



The Impact of Explicit Instruction of Critical Thinking on EFL Learners' Critical Thinking Skills

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Abstract: Many studies have advocated the importance of teaching critical thinking (CT) skills, and have also provided some suggestions for its effective pedagogy. However, there is a dearth of research examining the efficacy of such instruction. This quantitative (quasi-experimental) and qualitative study aimed to investigate the impact of explicit instruction of critical thinking (CT) on university students' critical thinking skills measured through the Watson-Glaser Critical Thinking Appraisal (WGCTA) used as both pre- and post-test. The participants comprised four groups of 15-16 students each. The groups received different CT treatments: Critical Linguistics (CL) and Critical Discourse Analysis (CDA) (group 1), 11 Questions (group 2), CL and CDA followed by Peer Evaluation (group 3), and a control group (group 4) that only read about CT without practicing it. After receiving instruction on CT, the three treatment groups (1-3) critically analyzed 33 texts over 11 sessions. The results of the study indicated that Group 3 (CT & CDA followed by PE) had the highest improvement in their WGCTA scores from pre-to post-test, followed by Groups 2 and 1, while the control group showed no significant gain. The findings imply that reflecting critically on language learning materials can reveal hidden cultural and ideological elements within the texts. This can significantly enhance learners' advanced thinking skills, as well as support them in resisting cultural imperialism.

Keywords: Critical Thinking, Questions, Critical Discourse Analysis, Peer Review, Critical Linguistics.

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Introduction

According to Paul (1992), CT is a cognitive process through which individuals enhance the quality of their thinking by skillfully taking charge of the structures inherent in thinking and applying intellectual standards upon them. It is a skill that is often deemed difficult to develop and is somewhat vague (McPeck, 1990). However, it is generally acknowledged that acquiring CT abilities is central to creative and impartial thinking, problem-solving, and academic achievement, making it a beneficial trait for learners (Itmeizeh & Hassan, 2020). Therefore, developing such skills should be a top priority for higher education systems (Li & Liu, 2021; Liyanage et al., 2021; Van Laar et al., 2017). While CT is typically associated with L1 education (Atkinson, 1997), it is advocated to be entered into the ELT context to help learners advance this skill through language acquisition (Lin, 2018; Murtadho, 2021).

In the realm of second language learning, fostering CT skills has been shown to have positive effects on language learners' achievement, as highlighted by several researchers (Authors, 2022; Lin et al., 2018; Zhao et al., 2016). However, despite the significance of the instruction of CT and its efficacy in enhancing language acquisition, study related to the impact of CT instruction is not extensive enough, and more comprehensive studies are required in this regard (El Soufi & See, 2019; Liang & Fung, 2020).

In line with such calls for further studies on the place of CT in L2 contexts, this study aimed to probe the influence of explicit instruction of CT on the development of students' CT skills in an EFL context. The objective was to determine whether CT-based instruction can promote advanced thinking skills among EFL learners at Payam Noor University, Iran. In addition, the study was an attempt to assess the effectiveness of this approach in enhancing the CT abilities of learners and provided valuable insights into the role of CT instruction in EFL learning contexts. Furthermore, the study sought to offer insights for language learners, teachers, and teacher educators on the importance of critical thinking and how to incorporate it into their personal and academic lives. The aim was to help them understand the concept of critical thinking and its significance.

Review of the Literature

While CT is acknowledged as an essential skill for students' success, there is no comprehensive definition or approach to its instruction (Murphy et al., 2014). Various definitions of CT have been suggested (Dewey, 1910; Paul, 1992; Wang, 2017). The debate over defining CT or whether it is teachable or not is not as important as discussing when, where, and how to teach CT effectively (Haber, 2020; Wisdom & Leavitt, 2015).

