

# Utilization of Active Learning Strategies in Teaching Purposive Communication and Students' Critical Thinking and Writing Skills

Marvin A. Ciriaco<sup>1</sup>, Elaine Rose G. Nachon<sup>2</sup>

<sup>1</sup>College of Arts and Sciences, Laguna State Polytechnic University, Philippines

<sup>2</sup>College of Teacher Education, Laguna State Polytechnic University, Philippines

DOI: <https://doi.org/10.47772/IJRISS.2026.100600766>

Received: 11 December 2025; Accepted: 16 December 2025; Published: 06 July 2026

## ABSTRACT

The paper investigates the impact of various active learning strategies on college students' critical thinking and writing skills within the context of a Purposive Communication course. The study addresses the significant global concern that students entering higher education are inadequately prepared with essential critical thinking skills. The main objective was to determine the effectiveness of active learning strategies to enhance the critical thinking and writing skills of college students. The research employed a factorial experimental design. Students were divided into three different treatment groups, each utilizing a unique combination of active learning strategies: gamification paired with concept mapping, gamification paired with one-minute papers, and gamification paired with reflection papers. Critical thinking ability was measured using the Critical Thinking Questionnaire (CThQ) by Kobylarek et al. (2022). A content test on Purposive Communication was also administered. The tests were conducted both before (pretest) and after (posttest) the interventions. The findings showed that all combinations of the active learning strategies (Gamification paired with concept mapping, one-minute papers, or reflection papers) resulted in statistically significant improvements when comparing the students' pretest and posttest scores on critical thinking. The study concludes that the integration of interactive and reflective activities successfully transforms the classroom into an environment that promotes active knowledge construction.

**Keywords:** Active Learning Strategies, Critical Thinking Skills, Writing Skills

## INTRODUCTION

The global state of critical thinking in students is generally perceived as needing improvement, despite a widespread acknowledgment of its importance. While many educators and institutions recognize critical thinking as a key objective, there's a disconnect between acknowledging its importance and effectively teaching and assessing it. Many students struggle with demonstrating strong critical thinking skills in practice, particularly in areas like argumentation and problem-solving. To overcome that struggle and enhance their critical thinking, some interventions that align with students' skills are needed.

Problem-based learning (PBL) significantly improves students' critical thinking skills across various disciplines (Zhang & Liu, 2022). Digital game-based learning environments effectively enhance argumentation and problem-solving abilities in higher education (Johnson et al., 2023). A systematic review by Lee and Kim (2021) underscores the importance of scaffolded instruction and formative assessments tailored to students' skill levels to bridge the gap between recognizing critical thinking's importance and its practical development. These studies collectively suggest that customized, innovative instructional strategies are crucial for effectively cultivating critical thinking skills.

Similarly, active learning has gained significant attention in recent years as a pedagogical strategy that fosters critical thinking, problem-solving, and student engagement. According to Bonwell and Eison (as cited in Abadiano et al., 2020), active learning involves instructional methods that engage students more directly in the learning process than traditional lectures. These strategies emphasize student participation and accountability, which are fundamental in cultivating higher-order thinking skills.

Freeman et al. (2017) confirmed that students in active learning environments performed better than those in traditional lecture settings, especially in STEM fields. Their findings indicated not only improved examination scores but also a reduction in failure rates, suggesting that active learning contributes significantly to student success and retention.

A study by Muthuprasad et al. (2021) further supports the efficacy of active learning. He found that students preferred interactive, participatory approaches over passive lecture formats in remote learning contexts. His findings revealed that learners were more likely to demonstrate critical thinking and higher engagement when actively involved in tasks such as discussions, case studies, and collaborative activities.

In view of the foregoing, this study aimed to investigate the utilization of active learning strategies and the students' critical thinking and writing skills, guided by the following research questions: (1) What is the level of the students' critical thinking skills before and after the utilization of a combination of active learning strategies? (2) What is the level of students' knowledge of Purposive Communication before and after their exposure to different active learning approaches, as revealed by their pretest and posttest scores? (3) Is there a significant difference between the students' level of critical thinking skills before and after their exposure to active learning strategies? (4) Is there a significant difference between the level of students' knowledge of Purposive Communication before and after their exposure to active learning approaches? (5) Is there a significant relationship between the students' critical thinking and writing skills?

This study is anchored on the Constructivist Learning Theory, a foundational framework in education that asserts learners actively construct knowledge rather than passively receive it (Piaget, 1936; Vygotsky, 1978). This theory supports the idea that learning is most effective when students engage with content through meaningful experiences and social interaction. It aligns directly with the study's aim of using active learning strategies such as Gamification, concept mapping, one-minute paper, and reflection paper to enhance critical thinking skills among college students. Further, it supports innovative, student-focused teaching methods. It acknowledges the varied cognitive and social processes involved in learning and emphasizes the need for instructional approaches that are engaging, inclusive, and developmentally appropriate for college students.

