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The Comparative Impact of Teaching Metacognitive Strategies and Critical Thinking Skills on EFL Students' Oral Performance

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Abstract

This study aimed to compare the impact of teaching metacognitive strategies and critical thinking on the speaking abilities of EFL learners. To test the research hypothesis, 60 intermediate-level male and female EFL learners, aged between 20 and 22, participated in the study. Employing a quasi-experimental design, the participants received instruction over the course of 12 sessions focused on either metacognitive strategies or critical thinking skills. The results indicated that both critical thinking and metacognitive awareness significantly influenced learners' vocabulary acquisition and speaking performance. Instruction in metacognitive strategies enhanced students' awareness of their planning, management, monitoring, evaluation, and expansion of strategies to improve speaking. Learners not only advanced their speaking skills but also became more strategic in their approach. Meanwhile, critical thinking instruction enabled students to actively engage in classroom interactions by attentively listening to their peers, critically evaluating spoken contributions, and making thoughtful decisions about their responses. These strategies fostered a deeper understanding of effective communication, encouraging learners to remain fully engaged with both their own speech and that of others during classroom discussions.

Keywords: *Critical Thinking, Metacognitive Strategy, Speaking Ability.*

1. INTRODUCTION

One of the aims of education is for students to think critically. In order to achieve this end, it is important to identify certain cognitive factors that can facilitate it. Critical thinking occurs when individuals use their cognitive skills or strategies that increase the probability of a desirable outcome (Black 2005; Halpern 1998; Kuhn and Dean 2004; Nickerson 1994; Schroyens 2005). Specifically, developing students' critical thinking skills is facilitated through metacognition. Halpern (1998) stated explained that metacognition is the ability to use knowledge to direct and improve thinking skills. When engaging in critical thinking, students need to undergo specific metacognitive skills like monitoring their thinking process, checking whether progress is being made toward an appropriate goal, ensuring accuracy, and making decisions about the use of time and mental effort. This implies evidently that critical thinking is a product of metacognition which provides a direction in the prediction of the two variables. However, the framework proposed by Halpern (1998) is not empirically tested for Iranian EFL learners' context.

Moreover, Metacognitive strategies, as Anderson (2003) suggests, play more central role than other learning strategies since once a learner understands how to regulate his/her own learning through the use of strategies, language acquisition should proceed at a faster rate. By the same token, strategic learners have metacognitive knowledge about their own thinking and

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learning approaches, a good understanding of what a task involves, and the ability to employ the strategies that best meet both the task demands and their own learning strengths.

Although metacognitive awareness is considered a key to successful learning and effective teaching, the relation of metacognitive knowledge with EFL learners preference or attitudes have not been fully investigated. Metacognitive awareness has not been so widely studied by educationalists. Only recently has metacognitive knowledge begun to receive attention in second language research. A number of these studies have pointed out that the way in which learners perceive language learning may have a significant impact on their learning outcomes (Coutinho, 2007; Kramarski & Mevarech, 2003). In the scope of education, metacognitive awareness has been investigated for domain-specific purposes. For instance, concerning second language learning, researchers have examined the metacognitive strategies that learners employ in reading, writing, etc. These studies certainly are valuable in that they find ways to get through learners' minds and help them make use of their potentialities in more effective ways. Inspired by the above-mentioned issues the researchers of this study intended to investigate the comparative effect of metacognitive awareness, and critical thinking, on EFL leaners speaking ability.

Critical thinking is one of the most modern issues in education around the world, being utilized in the classroom and the curricula as a way to train decisive, open-minded individuals with fair judgmental qualities referred to as cultivated critical thinkers (Paul & Elder, 2008). Paul and Elder maintained that thinking is inevitable, and all people think, although much of this thinking can be biased, distorted, partial, uninformed or down-right prejudiced, and to achieve excellence in thought one must be cultivated.

Therefore, one is not born with critical thinking skills and needs to be trained to learn the skills and fortunately critical thinking can be taught. ELT has not been ignorant of the importance of critical thinking and English teachers have long tried to employ critical thinking strategies into the English language classroom through problem-solving tasks, thought-provocative questions following reading comprehensions or in class discussions and many more (Devine, 1962).