The definition of CT conducive to this study is based on Paul's perspective, which defines CT as the capability to ask and answer questions of analysis, synthesis, and evaluation (Paul, 1985). As approaches to teaching CT, both CDA and CL aim to reveal fallacies, assumptions, and biased aspects of discourse; this facilitates a critical reflection on linguistic elements. Fairclough (1989) defines CDA as an interdisciplinary method of the analysis of language that aims to discover the relationships between discourse, power, and ideology. For him, CDA involves a critical analysis of language use in various contexts, such as political speeches, media texts, and everyday conversations, to uncover the underlying power structures and social relations that are reproduced and maintained through language. Through critical analysis of language use, CDA seeks to expose the ideological assumptions and values that are embedded in everyday discourse and to promote social change through the transformation of discursive practices. Hashemi and Ghanizadeh (2012) contend that incorporating CDA into language learning classrooms can improve the CT abilities of language learners.

The CL framework was created by Fowler and colleagues in 1979, with a focus on analyzing language at multiple levels, including grammar, vocabulary, context, and discourse. The framework considers various linguistic elements, such as the participants' roles and the use of passives and nominalizations, to determine potential knowledge gaps or misunderstandings. Additionally, the inclusion or absence of modality within a sentence can indicate the speaker's stance toward the statement (Bell, 1995). It also seeks to empower individuals and communities through the development of critical language awareness, which involves an ability to reflect critically on language use and to become active agents in shaping communicative practices. A review of the literature displays that while there are studies on the correlation between explicit instruction of CT and the development of advanced thinking and reading comprehension competence in the EFL context (Authors, 2022; Hamdi, 2023), previous research has not explored the impact and potential benefits of explicitly teaching CT skills in developing advanced thinking through a combination of CDA and CL.

According to Mustika, Nurkamto, and Suparno (2020), and Wale and Bishaw (2020), focusing on questioning techniques can significantly enhance the CT skills of language learners. To attain the desired outcomes in teaching the tasks, teachers should carefully consider the aim, level, and kinds of questions they utilize (Glaser & Bonk, 1990). They acknowledge that this is not an easy feat, as it necessitates complex question formulation

practice and training. Williams (2005) claims that teachers must employ this instructional tool appropriate to the course's subject matter, for instance, they should not discuss sociopolitical events in the classroom. In contrast to previous research, this study employs Brown and Keeley's model to utilize questions applicable to analyzing any text related to any topic. Brown and Keeley (2015) developed eleven questions, outlined in their book "Asking the Right Questions," to provide guidance for developing CT and assist with text analysis. By utilizing these questions, individuals can enhance their critical thinking abilities and improve their quality of writing, speaking, and judgment. The eleven questions adopted in this study are:

1. What are the topics and conclusions obtained from them?
2. What reasons are presented?
3. Are there any unclear words or expressions?
4. What presumptions are being presented about values?
5. Are there any rational flaws in the thinking?
6. How dependable is the evidence being provided?
7. Is there further evidence provided?
8. Have alternative reasons been considered?
9. Are there any fraudulent statistics being used?
10. Are any important data being overlooked?
11. What logical conclusions can be made?

According to the sociocultural theory perspective, cognitive and learning development results from mediated interactions with others or oneself through dialogue (Lantolf & Pavlenko, 1995). Peer evaluation, as a mediating tool, involves providing feedback on one another's work, which can enhance individuals' advanced thinking skills (Daud, Gilmore, & Mayo, 2013). The research confirmed that peer evaluation mediated students' cognitive processes and improved their critical thinking skills and academic writing abilities (Daud et al., 2013). The present research introduces a novel use of peer evaluation in the interpretation of texts, where students provide feedback related to each other's comments according to the principles of CDA and CL, an application that has not been explored in previous studies.

According to the abovementioned literature review, it is concluded that this study utilizes innovative strategies that have not been the subject of previous studies. In this study, a mixed-methods design was implemented to explore the impact of explicit instruction of CT on learners' CT abilities in the EFL context, which can provide valuable information related

to the efficacy of different approaches to CT instruction. Three explicit teaching techniques were compared across four groups. The study intended to answer the following research questions:

1. Does explicit teaching of CT improve EFL university students' CT skills? If so, which teaching strategy is the most effective?
2. How do EFL university students perceive the role of explicit instruction of CT in promoting their CT skills?