The conceptual framework of this study employs a factorial experimental design, with learning strategies as independent variables and critical thinking skills as dependent variables. The study examines how the implementation of gamification, combined with each of the three learning strategies, influences the critical thinking skills of college students.

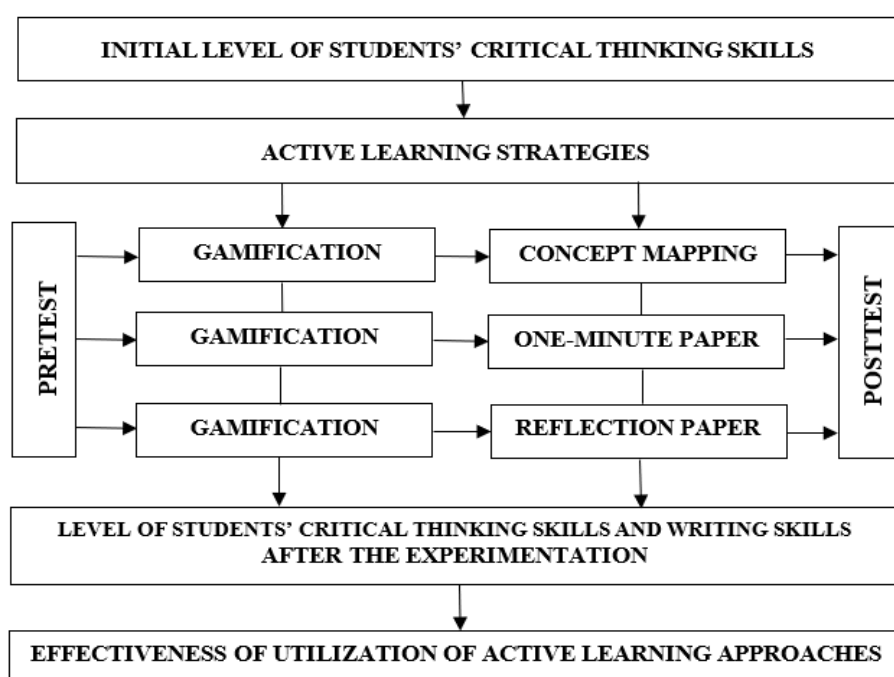


Figure 1. Conceptual Framework

Critical thinking skills are essential for individuals to thrive in the information age and succeed in education and business (Çiftçi, 2021).

Hussin (2018) emphasizes the importance of critical thinking in students' learning and education. He believes that 21st-century learning requires students to master four key skills: creativity, innovation, critical thinking, problem-solving, and communication and collaboration, to keep up with technological developments and maintain their own quality.

Consequently, research findings suggest that the development of critical thinking skills among students should be given careful attention.

In their study, Pagente and Futralan (2024) found that female students demonstrate more positive critical thinking skills than male students. Nonetheless, they stated that students must possess a high level of critical thinking to succeed academically and face future challenges.

Lobaton et al. (2023) also mentioned that some of the students are not yet proficient in critical thinking. He emphasized that the absence of cognitive academic language competency and critical thinking abilities among students is a severe issue that should be addressed because critical thinking abilities have a significant influence on their lives as students.

The study by Salviejo et al. (2024) examines how critical thinking disposition and learning approaches affect students' performance. The research found that most participants had moderate levels of critical thinking, with traits such as reflectiveness and perseverance, and predominantly used a deep learning approach focused on understanding. This suggests the importance of fostering critical thinking and deep learning strategies to improve both teacher effectiveness and student outcomes.

Zhang et al. (2022) said that there was a significant and positive effect on the development of critical thinking skills when it was embedded in critical thinking modules rather than when it was taught as a standalone critical thinking course.

Big ideas accelerate students' growth as writers and critical thinkers. The relationship between writing and critical thinking is simple because writing is a process of doing critical thinking, and a product that communicates the effect of critical thinking through writing can uplift critical thinking. To improve critical thinking, critical thinking activities should be done individually or in a group (Bean et al., 2021).

The study of Zulyusri et al. (2023) looked at different pieces of writing about how project-based learning can help students think more critically and creatively. His study engaged students in problem-solving to encourage them to be more creative and to use their critical thinking skills, develop teamwork and cooperation, and strategize more.

Saaruddin (2017) pointed out that there are commonly used active learning strategies that are beneficial in creating a positive learning environment, allowing direct interaction between lecturers and students, enabling students to express opinions openly. In relation, Wenderoth et al. (2014) stated that active learning increases scores on concept inventories more than on course examinations and that active learning appears effective across all class sizes. Gasmi et al. (2023) also affirmed that students value active learning strategies within the context of an English language course, specifically the use of flipped instruction, problem-based learning, and reflective writing in improving their language skills, autonomy, motivation, and engagement.

