

Building Better Arguments: A CER-Based Approach to Persuasive Essays

Relyn A. Rojo-Corbita, Academia de San Isidro Labrador, Philippines

Alma C. Valendez, Cebu Technological University, Philippines

The Asian Conference on Education 2025

Official Conference Proceedings

Abstract

Developing writing skills among learners is crucial to becoming an effective communicator who can demonstrate depth of knowledge and exhibit critical thinking abilities. Determining ways to improve such skills is essential because effective written communication is one of the foundational skills for academic success and active participation in a functionally literate society. Employing the quasi-experimental design method, the study utilized the Claim-Evidence-Reasoning (CER) Framework to enhance the writing skills of the 10th Graders in Cebu City, Philippines. Two different discussion materials assessing the same writing competencies were used to determine the learners' competencies before and after the intervention scheme. Similarly, the data gathered was analyzed using the paired sample t-test to determine the effectiveness of the CER framework. The findings revealed a significant improvement in the learners' writing competencies in terms of formulating arguments, creating and determining main points, finding supporting evidence for the points made, and creating conclusions using the CER Framework as the intervention. Moreover, the process of the CER framework has helped the learners organize their thoughts and ideas, resulting in coherent and logical persuasive essays. Finally, the CER framework writing process can easily be integrated into daily writing activities across learning areas for deeper understanding, enhanced communication skills, and the development of critical thinking among learners across levels.

Keywords: CER framework, persuasive writing, writing pedagogy

iafor

The International Academic Forum

www.iafor.org

Introduction

Today's educational setting characterized by rapid change, instant information access, and constant digital interaction creates unique challenges and opportunities that profoundly impact students learning. The demand for learners to equip themselves with advanced language skills is more crucial than ever for them to succeed in their academics and the life beyond the classrooms. Among these skills are the ability to discern credible and reliable information and sources, and articulate ideas with clarity and conviction.

Currently, the basic education landscape in the Philippines is faced with a significant learning gap where a considerable number of the Filipino learners can only perform basic reading tasks but struggle with deeper understanding and critical thinking necessary for effective daily life and further education. The World Bank report in 2022 showed that 91% of the Filipino children aged 10 cannot read and understand a simple text. Similarly, the 2024 Functional Literacy, Education and Mass Media Survey (FLEMMS) revealed that while a large majority of Filipinos can read and write, around three out of ten (approximately 18.9 million Filipinos aged 10–64) struggle with comprehension. If students are to thrive in a fast-paced and high-technology world, they need to equip themselves with the essential critical skills that empower them to navigate the complexities of the academic life and real-life challenges beyond the learning institution.

Critical Thinking, Argumentation and Structured-Based Approaches

Critical thinking, as the foundational pillar of effective learning, and learning are mutually reinforcing processes. Critical thinking enhances the learning process; learning provides the raw material for critical thought. True learning involves active engagement with information, and that active engagement is what critical thinking facilitates. While critical thinking development poses a challenge to many, literature shows that structured frameworks can help students enhance their cognitive processing abilities (Osborne & Patterson, 2011) that ultimately enable learners to reason logically, think critically, and communicate effectively. Enhancing learners' argumentation skills is another strategy that enhances one's critical thinking abilities (Shanahan, 2004). Argumentation enables learners to evaluate conflicting claims and assess the level of evidence and investigation presented. It helps learners clarify their thoughts and articulate ideas clearly and accurately (The University of Maryland Global Campus, 2022).

Studies have shown that structured learning activities that require students to formulate claim supported with logical and reasonable evidence improve students' comprehension and critical thinking skills and bolster their ability to identify, analyze and evaluate evidence (Dela Cruz, 2014; Llaneta, 2015). Moreover, various frameworks of structured argumentation help foster active engagement and promote better understanding of complex texts among students (Sampson & Clark, 2009). Given the appropriate scaffolding, these structured learning activities help students identify claims and supporting details/evidence that enabled them to develop logical reasoning in writing (Castañeda, 2017). Similarly, structured approach to argumentation improves students' written expression and reasoning skills (Flores & Reyes, 2020; Villanueva & Espina, 2019), makes their writing compositions clearer and more coherent, and allow students to construct context and information-based simple arguments (Villanueva & Espina, 2019; Zohar & Nemet, 2002).