Despite the fact that the enhancement of life skills has for many years been advocated in the context of education, it seems that, at least in the case of critical thinking, both English language teachers and language learners are lagging behind in Iran (Ketabi, Zabihi, & Ghadiri, 2012). Iranian students are mostly obliged to memorize and rewrite pre-thought information at schools as opposed to thinking out their own ideas and assessing facts and not taking those taught by their teachers for granted. Not introduced to the concept of critical thinking at school, Iranian students welcome English language learning in private institutes and/or with the help of private tutors, who go through world-renowned ELT books written by English-speaking authors who claim that critical thinking strategies were embedded in their course books.

Nevertheless, in EFL contexts like Iran, learners have limited exposure to English language and teachers are bound to the limited hours of instruction in the classroom which often does not permit the integration of all effective strategies such as metacognitive strategies or critical thinking skills training on EFL learners learning ability, specially speaking proficiency.

By considering the above mentioned problem and the importance of developing metacognitive strategies for improving critical thinking skills, this research aims to investigate

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the comparative effect of training metacognitive strategy and critical thinking skill on EFL learners' speaking proficiency.

1. Does Metacognitive strategy have any significant effect on EFL learners' speaking ability?
2. Does critical thinking skill have any significant effect on EFL learners' speaking ability?
3. Is there any significant difference between the effect of metacognitive strategy and critical thinking skill on EFL learners' speaking ability?

2. LITERATURE REVIEW

Numerous studies have been carried out by different researchers in the area of metacognition in relation to the different skills, and their outcome has given a new perspective and insight to other researchers in order to expand their point of view of metacognitive strategies. Metacognitive Strategy as an aid to successful foreign language learning is a cognitive domain of learning which help learners to reflect on solving learning tasks, and identification of strategies to fulfil a task which not only facilitate learning, but also contribute to making learning more lasting (Flavell, 1979). Metacognitive awareness "allows individuals to plan, sequence, and monitor their learning in a way that directly improves performance, plays a compensatory role in cognitive performance and compensate for low ability or lack of relevant prior knowledge (Schraw, 1998, p.116-117). There is extensive evidence that learners' metacognition can directly affect the process and the outcome of their learning (Boekaerts, Pintrich, & Zeidner, 2000).

Metacognitive strategy instruction has been shown to have a strong impact on various aspects of English as a second/foreign language instruction (Kuiper, 2002; Lin, 2001). Metacognitive strategy instruction has been shown to have a strong impact on various aspects of English as a second/foreign language instruction. At the core of metacognitive training lies the concept of metacognition which is introduced by John Flavell (1976) as one of the first researchers of metacognitive strategies. He has defined metacognition as 'one's knowledge concerning one's own cognitive processes and products or anything related to them that activate monitoring and consequent regulation and orchestration' of information processing activities. He asserted that this type of knowledge involves conscious awareness which control one's learning process and provides learners with ways to estimate the results of their efforts by allowing them to predict the likelihood of being able to remember the material (Flavell, 1985). The term metacognition refers to the cognitive skills, processes and strategies utilized to monitor and modify one's learning (Gordon & Braun, 1985). Metacognition refers to what people know about cognition in general and about their own cognitive processes, in particular, as well as how they use this knowledge to adjust their informational processes and behavior (Koriat, 2007). McNeil (1987) mentioned that "metacognition refers to one's awareness of what one's purposes for reading are, how to proceed in achieving these purposes, and how to regulate progress through self-checking of comprehension and self-test" (p. 104).