Methodology

Design of the Study

This study employed a mixed-methods design. The pretest-posttest design was conducted in this research; a pretest of CT (Watson-Glaser Critical Thinking Appraisal) was utilized to homogenize groups before starting the treatment. Three experimental groups received three different explicit CT strategies and one control group received regular non-CT related treatment. After the treatments, all groups received the same pre-test as the post-test. To complement the quantitative data, narrative feedback was obtained from participants to triangulate the findings. Triangulation helps to increase validity, reliability, generalizability, credibility, and in-depth understanding of the research. This feedback focused on the impact of instructions on students' understanding of the processes they underwent in text analysis, as well as their attitudes on the explicit teaching of CT strategies.

The Participants

The study was conducted with sophomore EFL students, between the ages of 19 and 25, enrolled in an oral translation class at Payam Noor University in northwest of Iran. The initial population consisted of 108 participants, but those with averages below 14 in their previous semester courses (out of 20) were excluded from the study, leaving 62 students as the sample. To ensure the homogeneity of the groups, one pre-test of the CT appraisal test (Watson & Glaser, 2002) as well as average scores from previous semesters were used to screen participants for inclusion. The research employed an intact group design, with 16 participants in groups one and two, and 15 participants in group three as experimental groups, while 15 participants were selected for the control group. Out of the 62 participants, 15 were male and 47 were female. The pre-test and average scores displayed no meaningful differences among the groups about CT abilities at the beginning of the study. Before starting the research, the

participants were informed about the study and provided written consent. The research committee of the university authorized the study.

Data Collection Instruments

The authors utilized the WGCTA by Watson and Glaser (2002) to collect the data. The CT questionnaire had 80 items in 5 subtests. The questionnaire was piloted with students similar to the target sample. The reliability of the instrument was calculated using Cronbach's alpha, yielding a score of .86. The WGCTA is comprised of five subtests that assess different CT skills. Test 1 measures the capability to discover the degree of truth or falsity of inferences obtained from given data. Test 2 evaluates the capability to distinguish unstated assumptions in given statements. Test 3 concentrates on deduction, especially ascertaining whether special conclusions necessarily follow from data provided in a given statement. Test 4 evaluates interpretation capabilities by requiring individuals to weigh the evidence and discover if conclusions based on the given information are authorized. Finally, Test 5 assesses the capability to distinguish between strong and relevant arguments versus weak or irrelevant ones.

Additionally, to complement the quantitative data, narrative feedback was collected from students in both control and experimental groups about their attitudes towards the CT strategies and the impact of the treatments (in experimental groups) on their interpretation of texts and performance on the WGCTA post-test. The students were free to write their feedback in Persian or English, and the narratives had an average length of 150 words. The researchers translated all narrative feedback into English. The following questions were used to guide the writing of narratives:

1. How did the instruction aid you in bonding educational materials with real-life situations?
2. Did the instruction encourage you to evaluate issues from multiple perspectives, and if so, how effective was it?
3. Was the instruction helpful in enhancing fair and advanced thinking?
4. How does instruction impact your ability to analyze texts critically and perform well on the WGCTA post-test?
5. How does CT-based discussion impact your ability to analyze texts critically and perform well on the WGCTA post-test (control group)?
6. In the control group, were you motivated to consider presented events in texts from multiple perspectives after reading about CT?

The feedback aimed to provide insights into the efficacy of the treatments in promoting advanced thinking and metacognitive strategies, analyzing news from multiple perspectives, and facilitating impartial thinking.

Procedure

The study was organized over 16 sessions between September and December 2020. The first two sessions, which lasted for three hours, were dedicated to introducing CT to all participants enrolled in the oral translation class. Following this, the groups received treatments for three sessions (lasting 4.5 hours), except for the control group who were not given any CT-related instruction. During these sessions, the control group engaged in general discussions related to CT, including defining CT, discussing its role in decision-making, and how it enhances advanced thinking. These discussions were based on the materials driven from the internet by students. During the rest of the course, all groups were asked to analyze 33 texts selected from the book "Asking the Right Questions: A Guide to Critical Thinking" by Brown and Keeley (2015) in 11 sessions (lasting 16.5 hours).