Finally, other organized/structure frameworks strengthen understanding because they require students to reason and defend their comprehension (Duke & Pearson, 2002). The reader-response journal writing, for example, that require students to make a claim, cite evidence, and give explanations does not only scaffold students' comprehension but also reinforces the students' reasoning skills in argumentation (Santos & Relampagos, 2021). Hence, this paper advances that the students' persuasive essay writing skills can be enhanced using the structured process of Claim-Evidence-Reasoning (CER) framework.

The CER framework is widely used in enhancing students' argumentation skills and promoting critical thinking and scientific literacy. It teaches students to construct an argument that is consisting of a claim, an evidence and a reason. The claim refers to the statement being made, the evidence is the data or information used to support the claim, and the reason connects the evidence and the claim (McNeill & Krajcik, 2012). Studies showed that structured argumentative practices helped students develop higher-order thinking skills, comprehension, and self-regulation across disciplines.

Methodology

The study utilized the quasi-experimental research method, particularly, the one-group pretest-posttest design to determine the efficacy of the Claim-Evidence-Reasoning Framework in improving the persuasive essay writing skills of the Grade 10 students in Cebu City, Philippines. The participants were purposively selected as they performed the lowest in reading and writing in the standardized assessment conducted at the beginning of the school year.

Following the CER Framework Flow (Rapatan, 2024), students wrote persuasive essays based on a given literary text by formulating arguments (Claim), supported with pieces of evidence (Evidence), and building their argument by logical reasoning (Reason) until a conclusion is reached. The outputs were rated by the three inter-raters using an analytic rubric reflecting the persuasive essay writing target competencies of the study. The data gathered was analyzed using the paired sample t-tests and the Wilcoxon Signed Rank Test.

Results and Discussion

Table 1

Pre-test Performance of the Respondents in Writing Persuasive Essays

Competency	Frequency (%)				Mean (SD)
	ES	MS	AS	NYMS	
Formulating of arguments	0 (0.0)	5 (16.7)	22 (73.3)	3 (10.0)	2.21 (0.32)
Creating and determining of main points	0 (0.0)	4 (13.3)	12 (40.0)	14 (46.7)	1.90 (0.46)
Finding supporting evidence for the points made	0 (0.0)	0 (0.0)	15 (50.0)	15 (50.0)	1.77 (0.48)
Creating conclusion	0 (0.0)	2 (6.7)	7 (23.2)	21 (70.0)	1.48 (0.49)

Legend: 3.25 to 4.00 - Exceeding standard (ES)

2.50 to 3.24 - Meeting standard (MS)

1.75 to 2.49 - Approaching standard (AS)

1.00 to 1.74 - Not yet meeting standard (NYMS)

The pretest results show that the participants competency level in persuasive essay writing is *approaching standard* in formulating arguments (2.21), creating and determining the main points (1.90), and finding supporting evidence for the points made (1.77) while *not yet meeting standard* in creating conclusion (1.48). The same results show that the participants may have reached the *approaching standard* for creating and determining the main points and finding supporting evidence for the points, however, their scores were close to the lower limit which implies the need for an intervention to enhance the students' performance in the aforementioned competencies.

Similar findings have been revealed by several studies that the skill of organizing ideas in writing is a challenge even to college sophomores (Batalla & Vera, 2019). Urbano et.al. (2021) similarly revealed that high school students lacked mastery in the conventions and process of writing academic texts such as research reports, position paper, project proposal, and correspondence letters. Finally, Pablo and Lasaten (2018) forwarded that students acknowledged the importance of logical organization of ideas and details in writing; however, students disregarded it in their writing as they found the skill difficult to achieve.

The present findings underscore the need to explore innovative methods and approaches to writing instruction to assist students translate their knowledge of writing conventions and processes into practical applications. It also implies the need to explore writing activities that provide students scaffolded practice and explicit strategies for idea organization.

