	Low benefit perception
	N	28	38.4	Moderate/uncertain perception
ChatGPT improves understanding of difficult topics	A	31	42.5	Moderate benefit perception
	A	15	20.5	Moderate benefit perception
ChatGPT enhances the quality of my writing	SA	58	79.5	Very high benefit perception
	SD	16	21.9	Low benefit perception
	D	29	39.7	Low benefit perception
ChatGPT makes academic work more organised	N	14	19.2	Moderate/uncertain perception
	SA	14	19.2	Moderate benefit perception
	D	58	79.5	Low benefit perception
ChatGPT helps me generate new ideas	A	15	20.5	Moderate benefit perception
	D	31	42.5	Low benefit perception
	N	28	38.4	Moderate/uncertain perception
	A	14	19.2	Moderate benefit perception

The data on students' perceived benefits of ChatGPT over English majors reveal a nuanced pattern of responses. Among English Majors, 42.5% agree that ChatGPT helps save time on assignments, 38.4% are neutral, and 19.2% strongly disagree, indicating a moderate perception of benefit. The tool is most valued for improving understanding of difficult topics, with 79.5% strongly agreeing and 20.5% agreeing, reflecting a very high perceived benefit. However, perceptions of ChatGPT's impact on writing quality are less favorable, as 61.6% of respondents either strongly disagree or disagree that it enhances writing, suggesting limited benefit. Similarly, the majority (79.5%) disagree that it helps organize academic work, highlighting a low perceived benefit in task management. Regarding idea generation, responses are divided, with 42.5% disagreeing, 38.4% neutral, and 19.2% agreeing, indicating only moderate potential as a creative aid. Overall, while English Majors use ChatGPT for various academic tasks, the survey indicates no evidence of overdependence or overreliance; students appear to engage with the tool selectively, primarily as a conceptual support resource rather than a comprehensive academic substitute.

4.3. Data analysis from interview

Of the total 150 participants, 25 English Majors and 25 Non-English majors were chosen for interviews. The interview data reveal a sharp contrast between English and Non-English Majors in their use of ChatGPT and its impact on learning and creativity. English Majors described a controlled and critical use of the tool, emphasizing verification and reinterpretation rather than direct dependence. For instance, one participant noted that "*ChatGPT can confuse authors, misinterpret texts, or invent citations,*" which compelled them to double-check sources and "*read more carefully and think more critically—ironically increasing our creativity.*" Others explained that they use ChatGPT mainly for structural guidance, such as outlining essays, while ensuring that "*the examples, citations, critiques, and interpretations come from our own reading,*" indicating conscious efforts to preserve originality. In contrast, Non-English Majors reported a pattern of overdependence and reduced autonomy, particularly in EFL learning contexts. One respondent admitted, "*Since English is not my major, I feel scared to write on my own... I let it do most of the work,*" while another stated, "*I don't really change the wording... sometimes I just paste and submit.*" The extent of reliance was further evident in responses such as, "*If the internet goes off, I panic. I don't know how to write an essay from scratch anymore,*" and in the reported mismatch between classroom performance and examinations, with students acknowledging that they "*receive poor marks in composition*" when AI support is unavailable. These examples illustrate that while English Majors use ChatGPT to enhance organization and critical engagement, non-English Majors' uncritical reliance on the tool often results in loss of originality, weakened writing skills, and overdependence, highlighting the need for guided and ethical integration of AI in EFL classrooms

5. Conclusion and recommendation

The findings of this study indicate that ChatGPT exerts a differentiated impact on creativity and academic practices among Literature (English) students and Non-English majors in Bangladeshi private universities. Literature students generally demonstrate a cautious and reflective use of ChatGPT, employing it as a supportive tool for brainstorming, overcoming writer's block, organizing arguments, and clarifying complex ideas while maintaining originality and critical engagement. In contrast, Non-English majors tend to rely more heavily on ChatGPT for completing academic tasks such as summarization, essay drafting, grammar correction, and idea generation. Although this reliance increases efficiency and reduces language anxiety, excessive dependence may weaken independent thinking, creative expression, and language development. To ensure balanced and ethical AI integration, universities should introduce guided instruction on effective ChatGPT use, emphasizing critical evaluation, verification, and revision of AI-generated content. Pedagogical practices should incorporate structured AI-assisted activities that promote creativity and active learning, including writing stories with multiple endings, predict-the-ending reading tasks, vocabulary quizzes generated through ChatGPT, debate partner simulations, conversation starter practice, and comprehension exercises with adjustable difficulty levels. Such tasks can help transform ChatGPT from a shortcut-driven tool into a creativity-enhancing learning partner. Ultimately, thoughtful integration of AI within discipline-sensitive pedagogical frameworks can enhance creativity, learner autonomy, and critical thinking while minimizing overreliance and preserving academic integrity.

Declaration of conflicting interest

The authors declare that there is no conflict of interest in this work.

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