The study followed these steps sequentially: (1) introducing the concept of CT to all students in two sessions; (2) administering a pretest for CT to both control and experimental groups; (3) providing CT treatment for three sessions to each experimental group as described below, while the control group engaged in general discussions about CT; (4) involving all groups in analyzing 33 texts according to the instructions and discussions for 11 sessions; (5) administering the WGCTA posttest to both control and experimental groups, and (6) collecting narrative feedback from all participants in written form.

In group one, CL strategies including Nominalization, Passivization, Transitivity, and Over-lexicalization (Fowler et al., 1979), were introduced to raise students' consciousness toward the surreptitious ideology of news. They also amalgamated CL with CDA to analyze texts critically. The approach involved introducing both CDA and CL simultaneously, followed by prompting students to apply the principles of these methodologies to critically analyze texts. For example, the following headlines were analyzed by critical reflection on the ideology-laden structure of sentences, lexis, and passive and active forms of sentences; passive or active sentences were used intentionally to background or foreground important information. Furthermore '2 people' and '2 innocent civilians' referred to the same people with different ideology-laden words. Examples of the headlines analyzed included: 2 people killed in Iraq (CNN NEWS) vs. Police killed 2 innocent civilians (ALJAZIERE).

In group two, the study presented 11 questions from Brown and Keeley's (2015) framework in three sessions and taught students how to apply them in the analysis of any discourse. These questions were conducive to discovering evidence, inferences, worldviews, presuppositions, fallacies, and surreptitious ideologies of texts and mass media. In group three, CDA and CL were combined and then were followed by evaluating peers' interpretations and engaging in debate over the interpretations. Learners were expected to engage in debates centered on the fusion of CDA and CL using provocative texts. Students were grouped into smaller groups of 5 or 6 and were asked to evaluate one another's interpretation. In the control group, students did not receive any instruction and discussed analyzing texts based on their knowledge within three sessions. During the 11 sessions that followed, they conducted an analysis of three texts per session based on their overall discussions about CT. The texts covered various topics including terrorism, elections, war, feminism, religion, advertising, energy, and so on. Due to COVID-19 restrictions limiting in-person activity, all activities were conducted through ORSUN, a system designed for online instruction and assessment. For ethical issues, participants in the control group received instruction on explicit CT strategies after the research process was completed.

Data Analysis

The study involved the comparison of the performance of multiple groups on one dependent variable with one independent variable. To analyze the quantitative data, the statistical technique of one-way ANOVA was used and the analyses were conducted through SPSS. The qualitative data, on the other hand, were analyzed manually and descriptively.

Results

Quantitative Results

The quantitative question aimed to display the influence of explicit instruction of CT on students' CT abilities. To address the relevant research question, all students completed a pretest of CT at the beginning of the course and a posttest of CT at the end of the course. One-way ANOVA was used to test for homogeneity among the groups, compare the pretest and posttest scores and evaluate the effectiveness of strategies. Additionally, a paired t-test was conducted for each group to compare mean pretest scores and mean posttest scores for the overall WGCTA scores. A 95% confidence interval was applied to all statistical analyses. The dependent variable was WGCTA test scores, while the independent variable was the CT

teaching strategy. Table 1 presents inferential statistics for Averages and WGCTA test scores. Furthermore, Table 2 displays one-way ANOVA outcomes for posttests of CT.

Table 1. One-way ANOVA for Averages and Pretests of CT of all Groups

		Sum of Squares	df	Mean Square	F	P
Averages	Between Group	0.49	3	0.16	0.10	0.95
CT	Between Group	2.61	3	0.87	0.02	0.99

Table 2. One-way ANOVA for Post-test of CT of all Groups

		Sum of Squares	df	Mean Square	F	P
CT	Between Group	524.75	3	174.91	3.63	0.01

The WGCTA test includes 80 items with five subtests, and the scores are represented for overall items. As shown in Table 1, a one-way ANOVA presented the homogeneity of groups related to their CT and language proficiency (averages) since values of .95 and .99 are higher than the threshold value of .05 for significance. Tables 2 and 3 display inferential statistics for posttests of CT as well as gain scores in CT from pre- to post-test in each group showing how changes in each treatment group compared to their pretest scores.