Table 2

Post-test Performance of the Respondents in Writing Persuasive Essays

Competency	Frequency (%)				Mean (SD)
	ES	MS	AS	NYMS	
Formulating of arguments	2 (6.7)	18 (60.0)	10 (33.3)	0 (0.0)	2.71 (0.37)
Creating and determining of main points	13 (43.3)	11 (36.7)	6 (20.0)	0 (0.0)	2.96 (0.42)
Finding supporting evidence for the points made	18 (60.0)	8 (26.7)	4 (13.3)	0 (0.0)	3.18 (0.51)
Creating conclusion	10 (33.3)	14 (46.7)	6 (20.0)	0 (0.0)	2.96 (0.50)

Legend: 3.25 to 4.00 - Exceeding standard (ES)

2.50 to 3.24 - Meeting standard (MS)

1.75 to 2.49 - Approaching standard (AS)

1.00 to 1.74 - Not yet meeting standard (NYMS)

The posttest results show that the participants competency level in persuasive essay writing is *meeting standard* in formulating arguments (2.71), creating and determining the main points (2.96), finding supporting evidence for the points made (3.18) and creating conclusion (2.96). This shows that the CER framework has helped the participants improve their persuasive essay writing skills which led to the increase in scores in the target competencies.

Performance in the posttest has visibly increased across all competencies. This is emphasized by three most noticeable indications: increased mean scores, occurrence of participants' *meeting standard* (ES) and having no participants who are *approaching standard* (AS) and *not yet meeting standards* (NYMS).

The Claim-Evidence-Reasoning (CER) Framework was proven effective addressing the difficulties faced by students in writing persuasive essays. It provided students with a structured approach to organizing their ideas stating clearly their position or claim, actively supporting it with relevant textual evidence, and logically discussing how the pieces of evidence they found supported the claim/argument. Students engaged in scaffolded writing activities during the intervention period, which allowed them to slowly focus on every component of the persuasive essay and complete their writing tasks following the structure of the CER Framework. Activity sheets that detailed the CER argumentation structure guided the students in writing their individual persuasive essays complete with claim/argument, supporting evidence and reason until a conclusion is drawn. One important aspect of the CER framework is the teacher's feedback on their written output. The structured process of the intervention framework serves as the basis for the teacher's feedback and reinforces the learning process. Having internalized the CER process in writing, students were able to produce persuasive essays that espouses their stance or position on the topic of discussion.

Table 3

*Test of Significance of the Difference Between the Pre-test and Pos-test Performance of the Respondents *for the 3 competencies*

Competency*	Mean Scores (SD)		Mean Difference (SD)	t-statistic	p-value
	Pretest	Posttest			
Formulating of arguments	2.21	2.71	0.50 (0.478)	5.734	< 0.001
Creating and determining of main points	1.90	2.96	1.06 (0.626)	9.240	< 0.001
Finding supporting evidence for the points made	1.77	3.18	1.41 (0.544)	-	-
Creating conclusion	1.48	2.96	1.48 (0.742)	10.912	< 0.001

Note. Comparison for this competency is found in the next table presentation.

The results of the paired samples *t*-test show that the participants' performance increased by an average of 0.50 points for formulating of arguments, by 1.06 points for creating and determining of main points, 1.41 points for finding supporting evidence for the points made and by 1.48 points for creating conclusions. Hence, the greatest improvement can be observed with creating conclusions while the least improvement is with formulating of arguments.

The *t*-statistic calculated only for the three competencies found without evidence of non-normality. In all such competencies, a *p*-value smaller than 0.001 was found compelling to reject the null hypothesis and conclude that there is a significant difference in the pretest and posttest scores of the participants in terms of formulating arguments, creating and determining of main points, and creating conclusions.

For the competency of finding supporting evidence for the points made, Wilcoxon Signed-Rank test was used. Results are as follows:

Table 3.1

Test of Significance of the Difference Between the Pre-test and Pos-test Performance of the Respondents in Terms of Finding Supporting Evidence for the Points Made

	n	Mean rank	Sum of Ranks
Negative Ranks	0	0.00	0.00
Positive Ranks	30	15.50	465.00
Ties	0		
<hr/>			
Z		-4.794	
p-value (Asymptotic Significance)		< 0.001	

Zero (0) negative ranks and 30 positive ranks were found. This means that all 30 participants increased their scores in this competency from pretest to posttest. A z-statistic of -4.794 was calculated which corresponds to a *p*-value less than 0.001. Thus, the null hypothesis is also rejected and it is concluded that there is a statistically significant difference in the pretest and posttest scores in these competencies.