In view of the foregoing, this study aimed to investigate the relationship between the utilization of a combination of active learning strategies and the students' critical thinking and writing skills.

## METHODOLOGY

The research employed a factorial experimental design. Students were divided into three different treatment groups, each utilizing a unique combination of active learning strategies: gamification paired with concept

mapping, gamification paired with one-minute papers, and gamification paired with reflection papers. Three teaching sessions per group were conducted.

The Critical Thinking Questionnaire (CThQ) developed by Kobylarek et al. (2022) was used to determine the students' level of critical thinking before and after their exposure to active learning strategies.

This approach aligns with Eyisi (2016), who stated that quantitative research involves predetermined variables, hypotheses, and designs. The use of such predetermined strategies does not necessarily encourage or require supporting or rejecting fixed paradigms. This analyzes existing knowledge rather than discovering new insights. While this can yield valid findings, these findings may not always be universally applicable. In educational research, the complexity of social differences in schools often makes it challenging for quantitative methods to capture the dynamic, multifaceted nature of education.

Purposive sampling was used to identify respondents who matched the research objectives. This sampling technique refers to a group of non-probability sampling techniques in which units are selected because they possess specific characteristics essential for the sample (Nikolopoulou, 2023)

Specifically, students from three sections of the Bachelor of Science in Criminology program, enrolled in the Purposive Communication course during the Second Semester of AY2024-2025 at Laguna State Polytechnic University Siniloan Campus, were included as respondents. These participants were chosen for their shared academic background and active engagement in studying communication principles, making them suitable for evaluating the effectiveness of active learning strategies in developing their critical thinking and writing skills.

To assign the learning strategies fairly, random selection was conducted through a draw-lots method, with a subject matter expert serving as an impartial observer.

The Critical Thinking Questionnaire (CThQ), developed by Kobylarek et al. (2022), was utilized to determine the students' level of critical thinking. The tool is designed for adolescents and adults and is based on Bloom's taxonomy of educational objectives—a widely recognized and widely applied framework for critical-thinking practitioners. The Self-Paced Learning Module (SLM) for Purposive Communication students also served as the learning material for the participants. It covers essential communication concepts, including application letters, request letters, complaint letters, and resignation letters. In addition, a test derived from the module was constructed and administered among the respondents to evaluate its effectiveness in enhancing learners' knowledge of key communication concepts. The test measured their understanding, retention, and ability to apply the learned principles in various contexts.

Informed consent was solicited from the individual respondents, and ethical considerations were highly observed throughout the research process.

## RESULTS AND DISCUSSION

Table 1 presents the level of students' critical thinking before the utilization of a combination of active learning strategies in their respective groups.

*Table 1. Level of the students' critical thinking skills before and after the utilization of a combination of active learning strategies*

| Students' Level of Critical Thinking               | Before |       | After |       |
|----------------------------------------------------|--------|-------|-------|-------|
|                                                    | f      | %     | f     | %     |
| <b>Group 1: Gamification &amp; Concept Mapping</b> |        |       |       |       |
| Low                                                | 10     | 34.48 | 0     | 0.00  |
| Average                                            | 19     | 65.52 | 1     | 3.45  |
| High                                               | 0      | 0.00  | 28    | 96.55 |
| Total                                              | 29     | 100   | 29    | 100   |

Table 1 Continued

| <b>Group 2: Gamification &amp; One Minute Paper</b> |    |       |    |       |
|-----------------------------------------------------|----|-------|----|-------|
| Low                                                 | 13 | 34.48 | 0  | 0.00  |
| Average                                             | 18 | 65.52 | 5  | 16.13 |
| High                                                | 0  | 0.00  | 26 | 83.87 |
| Total                                               | 31 | 100   | 31 | 100   |
| <b>Group 3: Gamification &amp; Reflection Paper</b> |    |       |    |       |
| Low                                                 | 9  | 25.71 | 0  | 0.00  |
| Average                                             | 26 | 74.29 | 1  | 2.86  |
| High                                                | 0  | 0.00  | 34 | 97.14 |
| Total                                               | 35 | 100   | 31 | 100   |

Legend: 25 to 58 = Low CT; 59 to 92 = Average CT; 93 to 125 = High CT

It can be observed that before the interventions, no student in any group displayed high critical thinking skills, and roughly 25–34% were at the low level. After only one term of using gamification combined with a reflective technique, between 84% and 97% of students reached the highest level of critical thinking, and the low category was eliminated. The most effective combination was gamification paired with a structured reflection paper, which classified nearly every student (97.1%) into the high category. The results provide strong descriptive evidence that these active learning strategies not only produce statistically significant improvements but also educationally transformative shifts in critical thinking ability. In consonance, active learning has value for increasing critical thinking (Yusumoto, 2018; Palloan et al., 2021) over time, supporting a positive relationship with the active learning modules (Kim et al., 2013).