As seen by the value of .01 in Table 2, the one-way ANOVA outcome for the posttest of WGCTA disclosed meaningful differences between the groups which are attributed to the influence of explicit instruction of CT by the aforementioned approaches.

Table 3. T-Test for Gain Scores

posttest-pretest Groups	Paired Differences			t	df	P
	Mean	Std. Deviation	Std. Error Mean			
1 CL & CDA	5.25	4.02	1	5.21	15	0.00
2 11 Qs	6.31	4.04	1.01	6.2	15	0.00
3 CL, CDA & PE	8.13	2.38	0.61	13.2	14	0.00
4 Control	0.83	4.25	1.09	0.0	14	1.00

Table 3 shows that all experimental groups made gains in their critical thinking abilities, while the control group displayed no meaningful difference in the outcome between pre- and post-tests. The t-test results indicate that Group 3, which incorporated CL and CDA followed by peer evaluation, had the highest gain scores.

However, the one-way ANOVA analysis did not provide information on which specific CT strategies were most effective. To determine this, a post hoc test was implemented (Table 4).

Table 4. Tukey Test for CT

Dependent Variable	(I) groups	(J) groups	Mean Difference (I-J)	Std. Error	P
Test	1	2	-1.37	2.45	0.94
	CL & CDA	3	-3.30	2.49	0.55
		4	4.69	2.49	0.24
2	11 Qs	1	1.37	2.45	0.94
		3	-1.92	2.49	0.86
		4	6.07	2.49	0.08
3	CL, CDA & PE	1	3.30	2.49	0.55
		2	1.92	2.49	0.86
		4	8.00*	2.53	0.01
4	Control	1	-4.60	2.49	0.24
		2	-6.07	2.49	0.08
		3	-8.00*	2.53	0.01

Table 4 confirms that the combination of CDA and CL with peer evaluation has the uppermost significance, and indicates the explanatory authority of this combination in improving the CT skills of the students.

To sum up, the aforementioned tables answer the research question and prove that explicit instruction of CT has influenced the CT abilities of learners in the EFL context of Iran. The results disclosed the uppermost outcome for the combination of CDA and CL with peer evaluation followed by 11 Questions and the combination of CDA and CL, respectively with the control group displaying no meaningful outcome.

Qualitative Findings

To obtain a comprehensive understanding of the learners' experiences with CT training and to complement the quantitative findings, the researchers collected qualitative data through narrative feedback. Only complete feedback that was relevant to the effects of the instruction and the research purpose was included in the study. In Group 1, five narrative feedbacks were

considered acceptable for analysis. Students reported that both CL and CDA helped them to think critically about the structure and vocabulary of the texts they were interpreting. Additionally, after the treatments, they became more careful when answering the WGCTA posttest, attempting to identify implicit assumptions, evaluate textual evidence, distinguish between truth and falsity of inference, differentiate between relevant and irrelevant arguments, and determine the logical consequences of given statements. Students mentioned that they started to question their ideas and how to improve the quality of their thoughts. They also shared that CDA and CL helped them understand how language can be used to deceive people and develop an appropriate attitude towards critical thinking and analyzing texts. Two excerpts from Group 1 are presented here.

One student explained that treatments helped them *raise questions* such as:

“Is there a relationship between *sociopolitical* issues and *lexis*? Is there a *power and distance* relationship in the discourse presented? Which terms are *ideology-laden* and what does the author mean by using them?”

Additionally, after treatments and working with texts, students became more suspicious of the ideas exposed in the texts and attempted to enhance the quality of their thoughts. Another student stated:

“After being familiar with CT, CDA, and CL we were aware of the *ideological aspects of language* learning materials and tests and tried to decipher *presuppositions and inferences* lying beyond the structure ... we practiced the application of CL and CDA in text analysis in online classes and attempted to decipher *cultural and ideological aspects* of the structures and expressions in every text or speech that we encountered”.

