

The Effect of Critical Thinking Instruction on EFL Learners' Persuasive Speaking and Writing Within a Blended Learning Environment

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DOI: [10.71864/LCT-2025-1199107](https://doi.org/10.71864/LCT-2025-1199107)

Received: 03/09/2024

Revised: 24/01/2025

Accepted: 05/02/2025

Abstract

This study investigates the effectiveness of explicit critical thinking instruction on EFL learners' persuasive speaking and writing abilities within a blended learning environment. A quasi-experimental design was used with 50 intermediate EFL learners divided into experimental and control groups. The experimental group received explicit critical thinking instruction within a blended learning framework, while the control group received traditional instruction. Data were collected using the Oxford Placement Test, persuasive writing and speaking tests, and the Honey (2000) Critical Thinking Questionnaire. Independent samples t-tests and MANOVA were used to analyze the data. Results indicate a significant positive effect of explicit critical thinking instruction on both persuasive writing and speaking abilities. Specifically, critical thinking instruction explained 51% of the variance in persuasive writing and 31% of the variance in persuasive speaking. These findings, supported by independent samples t-tests and MANOVA results, suggest that integrating critical thinking instruction into EFL curricula can enhance learners' persuasive communication skills within blended learning environments. The results highlight the pedagogical value of embedding critical thinking in language instruction, offering practical insights for curriculum design and classroom practice.

Keywords: Blended learning, Critical thinking, Persuasive speaking, Persuasive writing

1. Introduction

Effective communication, encompassing both speaking and writing, is crucial for academic and professional success (Baghoulizadeh &

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Nosratinia, 2023; Hamp-Lyons & Heasley, 2006; Mitchell et al., 2019; Pourdana, 2022). Persuasive communication, in particular, requires the ability to articulate arguments, consider different perspectives, and effectively convey one's viewpoint. However, persuasive speaking and writing can be challenging for English as a Foreign Language (EFL) learners. Studies have shown that EFL students often struggle with the complexities of language, such as grammar and vocabulary, which can hinder their ability to express themselves fluently and accurately (Harmer & Khan, 1991; Lightbown & Spada, 2021; Nunan, 1999).

Furthermore, persuasive communication requires higher-order thinking skills, such as critical analysis, logical reasoning, and the ability to construct compelling arguments. These skills are essential for effectively engaging an audience and advocating for a particular viewpoint. However, traditional language teaching methods may not adequately develop these critical thinking skills in EFL learners (Nosratinia & Zaker, 2014; Zaker, 2024).

The development of persuasive writing and speaking skills is particularly important in today's globalized world (Atkins, 2011; Faize et al., 2024). As technology continues to advance, individuals are increasingly required to communicate effectively in various contexts, both in person and online. The ability to construct persuasive arguments and present them confidently is highly valued in academic, professional, and social settings.

Despite the importance of persuasive communication, research has shown that EFL learners often face challenges in developing these skills. For example, studies have found that students may lack the necessary knowledge and skills to effectively structure and organize their arguments (Shukri, 2014). Additionally, they may struggle with generating ideas, providing evidence, and considering counterarguments (Philippakos et al., 2015).

To address these challenges, language educators have sought to incorporate critical thinking instruction into their classrooms. Critical thinking encompasses the capacity to scrutinize information, assess evidence, and form well-founded conclusions (Nosratinia & Zaker, 2014). It is considered a fundamental skill for effective communication and problem-solving (Paul & Elder, 2006). However, incorporating critical thinking into language teaching is not without its challenges.

One of the key challenges is the need to find effective methods for teaching critical thinking skills to EFL learners. Although a growing body of research exists on critical thinking instruction, much of it focuses on

native language learners or general academic settings. There is a need for more research on the specific challenges and opportunities for teaching critical thinking to EFL learners (Ghorbani et al., 2024; Masumizadeh & Ghobadi, 2022)

Additionally, the effectiveness of critical thinking instruction may be influenced by the learning environment. Blended learning, which merges in-person instruction with online education, has become increasingly popular in recent years. However, the impact of blended learning on enhancing critical thinking abilities in EFL learners is not yet fully understood.