Table 2 shows the level of students' knowledge of Purposive Communication before and after their exposure to different active learning strategies.

Table 2. Level of students' knowledge of Purposive Communication before and after the utilization of a combination of active learning strategies

| Level of students' knowledge of Purposive Communication | f  | %     | f  | %    |
|---------------------------------------------------------|----|-------|----|------|
| <b>Group 1: Gamification &amp; Concept Mapping</b>      |    |       |    |      |
| Passed                                                  | 0  | 0.00  | 29 | 100  |
| Failed                                                  | 29 | 100   | 0  | 0.00 |
| Total                                                   | 29 | 100   | 29 | 100  |
| <b>Group 2: Gamification &amp; One Minute Paper</b>     |    |       |    |      |
| Passed                                                  | 0  | 0.00  | 31 | 100  |
| Failed                                                  | 31 | 100   | 0  | 0.00 |
| Total                                                   | 31 | 100   | 31 | 100  |
| <b>Group 3: Gamification &amp; Reflection Paper</b>     |    |       |    |      |
| Passed                                                  | 1  | 2.86  | 35 | 100  |
| Failed                                                  | 34 | 97.14 | 0  | 0.00 |
| Total                                                   | 35 | 100   | 35 | 100  |

Legend: 0 to 25 = Failed; 26 to 50 = Passed

The figures show that before the utilization of active learning strategies among the three groups, almost every student lacked adequate knowledge of purposive communication (97–100% failure rate). After experiencing

gamification combined with concept mapping, one-minute paper, or reflection paper, 100% of students across all three groups achieved a passing level. This demonstrates that these combinations of active learning strategies, as seen in the delivery mode of teaching purposive communication through various approaches, are likely to increase students' level of critical thinking (Mallillin et al., 2022).

Table 3 illustrates the results of the Wilcoxon signed rank test conducted to determine the difference in students' level of critical thinking within each group before and after the implementation of the three combinations of active learning strategies: gamification with concept mapping, gamification with one-minute paper, and gamification with reflection paper.

*Table 3. Difference between the students' level of critical thinking skills within groups before and after the utilization of active learning strategies*

| Group (Learning Strategy)                  | Computed z-value | p-value | Decision  |
|--------------------------------------------|------------------|---------|-----------|
| Group 1: Gamification and Concept Mapping  | 4.706**          | <.000   | Reject Ho |
| Group 2: Gamification and One-Minute Paper | 4.861**          | <.000   | Reject Ho |
| Group 3: Gamification and Reflection Paper | 5.162**          | <.000   | Reject Ho |

**\*\*Highly Significant**

It can be gleaned that the critical thinking skills of the students in Group 1 (Gamification and Concept Mapping) significantly increased after the intervention. The effect of this combination of active learning strategies is large and highly significant. In line with this, gamification is found to develop student critical thinking (Marti-Parreño, 2021) while concept maps enhance learning motivation and critical thinking skills (Bilik, 2021).

Also, it can be observed that the students in Group 2 (Gamification and One-Minute Paper) significantly increased their critical thinking skills after their exposure to this combination of active learning strategies. This produced the largest observed improvement as revealed by the most negative z-value. Younus et al. (2021) found a positive relationship between the use of the One Minute Paper strategy and the development of high-level thinking among students. In connection, Campbell et al. (2019) identified critical thinking as one of the major themes derived from the analysis of student comments in the one-minute papers, suggesting a relationship between the assessment tool and students' active application of learned concepts.

Similarly, the level of critical thinking skills of the students in Group 3 (Gamification and Reflection Paper) significantly increased and shows the largest gains. This combination of active learning strategies showed the strongest statistical evidence of the most improvement based on the highest absolute z-value. Yeh et al. (2023) affirmed that college students significantly improved their critical thinking through reflective writing. Woldt et al. (2021) also claimed that reflective writing, a less popular but potentially more effective technique, is an instructional strategy used in predoctoral dental education to enhance and deepen critical thinking and problem-solving skills.

In general, all three active learning interventions that combined gamification with a reflective component (concept mapping, one-minute paper, or reflection paper) led to substantial improvements in students' critical thinking skills. These findings provide strong evidence that these pedagogy strategies actually work for developing critical thinking, not just in theory, but in real classroom application.

Table 4 shows the results of the Wilcoxon signed rank test conducted to determine the difference in students' level of critical thinking within groups before and after the implementation of the three combinations of active learning strategies: Gamification with Concept Mapping, Gamification with One-Minute Paper, and Gamification with Reflection Paper.