Out of the 16 narrative feedbacks received in Group 2, only 4 were deemed appropriate for analysis. The analysis showed that the 11 Questions approach helped students become more curious about the claims made in texts and understand the true intentions of the author. By using these questions, students were able to approach texts from different perspectives, resulting in a detailed comprehension of the language learning material. The feedback also revealed that applying the 11 Questions in their personal life helped individuals improve their thinking process and recognize fallacies, biases, false information, and unanalyzed data.

One student from Group 2 stated,

“The 11 taught Questions by teachers proved to help analyze texts critically and uncover surreptitious meanings in the texts. I was curious about finding *fallacies*

and unstated assumptions within the texts and materials. Before taking part in the CT course, I was interested in thinking critically, but the techniques taught in the course helped me to better analyze and deal with texts *critically and pragmatically*”.

This implies that teaching these 11 Questions and how to apply them in analyzing texts or daily situations can raise students' consciousness toward the form of discourse and their thinking activity.

Another participant in Group 2 mentioned,

“Before the course, I used to accept others' claims without thinking critically about them. However, the *11 Questions* helped me to focus on the discourse of texts and *critical thinking questions*. Before reading the texts, I raised questions about the subjects, issues, claims, evidence, and assumptions presented in the texts. Based on the 11 Questions and the topic sentences of the texts, I made hypotheses about the facts, events, and claims of the author. After reading, I tried to confirm or reject the hypotheses, which was beneficial in answering the questions. The 11 Questions helped me to develop a new *worldview* and become more *skeptical* about my thoughts, social media content, and news. I tried to follow *authentic evidence* when speaking or accepting others' claims”.

In summary, the feedback from Group 2 showed that the 11-question approach is a useful instrument for enhancing advanced thinking and analyzing texts from different perspectives. Teaching these questions can help raise learners' consciousness toward the form of texts and their thinking activity, leading to a more promising approach to information in both personal and academic life.

Out of the 15 narrative feedbacks received in Group 3, 4 were deemed suitable for analysis. The analysis revealed that applying the techniques of CL/CDA and peer evaluation was effective in analyzing text structures from multiple aspects, reflecting on personal ideology, and recognizing how thinking can be restricted and egocentric. However, the feedback also implied that these strategies were challenging and required perseverance. Students noted that these strategies acted as a filter that separated biased from authentic opinions and helped them avoid making uncritical and blind decisions.

Additionally, the feedback received from peers warned against considering a matter from only one perspective. The narrations showed that these strategies helped boost students' thinking skills and learning styles. Spending time evaluating peers' interpretations provided opportunities for students to reflect on their interpretations, cognition and thinking process.

One student from Group 3 stated,

“CL and CDA were like filters that separated *biased from authentic opinions* and helped us avoid making *uncritical and blind decisions*. The feedback received from peers also warned against seeing a matter from only one perspective. After taking the course and evaluating our peers' interpretations, I wanted to analyze a make-up brochure critically. I reassessed the linguistic structure of the discourse on the brochure, recognized subtle traits, and understood how I was *manipulated* by the *brilliant words* used in the advertisement. We found these strategies to help advance our thinking and learning styles”.

Another participant in Group 3 asserted,

“The greatest benefit of CDA and peer evaluation was learning to think from different perspectives and search for evidence when evaluating others' statements”.

In summary, the feedback from Group 3 showed that applying the techniques of CL/CDA and peer evaluation was practical in helping students think fair; however, these strategies are challenging and require perseverance to learn. The evidence suggested that these strategies helped boost students' thinking skills and learning styles, enabling them to think from different perspectives and search for evidence when evaluating others' statements.

In the control group (Group 4), only 5 feedbacks were deemed acceptable for analysis. The feedbacks revealed that students expressed a desire to improve their critical thinking skills when analyzing texts, but they did not provide any clear methods or approaches for doing so. Instead, they provided definitions of critical thinking they found online and discussed their common-sense interpretations of text analysis. They did not mention how critical thinking helped them answer critical thinking questionnaires or how it could benefit them in their personal or academic lives. This is likely because they did not receive any specific treatment or instruction related to critical thinking. For example, some excerpts from the narrative feedbacks in Group 4 include:

"CT and logic are powerful instruments and using them judicially can empower man and influence the quality of their life and decision making; they lead into self-transcendence".