First research that tried to explain the link between metacognition and language learning was reported by Wenden (1987) who has many different interpretations of metacognition and many metacognitive models. Metacognition has a significant impact on improving reading comprehension both in L1 and FL (Flavell, 1979; Flavell, Miller, & Miller, 2002). Reading strategies manage readers' interaction with the written text and improve reading comprehension of what they read. Metacognitive reading strategies as one of the reading strategies indicate

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learners' knowledge and use of their own cognitive resources which allow learners to monitor their progress when they understand and learn something. Metacognition provides learners with ways to estimate the results of their efforts by allowing them to predict the likelihood of being able to remember the material (Flavell, 1985). Oxford (1990) defines metacognitive strategies as "actions which go beyond purely cognitive devices, and which provide a way for learners to coordinate their own learning process" (p.136). Zhang and Seepho (2013) asserted that metacognitive strategies are designed to increase readers' knowledge of awareness and control, to improve their reading comprehension, and to evaluate whether their attempt at comprehension has been achieved. Many studies (McNeil, 1987) have given an emphasis to the reading metacognitive strategies students use to comprehend what they read.

Metacognitive strategies play a significant role in readers' reading comprehension. O'Malley and Chamot (1990) stressed the importance of metacognitive strategies and claim that "students without metacognitive approaches are essentially learners without direction or opportunity to plan their learning, monitor their progress or review their accomplishments and future directions" (p. 8). Sheorey and Mokhtari (2001), who have conducted research on metacognitive awareness and the use of reading strategies among native and non-native English readers, define metacognitive strategies for reading as "intentional, carefully planned techniques by which learners monitor or manage their reading" (p. 436). The results confirm that successful readers engage in a high level of metacognition or monitoring of their own thinking, during the process of reading and are more able to reflect on and monitor their cognitive processes while reading. Both of the native and non-native high-reading-ability students showed comparable high degrees of cognitive and metacognitive reading strategies usage.

On the whole, much of the research into metacognition in reading revealed that readers' metacognitive strategies are related positively to their success in their reading comprehension and that language proficiency is connected to readers' development of metacognition (Hong-Nam, Levell, & Maher, 2014). These researchers found that the strategies that readers use when interacting with printed materials play an important role in reading comprehension. Other investigators found that successful readers use more reading strategies than unsuccessful ones (Alsheikh, 2011; Lau & Chan, 2003; Lau, 2006; Mokhtari, 2008; Mokhtari & Sheorey, 2008; Sheorey & Mokhtari, 2001).

The relationship between critical thinking and learning is fairly well-documented. Paul and Elder (2005) assert that there is a key insight that makes a connection between critical thinking and learning; human thinking is the only capacity which is used to learn. We can learn well when we think well, and when we think poorly during learning, we learn poorly. Similarly, Brown and Freeman (2001) state that learning is a collaboration and a means of connection which is necessary for critical thinking. In a distinct study, Kabilan (2000) mentions that learners need to be able to think creatively and critically in order to be proficient in language learning since the communicative approach to language teaching does not even help students to be proficient. However, Schmitt (2000) revealed that acquiring strategies are required for learners to learn on their own. Also Richards and Renandya (2002) believe that learner autonomy is a process which enables learners to distinguish and evaluate their own needs as well as to choose and apply their own strategies in order to learn effectively. In another study, Mirzai (2008) examined the relationship between lexical inferencing and critical thinking ability of learners. Based on the results, learners with high critical thinking ability were better in lexical inferencing comparing to learners with low critical thinking ability. Nevertheless,

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Arkoç (2008) conducted a study to find the effect of autonomy on listening comprehension success. Results of the study revealed that there was no significant relationship between autonomous learning and listening comprehension ability of the learners.

In some other studies the interrelationship between critical thinking and learner autonomy have been investigated. Sheikhi (2009) examined the relationship between autonomy, reading comprehension and critical thinking ability of learners. The results revealed that there was a positive relationship between critical thinking and reading comprehension. A significant relationship between autonomy and reading comprehension was also found.

Fahim and Komijani (2011) conducted a study in order to examine the relationship among critical thinking ability, L2 vocabulary knowledge, and L2 vocabulary learning strategies. Based on the results learners' vocabulary knowledge and critical thinking ability were significantly correlated. Moreover, there were positive correlations among learners' critical thinking ability and their self-assessed degree of determination, memorization, cognitive, and meta-cognitive strategies of vocabulary learning. Facione (2011), stated that there was a positive relationship between the learners' CT ability and their reading comprehension. In a similar vein, Paul (1990) highlighted the correlation between CT ability and reading comprehension. It is important to note that the field of EFL in this regard has had its own share of the overall impacts of CT research.