*Table 4. Difference between the students' level of knowledge in Purposive Communication within groups before and after the utilization of active learning strategies*

| Group (Learning Strategy)                | Computed z-value | p-value | Decision  |
|------------------------------------------|------------------|---------|-----------|
| Group 1: Gamification & Concept Mapping  | 4.706**          | <.000   | Reject Ho |
| Group 2: Gamification & One-Minute Paper | 4.861**          | <.000   | Reject Ho |
| Group 3: Gamification & Reflection Paper | 5.162**          | <.000   | Reject Ho |

**\*\*Highly Significant**

The figures show the difference in students' knowledge of Purposive Communication within each group before and after exposure to a combination of active learning strategies. Data were gathered twice on the same students using a pass/fail assessment to test whether the interventions led to significant improvements.

The findings affirm that all three active learning strategies—combining gamification with concept mapping, one-minute papers, or reflection papers—produced highly significant improvements in students' knowledge of business correspondence. Starting from a near-total lack of knowledge, students showed massive gains, with the combination of gamification and reflection paper strategies yielding the strongest evidence. Mallillin (2022) affirmed the improvement of student skills and knowledge in purposive communication through student-centered teaching and learning, which demands the use of instructional methods and strategies that engage students in active learning.

This also provides compelling evidence that these interventions are not only statistically valid but also highly effective for obtaining the desired educational outcomes in communication.

Table 5 presents the analysis of the relationship between students' critical thinking skills and writing skills using Spearman's Rho. The figures indicate that there is no significant relationship between students' critical thinking and their writing skills across different types of letters after the utilization of a combination of active learning strategies.

*Table 5. Relationship between the students' critical thinking and writing skills after the utilization of a combination of active learning strategies*

| Variables          | Computed R <sub>s</sub> Value | p- Value | Decision            |
|--------------------|-------------------------------|----------|---------------------|
| Application Letter | .022 <sup>ns</sup>            | .830     | Failed to Reject Ho |
| Request Letter     | .129 <sup>ns</sup>            | .213     | Failed to Reject Ho |
| Complaint Letter   | .093 <sup>ns</sup>            | .370     | Failed to Reject Ho |
| Resignation Letter | .025 <sup>ns</sup>            | .809     | Failed to Reject Ho |

<sup>ns</sup>-Not Significant

Specifically, the R<sub>s</sub> values, which represent the correlation coefficients, are very close to zero, suggesting weak or no correlation between the students' skills in writing Application Letter, Request Letter, Complaint Letter, and Resignation Letter. This implies that the students' ability to write different kinds of letters does not reflect the level of their critical thinking skills, and vice versa.

Table 6 shows the results of the Kruskal-Wallis test conducted to determine the difference in students' level of critical thinking between groups before and after the implementation of the three combinations of active learning strategies: Gamification with Concept Mapping, Gamification with One-Minute Paper, and Gamification with Reflection Paper.

*Table 6. Difference in the students' level of critical thinking between groups before and after the utilization of active learning strategies*

| Group (Learning Strategy)                | Computed h-value | p-value | Decision  |
|------------------------------------------|------------------|---------|-----------|
| Group 1: Gamification & Concept Mapping  | 51.833**         | <.000   | Reject Ho |
| Group 2: Gamification & One-Minute Paper | 45.814**         | <.000   | Reject Ho |
| Group 3: Gamification & Reflection Paper | 42.831**         | <.000   | Reject Ho |

**\*\*Highly Significant**

The findings reveal that although all three active learning combinations produced massive and highly significant improvements in critical thinking skills within their own groups, the magnitude of improvement was not the same across strategies. A Kruskal-Wallis test on the gain scores (or posttest ranks) confirmed statistically significant differences between the three groups in how much critical thinking increased, with the combination of Gamification and Concept Mapping strategies showing the largest raw improvement and marginally greater gains compared to the two other combinations.

In general, all three strategies are effective. There is moderate evidence that Concept Mapping produced slightly larger critical thinking gains than Gamification combined with Reflection Paper or One-Minute Paper strategies.

Complementarily, Roussow and Steenkamp (2025) asserted the effectiveness of an intervention to develop critical thinking abilities, which involved various active learning exercises. Kim et al. (2013) found that students' scores on individual reports, which assessed critical thinking, showed a statistically significant increase across time, supporting the effectiveness of the employed active learning strategies.

Table 7 shows the results of the Kruskal-Wallis test conducted to determine the difference in students' level of knowledge in Purposive Communication between groups before and after the implementation of the three combinations of active learning strategies: Gamification with Concept Mapping, Gamification with One-Minute Paper, and Gamification with Reflection Paper.