"Critical thinking involves rational thinking and aims to analyze and evaluate any information obtained from the news. This includes skillful analysis,

conceptualization, synthesis, application, and evaluation of available information to guide you in taking action".

"I tried to find a definition of critical thinking on the internet, but I did not understand how it relates to analyzing texts for comprehension and critical thinking".

Discussion and Conclusions

In response to the research questions related to the impact of explicit instruction of CT on enhancing higher-order thinking skills of students, both the quantitative and qualitative findings indicated that critical reflection on the linguistic structure of texts through CDA and CL, 11 questions, and CDA and CL combined with peer evaluation was efficient in cognitive development of students and transfer of CT to other contexts. The descriptive statistics from post-intervention tests revealed that students in experimental groups gained higher CT levels and were eager to transform thinking activity learned in class to social, political and cultural contexts, which improves metacognitive development through persistent practice. The quantitative and qualitative findings were consistent with each other in revealing the positive impact of CT strategy training on CT skills and abilities.

The findings of the study on the role of CDA and CL can be explained according to the perspectives of Fairclough (1989) and Fowler et al. (1979), which emphasize the interrelation between language studies and social studies, and the need to critically analyze texts to uncover underlying ideologies. The results also support previous studies that highlight the importance of incorporating critical reading skills in English Language Teaching (ELT) classes. Rather than merely teaching language, teachers should encourage students to become critical readers, through activities that facilitate the development of critical thinking skills and enhance language learning abilities (Tosuncuoglu, 2018; Wallace, 1992). Further, classroom activities that require critical reflection on materials and discussions can facilitate the development of CT skills (Hashemi & Ghanizadeh, 2012; Liang & Fung, 2020) and enhance language learning skills (Li, 2016). Compared to these studies, the combination of CDA and CL provided a novel and practical tool for individuals to reflect critically on discourse and uncover the power, ideology, culture, interests, and policy implicit in texts. This perspective on critical reflection in ELT classes requires comprehensive and detailed studies (Li, 2016).

The study's findings related to the role of the 11-question approach can be explained by the influence of questioning techniques in EFL classes on developing students' critical thinking skills (Mustika et al., 2020). This study claims that making students familiar with

well-organized questions enhances their academic performance and cognitive strategies. Additionally, Williams (2005) claimed that questions should be based on the topic of learning materials, and some studies suggested that teachers should ask questions within interviews or as immediate feedback following students' responses (Thompson, 2011; Walker, 2003). However, these studies have not emphasized the active role of students, specified the kinds of questions helpful for teachers or learners, or identified practical ways to challenge the credibility of speeches and materials. Further, their open-ended approaches may not be effective in teacher-centered contexts, such as Iran, where students are often submissive and follow their teachers. The 11-question approach can be applied in any discipline and context with individuals at different academic levels.

In Group 3, students were tasked with utilizing CDA and CL to interpret texts, and then evaluating their peers' interpretations. The results supported previous studies that demonstrate a link between interpersonal communication, collaborative learning, and critical thinking (Daud et al., 2013; Rojas-Drummond & Mercer, 2003). By encouraging students to analyze texts and learning materials critically, and then evaluate each other's interpretations based on CL and CDA, advanced thinking skills can be developed. These findings also support Vygotsky's (1978) sociocultural theory, which emphasizes the importance of interpersonal conversation and social interaction in knowledge construction and cognitive development. Furthermore, this study confirms that scaffolding feedback can serve as a mediational instrument to enhance students' academic performance and metacognitive styles (Lantolf & Pavlenko, 1995). In contrast to previous studies, this study provided CDA and CL principles as criteria for analysis and then asked students to evaluate each other's interpretations based on these principles.

This study employed mixed methods and multiple CT strategies implemented over a semester with detailed and practical explanations of how to apply these strategies in an EFL context. The findings proved that three approaches to teaching CT were influential in aiding learners to evaluate and analyze texts critically as well as in leading to higher levels of CT, as evidenced by their narrative feedback and performance on post-intervention CT posttest. This implies that CT is teachable, and the efficiency of the teaching strategies is because they are theoretically grounded and supported.