Conclusion

The use of the CER Framework in writing is proven to enhance writing skills and is highly recommended to be utilized in developing the persuasive essay writing skills of the students. CER Framework-based writing activity sheet can be tailored to fit the writing activity in class in all levels. Improved writing skills is one of the core 21st century skills that each learner have to develop as part of a clearer and more impactful communication thereby aiding them with critical thinking, creativity, communication and collaboration.

Acknowledgements

The authors would like to express their gratitude to Academia de San Isidro Labrador (ASIL), the Archdiocesan Catholic Schools of Cebu System (ACSCS) for the opportunity and support in the completion of this study as well as the teacher inter-raters, learners and parents of Grade 10 St. Gregory of Nyssa Batch 2024 for honestly and sincerely participating and providing experiences and insights which served as the foundation for the implementation of this study.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

The author declares that no AI or AI-assisted technologies have been used to generate, refine, or correct the content in the manuscript. The ideas, design, procedures, findings, analyses, and discussion are originally written and derived from careful and systematic conduct of the research

References

- Batalla, A. V., & Vera, P. V. (2019). Difficulties in English writing skills of sophomore college students. *Asian EFL Journal Research Articles*, 2(50), 232.
- Castañeda, R. P. (2017). Effects of Scaffolded Writing Activities on the Argumentative Writing Skills of Grade 10 Students. *Asia Pacific Journal of Multidisciplinary Research*, 5(3), 64–72.
- Dela Cruz, R. S. (2014). Improving Students' Argumentation Skills in Science Through Argument-Based Inquiry. *Philippine Journal of Science and Education*, 8(2), 34–45.
- Duke, N. K., & Pearson, P. D. (2002). Effective practices for developing reading comprehension. In A. Farstrup & S. Samuels (Eds.), *What Research Has to Say About Reading Instruction* (pp. 205–242). International Reading Association.
- Flores, M. C., & Reyes, A. L. (2020). Improving Writing Skills of Junior High School Students through Argumentation-Based Activities. *Philippine Journal of Linguistics*, 51(1), 75–89.
- Llaneta, C. A. (2015). Developing Reading Comprehension and Critical Thinking Skills Through Questioning Strategies. *The Normal Lights*, 9(1), 132–145.
- McNeill, K. L., & Krajcik, J. S. (2012). *Supporting Grade 5–8 Students in Constructing Explanations in Science: The Claim, Evidence, and Reasoning Framework for Talk and Writing*. Pearson Education.
- Osborne, J., & Patterson, A. (2011). Scientific argument and explanation: A necessary distinction? *Science Education*, 95(4), 627–638.
- Pablo, J. C. I., & Lasaten, R. C. S. (2018). Writing difficulties and quality of academic essays of senior high school students. *Asia Pacific Journal of Multidisciplinary Research*, 6(4), 46–57.
- Rapatan, M. Q. (2024, July 10). CER Framework Learning Resources. Manila, Manila, Philippines.
- Sampson, V., & Clark, D. B. (2009). The impact of collaboration on the outcomes of scientific argumentation. *Science Education*, 93(3), 448–484.
- Santos, G. M., & Relampagos, F. A. (2021). “Using Reading-Response Journals to Improve Argumentation Skills in Grade 10 Students.” *Philippine Journal of Education*, 96(3), 66–80.
- Shanahan, T. (2004). “Improving Reading Achievement for Adolescent Learners.” *Educational Leadership*, 61(6), 40–44.
- University of Maryland Global Campus. (n.d.). Writing Arguments. <https://www.umgc.edu/current-students/learning-resources/writing-center/online-guide-to-writing/tutorial/chapter8/ch8-04>

- Urbano, C. M., Gumangan, M. A., Gustilo, L., & Capacete, M. P. A. (2021). Reading and writing needs of senior high school students: The case of Filipino students in the Philippines. *Modern Journal of Studies in English Language Teaching and Literature*, 3(1), 140–166.
- Villanueva, D. M., & Espina, J. M. (2019). Developing Argumentative Writing Skills among High School Students through Evidence-Based Reasoning. *The Normal Lights*, 13(1), 65–80.
- Zohar, A., & Nemet, F. (2002). Fostering students' knowledge and argumentation skills through dilemmas in human genetics. *Journal of Research in Science Teaching*, 39(1), 35–62.

Contact emails: relynarceorojo@gmail.com
alma.valendez@ctu.edu.ph