*Table 7. Difference in the students' level of knowledge in Purposive Communication between groups before and after the utilization of active learning strategies*

| Group (Learning Strategy)                | Computed Value | Z-value | Decision  |
|------------------------------------------|----------------|---------|-----------|
| Group 1: Gamification & Concept Mapping  | 5.997          | <.000   | Reject Ho |
| Group 2: Gamification & One-Minute Paper | 45.867         | <.000   | Reject Ho |
| Group 3: Gamification & Reflection Paper | 42.899         | <.000   | Reject Ho |

**\*\*Highly Significant**

The data indicate that there are highly significant differences in students' knowledge of business correspondence between the pretest and posttest across all learning strategies (Gamification combined with Concept Mapping, One-Minute Paper, and Reflection Paper). The rejection of the null hypothesis (Ho) across all strategies suggests that each teaching approach effectively improved students' knowledge, with the most substantial difference observed in the utilization of a combination of Gamification and One-Minute Paper strategies.

The findings of Lie (2017), who demonstrated that the active learning strategies were effective in decreasing communication anxiety by increasing students' willingness to communicate, were found in consonance with the foregoing findings. In addition, Azizi (2022) asserted that active learning substantially contributed to fostering participants' speaking skills and willingness to communicate, demonstrating a significant difference after the intervention.

---

## CONCLUSIONS AND RECOMMENDATIONS

The study concludes that the integration of interactive and reflective activities successfully transforms the classroom into an environment that promotes active knowledge construction. Specifically, the utilization of a combination of active learning strategies, including gamification, concept mapping, one-minute papers, and reflection papers, enhances students' critical thinking and writing skills. However, the sample size may be broadened, whereby students from various disciplines may be involved to enhance the generalizability of findings. The duration of future studies of a similar nature may be extended to allow longer exposure to active learning strategies that would provide stronger evidence of sustained improvements in critical thinking and writing skills of respondents. Qualitative methodologies such as interviews, reflective journals, or focus group discussions may be incorporated to enrich the findings and provide deeper pedagogical insights. In addition, analytic rubrics may be used to evaluate the written outputs to better determine how critical thinking translates into writing performance.

### Reflexivity Statement

In this quasi-experimental study, one of the researchers served as the instructor of the Purposive Communication course and implemented the active learning strategies examined in the investigation. Consequently, the researchers acknowledge that personal beliefs about the effectiveness of active learning approaches and familiarity with the participants may have introduced bias into the conduct and interpretation of the findings. To minimize such influences, the planned instructional procedures were followed throughout the intervention period, and all participants were subjected to the same learning activities, assessment conditions, and evaluation criteria. Validated instruments were employed to enhance objectivity in measuring students' critical thinking and writing skills. Data analysis was based on established statistical procedures, and interpretations were grounded in empirical results rather than personal expectations regarding the outcomes of the intervention. The researchers remained cognizant of the potential effects of the instructor-researcher role throughout the study and exercised deliberate efforts to maintain objectivity, transparency, and methodological rigor. By acknowledging these positional influences and implementing measures to reduce their impact, the study sought to uphold the credibility and trustworthiness of its findings.

### Ai Declaration

The researchers used Grammarly Pro as an AI-assisted language editing tool during the preparation of this manuscript. Its use was limited to correcting grammatical errors, improving sentence structures, and enhancing readability. The conceptualization of the study, data collection, interpretation of findings, and writing of the substantive content were performed by the researchers. All AI-generated suggestions were critically reviewed before incorporation into the final document.

### Author Contributions

The authors received no financial support for the research, authorship, and/or publication of this article.

### Conflict of Interest

The authors declare no conflict of interest.

### Acknowledgment

The authors recognize the Purposive Communication students from the BS Criminology program during the Second Semester of AY2024-2025 at Laguna State Polytechnic University-Siniloan Campus for their participation, which greatly assisted the research, although they may not fully agree with all of the interpretations/conclusions of this paper.