This study is novel in its dual focus on critical thinking and persuasive communication within a blended learning environment specifically designed for EFL learners. While previous research has examined these components separately, few studies have explored the integrative effect of explicit critical thinking instruction on both persuasive speaking and writing skills. By addressing this gap, the study contributes to a more nuanced understanding of how cognitive skills can be systematically developed alongside language proficiency, offering practical insights for instructional design in modern EFL contexts.

To this end, the research investigates the impact of explicit critical thinking instruction on EFL learners' persuasive speaking and writing abilities within a blended learning framework. By embedding critical thinking into language instruction, the study aims to equip learners with the skills necessary to become more effective and persuasive communicators.

The findings are expected to yield significant implications for EFL pedagogy, suggesting effective strategies for fostering persuasive communication skills in blended learning environments. To guide this inquiry, the following research questions were formulated:

RQ1: Does explicit instruction of critical thinking skills have a significant effect on EFL learners' persuasive speaking ability in the blended learning environment?

RQ2: Does explicit instruction of critical thinking skills have a significant effect on EFL learners' persuasive writing ability in the blended learning environment?

RQ3: Is there any significant difference in the effectiveness of critical thinking instruction on EFL learners' persuasive writing and speaking ability in the blended learning environment?

2. Methodology

2.1. Participants

This study involved 50 intermediate EFL learners (aged 16–24, $M_{age} = 22$) enrolled at Gooyesh Novin Language School in Tehran. Participants were chosen using convenience sampling, meaning individuals who were readily accessible and willing to join the study. They were further screened using the Oxford Placement Test to ensure an intermediate level (scores 51–59) and the Honey (2000) critical thinking questionnaire to achieve homogeneity across groups.

Fifty participants with similar critical thinking scores were chosen for the study. All participants were native Persian speakers and had received English instruction in Persian-medium schools. They were randomly assigned to two groups: an experimental group ($n = 25$) that received explicit instruction of critical thinking skills within a blended learning environment, and a control group ($n = 25$) that received traditional instruction without explicit critical thinking instruction. The researchers served as raters for all speaking and writing tasks.

2.2. Instruments

2.2.1. Oxford Placement Test

To ensure that participants had a similar degree of English proficiency, they were assessed using the Oxford Placement Test (OPT; Allen, 1992). The OPT contains two sections and a total of 60 multiple-choice questions that evaluate reading, vocabulary, and grammar skills. The first section consists of 40 questions. These questions cover prepositions, cloze passages where participants select the best word from three or four options, and more general grammar items. The second section also uses a multiple-choice format but focuses on reading comprehension through cloze passages and direct vocabulary tests. Participants were given 60 minutes to complete the entire OPT. Their scores on this test helped determine their English language proficiency level according to the OPT's rating criteria.

2.2.2. Persuasive Essay Writing Test

To assess participants' initial writing abilities and measure the effectiveness of the intervention, persuasive essay writing tasks were administered as both a pre-test and a post-test. In the pre-test, learners were given 20 minutes to write an essay on whether homework should be required, optional, or banned. For the post-test, they had 30 minutes to write a persuasive essay on the topic of children and competitive sports. Both prompts were selected for their relevance and accessibility, ensuring

they were engaging for participants without requiring any specialized knowledge.

Participants' essays were assessed using the writing rubric developed by Jacobs et al. (1981), which adopts an analytical scoring approach. The rubric evaluates five key components: content, organization, vocabulary, language use, and mechanics. The validity of the persuasive essay writing test is supported by its alignment with core academic skills and real-world writing tasks that EFL learners encounter. The use of the Jacobs et al. (1981) rubric, which has been widely validated and utilized in language assessment research, further reinforces the reliability and validity of the evaluation process. Additionally, the chosen topics were designed to be culturally relevant and age-appropriate, enhancing the authenticity and applicability of the test results to real-life communication scenarios.

2.2.3. Persuasive Speaking Test

To assess participants' speaking skills, a speaking test was administered as both a pre-test and a post-test. Two speaking prompts were selected from the "Speak Out" book, chosen for their suitability for intermediate-level learners. To ensure the validity of these prompts for the study's objectives, they were reviewed and approved by three university professors specializing in Teaching English as a Foreign Language (TEFL).