The significance of this study lies in its confirmation of the positive effect of explicit instruction of CT on students' advanced thinking abilities. Additionally, the findings support sociocultural theory's perspective that social and interpersonal interactions, such as feedback,

have a crucial role in the creation of knowledge and enhancing metacognitive strategies (Vygotsky, 1978). Furthermore, the research emphasizes the importance of well-organized questions in challenging fallacies, assumptions, and surreptitious ideologies of texts and in enhancing metacognitive styles and meaningful learning of students. Unlike previous studies that discussed the importance of questions in promoting advanced thinking skills vaguely (Thompson, 2011; Wale & Bishaw, 2020) and offered minimal guidelines on CT instruction in language learning and teaching classrooms (Nirmala & Kumar, 2018), this study provides specific guidelines for teachers to apply in any discipline and context. Additionally, the study focuses on interconnecting language learning materials with sociopolitical contexts. This approach transfers students' understanding beyond surface level, assists them in discovering surreptitious meanings, and also enhances reading comprehension through critical reflection on language (Authors, 2022).

The present study has important implications for learners, teachers, and teacher educators. Firstly, this study can be beneficial for students in several ways. It can help students connect academic and sociocultural contexts, which implies that they should view texts as including social, cultural, and ideological issues rather than being neutral. The use of CDA, CL, and asking 11 Questions as CT strategies can assist students in reflecting critically on materials and their thoughts, tolerating ambiguity, judging impartially, and enhancing self-efficacy and self-regulation. Secondly, in an EFL context, such as Iran, this study can help learners to critically reflect on course materials to discover ideology-laden lexis and structures. This can help defend against cultural imperialism and focus on form in texts, important for language acquisition. The study's findings can also help students go beyond the surface of the texts and evaluate the credibility of the claims residing in the texts, as well as transfer these abilities from the domain of texts to extended academic and real-life contexts. Thirdly, teaching CT can enhance the cognitive and metacognitive styles of students and help them deal with learning problems, which can improve student's academic success.

In addition, the present study offers valuable and extensive implications for both teachers and teacher educators. In the EFL context of Iran, teachers concentrate solely on the structure of texts and often lack sufficient training on CT and its correlation with educational success (Birjandi et al., 2018). This lack of understanding can hinder their ability to assist their students. Therefore, this study can help teachers discover and evaluate their teaching approaches, practices, and techniques in the classroom. The use of 11 Questions, CDA, and CL can serve as useful self-reflective techniques for teachers. It enables them to refer to and analyze the source of their ideas related to language teaching and evaluation and encourages

them to welcome new teaching approaches, technologies, as well as challenges created by students. Additionally, this study provides significant information for teacher education courses in understanding the role of questions, CDA, CL, and peer evaluation in enhancing CT and academic achievements. It also highlights the challenges that may impede teachers from thinking critically and being open and creative. Finally, this research fills the gap that previously existed in the literature regarding the use and effectiveness of the aforementioned teaching strategies. The results of this research confirm the efficiency of the theoretical background of the study.

Despite the significant findings and pedagogical implications of the study, some **limitations** need to be acknowledged. Firstly, due to the COVID-19 pandemic, all teaching and evaluation activities were conducted online using ORSUN software. However, unforeseen issues arose during the study, such as internet connection problems and limited access to the Internet for some students, which affected the richness of the study. As a result, nine students had to be dropped from the study. Secondly, the study was conducted within a single semester, and the notion of CT was strange to the EFL students. Additionally, required online teaching, restricted the time for mediation and administering the questionnaires. Moreover, it should be mentioned that out of the 62 participants in the study, only 15 were male. This gender imbalance could have potentially affected the study's outcome, although the males were evenly distributed across all groups. Finally, the students were not familiar enough with providing feedback related to the effects of the techniques used, which resulted in inadequate narrative feedback. These limitations should be considered when explaining the outcome of the study.

Declaration of Conflicting Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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