## REFERENCES

1. Acar, F., & Arslan, R. Ş. (2023). Enhancing critical thinking and English-speaking skills of gifted students through Philosophy for Children approach. *International Journal of Assessment Tools in Education*, 10(2), 345–375
2. Alfaro-Lefevre, R. (2016). *Critical thinking, clinical reasoning, and clinical judgment: A practical approach*, pageburst E-book on kno. Elsevier Health Sciences
3. Alhowail, A. M., & Albaqami, S. E. (2024). Evaluation of the critical thinking skills of secondary school students in Saudi Arabia. *Problems of Education in the 21st Century*, 82(1), 7–28
4. Anderson, T., Howe, C., Soden, R., Halliday, J., & Low, J. (2001). Peer interaction and the learning of critical thinking skills in further education students. *Instructional Science*, 29(1), 1–32. <https://doi.org/10.1023/a:1026471702353>
5. Aouaf, S., Azzouzi, L., & Housni, H. (2023). Perceived Barriers to Critical Thinking Development: The Student's View. *International Journal of Linguistics Literature & Translation*, 6(2), 63–69. <https://doi.org/10.32996/ijllt.2023.6.2.10>
6. Azizi, Z., Namaziandost, E., & Ashkani, P. (2022). Active learning as an approach to fostering EFL learners' speaking skills and willingness to communicate: A mixed-methods inquiry. *Issues in Language Teaching*, 11(2), 93-128.
7. Banabatac, C. B. (2017). *Critical Thinking Skills in Non-School Activities of Absentee Students*. Philippine E-Journals
8. Bastani, N. (2024). Counter-Extremism and 'Critical thinking' as a measure of the human. *Theory, Culture & Society*. <https://doi.org/10.1177/02632764241267916>
9. Batdi, Veli, Elaldı, Şenel, Özçelik, Ceyda, Semerci, Nuriye, & Özkaya, Özlem. (2024). Evaluation of the effectiveness of critical thinking training on critical thinking skills and academic achievement by using a mixed-method meta-analysis. *Review of Education*. DOI: 10.1002/rev3.70001
10. Bilik, Ö., Kankaya, E. A., & Deveci, Z. (2020). Effects of web-based concept mapping education on students' concept mapping and critical thinking skills: A double blind, randomized, controlled study. *Nurse education today*, 86, 104312.
11. Brazel, J. (2020, November 14). Improving students' critical thinking skills | Inquirer Opinion. INQUIRER.net. <https://opinion.inquirer.net/135282/improving-students-critical-thinking-skills>
12. Büyükin, B. (2021). Exploring the manifestation of critical thinking skills and dispositions on argument and counterargument development about a socioscientific issue
13. Calderon, R. (2021). *Critical Thinking, Retention Memory Skills, and Academic Performance of Public Senior High School Students in the Fifth District of Cavite*. Cavite State University Repository
14. Campbell, M., Abel, E. M., & Lucio, R. (2019). The one-minute paper as a catalyst for change in online pedagogy. *Journal of Teaching in Social Work*, 39(4-5), 519-533.
15. Din, M. (2020). Evaluating university students' critical thinking ability as reflected in their critical reading skill: A study at the bachelor level in Pakistan. *Thinking Skills and Creativity*, 35, 100627. <https://doi.org/10.1016/j.tsc.2020.100627>
16. Encillo-Cabacang, M. C. (2017). The use of visual materials in developing critical thinking among freshman students at the University of Eastern Philippines. *AND Education*
17. Espinosa, A. A. (2014). MODIFIED USEFUL-LEARNING APPROACH: EFFECTS ON STUDENTS' CRITICAL THINKING SKILLS AND ATTITUDE TOWARDS CHEMISTRY. *International Journal of Learning, Teaching and Educational Research*, 1(1). <http://ijlter.org/index.php/ijlter/article/view/9/4>
18. Filiz Kalelioğlu, & Yasemin Gülbahar. (2014). The Effect of Instructional Techniques on Critical Thinking and Critical Thinking Dispositions in Online Discussion. *Journal of Educational Technology & Society*, 17(1), 248–258. <http://www.jstor.org/stable/jeductechsoci.17.1.248>
19. Go, J. (2016). *A critical realist epistemology and the Catholic notion of sensus fidei as key to critical thinking in confessional Catholic religious education in the Philippines* (Doctoral dissertation, UCL (University College London))
20. Guamanga, M. H., González, F. A., Saiz, C., & Rivas, S. F. (2023). Critical thinking: the ARDESOS-DIAPROVE program in dialogue with the inference to the best and only explanation. *J. Intelligence*, 11, 226. doi: 10.3390/jintelligence11120226