Participant responses were evaluated using the speaking scoring rubric developed by Hughes (2020). This rubric assesses speaking performance on a scale of 1 to 5 across four key areas: vocabulary, grammar, fluency, and accent. The total possible score range for each speaking task is 0-20.

2.2.4. Critical Thinking Questionnaire

Participants' critical thinking skills were assessed using the 30-item Honey (2000) Critical Thinking Questionnaire. This questionnaire employs a 5-point Likert scale (from "Never" to "Always") to measure participants' self-reported frequency of engaging in various critical thinking activities. These activities encompass three core skills: comprehension, analysis, and evaluation. Specifically, the questionnaire assesses participants' self-reported use of skills such as note-taking, summarizing, questioning, paraphrasing, researching, inferring, discussing, classifying, outlining, comparing and contrasting, distinguishing, synthesizing, and utilizing inductive and deductive reasoning.

Participant scores were calculated by summing their responses across all 30 items. The questionnaire's reliability in this study was established

through Cronbach's Alpha, yielding a coefficient of 0.81, indicating strong internal consistency.

2.3. Procedure

The study commenced with the administration of the OPT to all participants, ensuring homogeneity in English language proficiency. Subsequently, the Honey (2000) Critical Thinking Questionnaire was administered to assess participants' baseline critical thinking skills.

Participants were then randomly assigned to two groups: an experimental group ($n = 25$) and a control group ($n = 25$). Pre-tests, including writing and speaking assessments, were conducted to evaluate participants' baseline persuasive writing and speaking abilities.

The experimental group underwent a 10-session treatment program (45 minutes per session) focusing on the explicit instruction of critical thinking skills. The control group received traditional language instruction without any explicit critical thinking training. Both groups participated in a blended learning environment, with the experimental group receiving online instruction on critical thinking skills.

The critical thinking instruction for the experimental group followed an eight-step approach. This approach involved:

1. Creating a set: Establishing a framework of common logical and critical thinking principles (Facione, 2011)
2. Introducing typical and approachable difficulties: Presenting real-world scenarios and problems that require critical thinking (Brookfield, 2007)
3. Making inferences: Guiding participants to draw conclusions and make deductions based on presented information (Ennis, 1989)
4. Asking participants: Encouraging participants to formulate questions and challenge assumptions (Lipman, 1991)
5. Challenging: Prompting participants to critically examine their own and others' arguments (Toulmin, 2003)
6. Educating participants: Providing instruction and feedback on critical thinking concepts and skills (Halpern, 2014)
7. Writing down the description: Requiring participants to articulate their thought processes and reasoning in writing (Flower & Hayes, 1981)
8. Considering opposing viewpoints: Encouraging participants to explore alternative perspectives and counterarguments (Walton, 1998)

Following the treatment phase, post-tests for writing and speaking were administered to both groups to assess the impact of the intervention.

Finally, data from all assessments and questionnaires were collected and analyzed. This study was conducted in accordance with all relevant ethical guidelines. All ethical considerations were adhered to throughout the study, including informed consent, voluntary participation, the right to withdraw, and maintaining participant confidentiality (Zaker, 2024b).

3. Results

To investigate the efficacy of critical thinking instruction on persuasive communication skills, this study employed a quantitative, pretest-posttest quasi-experimental design. This research design allowed for an examination of the causal relationship between the independent variable – explicit instruction in critical thinking skills – and the dependent variables: participants’ persuasive writing and speaking abilities. The subsequent sections will provide a detailed exposition of the statistical analyses conducted to address the research questions posed in this study.

3.1. Preliminary Analyses

Prior to conducting the main analyses, inter-rater reliability was assessed for both writing and speaking tasks. For the writing tasks, high inter-rater reliability was observed on both the pretest ($r(50) = .82, p < .000$) and posttest ($r(50) = .88, p < .001$). Similarly, for the speaking tasks, strong inter-rater reliability was found on the pretest ($r(50) = .92, p < .001$) and posttest ($r(50) = .85, p < .001$).

To ensure the normality assumption for parametric analyses, the Kolmogorov-Smirnov test was conducted. Results indicated that the distribution of scores for both the pretest ($W(50) = 0.423, p = .108$) and posttest ($W(50) = .223, p = .103$) of persuasive writing, as well as the pretest ($W(50) = 0.212, p = .123$) and posttest ($W(60) = 0.287, p = .178$) of persuasive speaking, did not significantly deviate from normality.

To ensure equivalence between the experimental and control groups at the outset, independent samples t-tests were conducted to compare their scores on the pretest measures. Results revealed no significant differences between the groups in terms of initial persuasive writing ability, $t(48) = -.177, p = .218$, with the control group ($M = 10.47, SD = 1.92$) and the experimental group ($M = 10.79, SD = 1.07$) demonstrating comparable performance. Similarly, no significant differences were found between groups on the pretest measure of persuasive speaking, $t(48) = -.732, p = .132$, with the experimental group ($M = 9.51, SD = 1.83$) and the control group ($M = 9.11, SD = .89$) exhibiting comparable initial levels of speaking proficiency.

3.2. Addressing the Research Questions

Descriptive statistics for participants' scores on the post-test of persuasive writing and speaking are presented in Table 1.

Table 1. Descriptive Statistics on the Participants' Scores on the Post-test of Persuasive Writing and Speaking

	Id	Mean	Std. Deviation	N
Writing	Control	12.38	1.67	25
	Experimental	17.25	1.99	25
	Total	14.81	2.11	50
Speaking	Control	11.71	1.77	25
	Experimental	15.33	2.02	25
	Total	13.52	2.59	50

Prior to conducting the MANOVA, Box's Test of Equality of Covariance was performed to assess the homogeneity of variance-covariance matrices. With a significance value (Sig.) exceeding .001, the assumption of homogeneity was not violated. Additionally, Levene's Test of Equality of Error was conducted to examine the equality of variances for each dependent variable. None of Levene's tests yielded significant results, indicating that the assumption of homogeneity of variances was met. Subsequently, a multivariate test of significance was performed to determine whether there were statistically significant differences among the groups on a linear combination of the dependent variables. The results of this multivariate test are summarized in Table 2.

Table 2. Multivariate Test

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.764	2121.4b	2.00	47.00	.000	.98
	Wilks' Lambda	.023	2121.4b	2.00	47.00	.000	.98
	Hotelling's Trace	78.43	2121.4b	2.00	47.00	.000	.98
	Roy's Largest Root	78.43	2121.4b	2.00	47.00	.000	.98
Id	Pillai's Trace	.983	49.34b	2.00	47.00	.000	.543
	Wilks' Lambda	.389	49.34b	2.00	47.00	.000	.543
	Hotelling's Trace	3.21	49.34b	2.00	47.00	.000	.543
	Roy's Largest Root	3.32	49.34b	2.00	47.00	.000	.543

The MANOVA table indicates a significant difference between the control and experimental groups ($p < .05$). A Wilks' Lambda value of .389 further supports this conclusion. These findings suggest a notable treatment effect on the participants' writing and speaking abilities. To

more precisely locate and quantify this effect, a subsequent between-subjects effects test was conducted, with results outlined in Table 3.

Table 3. *Tests of Between-Subjects Effects*

	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected model	Writing	453.81 ^a	1	577.81	187.41	.00	.66
	Speaking	543.81 ^b	1	519.81	88.66	.00	.61
Intercept	Writing	22310.81	1	22310.8	3887.05	.00	.98
	Speaking	32423.35	1	20869.3	3265.26	.00	.98
Id	Writing	342.81	1	784.81	126.43	.00	.53
	Speaking	558.81	1	620.81	82.23	.00	.31
Error	Writing	401.36	48	6.92			
	Speaking	392.83	48	6.77			
Total	Writing	22887.00	50				
	Speaking	32432.00	50				
Corrected total	Writing	1186.18	49				
	Speaking	1265.65	49				

As indicated in Table 3, explicit instruction in critical thinking exerted a substantial influence on both persuasive writing and speaking. The observed effect sizes for persuasive writing ($F(1, 48) = 126.43, p = 0.00$) and speaking ($F(1, 48) = 82.23, p = 0.00$) were both highly significant. These findings underscore the importance of the independent variable—explicit critical thinking instruction—as a key determinant of performance in both domains. The magnitude of these effects is further emphasized by the Partial Eta Squared values: 0.53 for persuasive writing and 0.31 for persuasive speaking. This suggests that explicit critical thinking instruction can account for a considerable proportion of the variance in students' persuasive writing and speaking abilities.