21. Hussin, Lestari, Indah, & Wardani, Naniek. (2022). The Effectiveness of the Problem-Based Learning Approach on Critical Thinking Ability in Thematic Learning. *Thinking Skills and Creativity Journal*, 5, 28-35. [10.23887/tscj.v5i2.54295](https://doi.org/10.23887/tscj.v5i2.54295)
22. Jabali, O., Hamamra, B., & Ayyoub, A. (2024). Critical thinking, assessment, and educational policy in Palestinian universities. <https://eric.ed.gov/?q=Counter+Balance+Approach+to+Mesaure+Critical+Thinking&id=EJ1433964>
23. Kartal, O. Y., Yazgan, A. D., Temelli, D., & Kartal, M. Y. (2024). The Impact of Epistemological Beliefs and School Climate on the Sustainability of Critical Thinking Dispositions in Middle School Students. *Sustainability*, 16(20), 8786. <https://doi.org/10.3390/su16208786>
24. Kim, K., Sharma, P., Land, S. M., & Furlong, K. P. (2013). Effects of active learning on enhancing student critical thinking in an undergraduate general science course. *Innovative Higher Education*, 38(3), 223-235.
25. Kusumoto, Y. (2018). Enhancing critical thinking through active learning. *Language Learning in Higher Education*, 8(1), 45-63.
26. Lansangan, R., & Orleans, A. (2024). Exploring Filipino Students' Critical Thinking Skills: Basis for Enhancement of Science Laboratory Class Delivery. *Science Education International*, 35(3), 281–290. <https://doi.org/10.33828/sei.v35.i3.11>
27. Lie, T. (2017). The effect of active learning strategies on communication apprehension in information systems students in Taiwan. *IEEE Transactions on Professional Communication*, 61(1), 101-109.
28. Liu, O., Mao, L., Frankel, L., & Xu, J. (2018). Assessing critical thinking in higher education: The HEIghten approach and preliminary validity evidence. In *Assessing Student Learning Outcomes in Higher Education* (pp. 23–40)
29. Lobaton, V., Salvador, R., & Oliveres, S. (2023). Cognitive Academic Language Proficiency and Critical Thinking Skills of Filipino Maritime Students. *Psychology and Education: A Multidisciplinary Journal*, 11(5), 1-9. <https://doi.org/10.5281/zenodo.8196286>
30. Lopez, M. Y. (2024). Mixed Methods Study on Beliefs and Practices Pertaining to Critical Thinking Among EFL Teachers in Philippine Public Schools. DOI: 10.61871/mj.v48n3-15
31. Lyu, H. (2024). An effectiveness evaluation of critical thinking exercises in Chinese college English textbooks. *Pacific International Journal*, 7(1), 10–17. <https://doi.org/10.55014/pij.v7i1.493>
32. Mallillin, L. L. D., & Caranguian, R. G. (2022). Purposive communication learning competency of general education subjects of students in a private higher education institution (HEI). *European Journal of Education Studies*, 9(11).
33. Marquez, L. (2017). Critical thinking in Philippine education: What we have and what we need. *Cations*, 15(2), 272-303
34. Martí-Parreño, J., Galbis-Córdova, A., & Currás-Pérez, R. (2021). Teachers' beliefs about Gamification and competencies development: A concept mapping approach. *Innovations in education and teaching international*, 58(1), 84-94.
35. Pagente, F. F., & Futralan, M. Z. (2024). Unveiling Minds: Investigating Critical Thinking Traits of Students in Private Catholic Schools in Siquijor Province. *Journal of Interdisciplinary Perspectives*, 2(7), 670-677. <https://doi.org/10.69569/jip.2024.0215>
36. Palloan, P., Azis, A., & Hakim, A. (2021, May). E-Learning Integrated Active Learning Strategies to Improve Critical Thinking Skills. In *Journal of Physics: Conference Series* (Vol. 1899, No. 1, p. 012162). IOP Publishing.
37. Rossouw, M., & Steenkamp, G. (2025). Developing the critical thinking skills of first-year accounting students with an active learning intervention. *The International Journal of Management Education*, 23(1), 101086.
38. Rudibyani, R. (2018). The effectiveness of discovery learning to improve the critical thinking skills of college students in the mastery of Arrhenius acid-base. *Science, Engineering, Education, and Development Studies (SEEDS): Conference Series*, 2(1). <https://doi.org/10.20961/seeds.v2i1.24310>
39. Senel, M., & Dös, B. (2024). Exploring the integration of Artful Thinking as an innovative approach to foster critical thinking skills. *International Journal of Modern Education Studies*, 8(1), 24–48
40. Sj Go, J. C. (2018). Critical thinking and Catholic religious education: an empirical research report from the Philippines. <https://doi.org/10.1080/19422539.2018.1492261>

41. Woldt, J. L., & Nenad, M. W. (2021). Reflective writing in dental education to improve critical thinking and learning: A systematic review. *Journal of Dental Education*, 85(6), 778-785.
42. Xu, E., Wang, W., & Wang, Q. (2023). The effectiveness of collaborative problem-solving in promoting students' critical thinking: A meta-analysis based on empirical literature. *Humanit Soc Sci Commun*, 10, 16. <https://doi.org/10.1057/s41599-023-01508-1>
43. Yeh, H. C., Yang, S. H., Fu, J. S., & Shih, Y. C. (2023). Developing college students' critical thinking through reflective writing. *Higher Education Research & Development*, 42(1), 244-259.
44. Younus, N. J., AbdullAmir, M. J., & Salih, H. A. (2021). Effect of One Minute Paper strategy in the Development of High-Rank Thinking for Students of the First Intermediate Class in the Sciences Subject. *Annals of the Romanian Society for Cell Biology*, 25(3), 271-283.
45. Zhang, Q., Tang, H., & Xu, X. (2022). Analyzing collegiate critical thinking course effectiveness: Thinking Skills and Creativity, 45, 101105. <https://doi.org/10.1016/j.tsc.2022.101105>