4. Discussion

The primary objective of this study was to ascertain the efficacy of explicit critical thinking instruction in enhancing the persuasive writing and speaking abilities of EFL learners. The findings unequivocally demonstrated a significant positive impact of such instruction on both skills. This outcome aligns with the established understanding of the intricate relationship between critical thinking and effective communication (Nosratinia & Zaker, 2015). Writing, in particular, is widely considered a sophisticated form of critical thinking, demanding a complex interplay of cognitive processes such as analysis, synthesis, evaluation, and problem-solving (Flower & Hayes, 1981). Consequently,

fostering critical thinking skills is paramount for developing proficient writing abilities.

This study's findings corroborate those of previous research. For instance, Fahim and Mizraii (2014) reported significant improvements in EFL learners' argumentative writing following critical thinking instruction. Similarly, Barnawi (2011) emphasized the crucial role of critical thinking in the development of competent academic writing skills among EFL learners. Stapleton (2002) further underscored the indispensable nature of critical thinking proficiency for successful academic writing at the higher education level. Furthermore, Memari (2021) observed a significant positive impact of critical thinking instruction on EFL learners' ability to produce cause-and-effect essays.

The observed enhancement in persuasive speaking skills following critical thinking instruction further strengthens the connection between these cognitive and linguistic domains. Vygotsky's (1962) seminal work highlighted the intricate relationship between thought and language, emphasizing their reciprocal influence. This finding resonates with the research of Sanavi and Tarighat (2014), who demonstrated the positive impact of critical thinking instruction on EFL learners' speaking abilities.

While both persuasive writing and speaking skills were significantly enhanced, the analysis revealed a more pronounced effect of critical thinking instruction on writing performance. Specifically, critical thinking instruction accounted for 53% of the variance in persuasive writing compared to 31% in persuasive speaking. This differential impact may be attributable to the inherent nature of these two productive skills. Writing tasks typically afford learners more time for reflection and elaboration, allowing for deeper engagement with critical thinking processes such as analysis, evaluation, and synthesis. In contrast, the immediacy of spoken language may limit the extent to which learners can fully utilize critical thinking skills during the production process.

5. Conclusion

This study investigated the impact of explicit critical thinking instruction on the persuasive writing and speaking abilities of Iranian EFL learners. The findings unequivocally demonstrated a significant positive correlation between critical thinking skills and productive language skills (Zaker, 2024). These results underscore the critical role of critical thinking in language learning, aligning with existing research that emphasizes the intricate relationship between cognitive processes and effective communication (Flower & Hayes, 1981).

The study's findings have significant pedagogical implications. Firstly, EFL teachers should actively integrate critical thinking exercises into their instructional practices. This can involve incorporating activities that encourage analysis, evaluation, synthesis, and problem-solving into various aspects of language learning, from reading and listening comprehension to writing and speaking tasks.

Secondly, teachers need to shift their perspective on writing instruction, moving beyond a focus on grammatical accuracy and mechanical correctness. Emphasis should be placed on fostering deeper understanding and critical engagement with texts and ideas. This can be achieved through the use of authentic materials, inquiry-based learning activities, and assignments that require students to analyze, evaluate, and synthesize information.

Furthermore, creating a supportive and inclusive classroom environment is crucial for the successful implementation of critical thinking instruction. Teachers should encourage open dialogue, active listening, and respectful exchange of ideas among students. This will foster a sense of intellectual curiosity and encourage students to engage in deeper levels of critical thinking.

The findings of this study also have important implications for curriculum development. Incorporating explicit critical thinking instruction into EFL curricula at all levels is essential to equip learners with the necessary cognitive tools for effective communication in English. This can involve integrating critical thinking skills into existing language learning frameworks or developing dedicated modules on critical thinking for EFL learners.

This research opens avenues for future investigation. Further studies can explore the impact of critical thinking instruction on other aspects of language learning, such as reading comprehension and listening skills. Additionally, research with diverse populations, including learners of different ages, language backgrounds, and learning contexts, is necessary to broaden the generalizability of these findings.

Funding: This research received no external funding from any agency.

Conflicts of Interest: The authors declare no conflict of interest.

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