After the existence of a significant relationship between critical thinking and different English language skills was indicated, researchers began studying the impact of critical thinking on improving those skills. In a quantitative study conducted by Malmir and Shoorcheh (2012) on the impact of teaching critical thinking on Iranian learners' speaking skill, it was concluded that critical thinking training had a crucial impact on promoting the speaking ability of Iranian EFL learners. They also observed that, ―Critical-thinking strategies helped the learners to become active participants in the interaction process by listening carefully to other students' lectures, by judging on those utterances, and by making the best decisions about what to say in response to what has been said in the conversation by other interactants.

Shangarffam and Mamipour (2011) studied the impact of teaching critical thinking on Intermediate EFL learners' writing skill and reported that the participants who had had the opportunity to become familiarized with critical thinking techniques and procedures had outperformed the participants with lack of knowledge about critical thinking. Needless to say, in both of the latter studies critical thinking techniques were employed to teach the participants the skills of speaking and/or writing, this was done through debates, media analysis and problem-solving tasks, however, no explicit and exclusive teaching of critical thinking took place. Though critical thinking is universally regarded as a pillar of higher education (including by employers seeking college graduates), the results of some research studies show that students are not developing their critical thinking skills to the extent that the researchers expect. For their 2009 book, Academically Adrift: Limited Learning on College Campuses, Rocksa and Arum (2009) followed a little over 2,300 college students through their first two years of school. They found ―a barely noticeable impact on students'skills in critical thinking, complex reasoning, and writing‖ and ―no statistically significant gains [in these skills] for at least 45 percent of the students.

It is concluded that some studies show outstanding results by teaching learners skills to improve their critical thinking; however some show that the success does not include all learners. This could stem from the methods used by researchers to teach critical thinking. Marin

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and Halpern (2010) studied two groups of American high school students and concluded that the students receiving explicit instruction showed much larger gains than those who had received imbedded instruction in critical thinking. Cosgrove (2011) conducted a study in Oxford University and concluded that there was a need for an explicit and systematic approach to teaching critical thinking as the students internalized the explicit and required aspects of critical thinking and largely missed those that were implicit. Therefore, research shows that explicit methods of instruction in critical thinking have been more effective.

3. METHOD

3.1. Participants

The 60 participants, 36 females and 24 males, were volunteer from among 100 male and female students studying English (EFL) at Tehran English language private institutes. The participants were under graduate English students in Karaj English language private institutes in intermediate level. They aged between 20-24 years old and in third semester of institute annual education.

3.2. Instruments

The following instruments were applied in this study.

3.2.1. Preliminary English Test (PET).

PET: the language proficiency test used in this study was Preliminary English Test (PET). This test was an international examination sanctioning a certain level of mastery of the English language. It was offered by Cambridge English language assessment. It was on intermediate qualification which demonstrates the ability to communicate English for every day purpose. It included reading, writing, speaking and listening. Reading and writing take 1:30', listening 45' and speaking is an interview 10-12minutes.

3.2.2. **Reading and Writing** (1 hour 30 minutes – *50% of total marks*)

The Reading and Writing paper had eight parts and 42 questions. Candidates were expected to read and understand different kinds of short texts and longer, factual texts. Text sources might include signs, brochures, newspapers, magazines and messages such as notes, emails, cards and postcards.

Parts 1 to 5 focus on reading skills, including underlying knowledge of vocabulary and grammar. The exam includes tasks such as answering multiple choice questions, selecting descriptions which match different texts, and identifying true or false information.

Parts 6 to 8 focus on writing skills, including underlying knowledge of vocabulary and grammar. The exam includes tasks such as completing gapped sentences, writing a short informal letter of 35 – 45 words based on 3 given instructions, and producing a longer piece of writing – either a long informal letter or a story of about 80-100 words.

3.2.3. **Listening** (approximately 35 minutes – *25% of total marks*)

The Listening paper has four parts comprising 25 questions. Candidates are expected to understand a range of spoken materials, in both informal and neutral settings, on a range of everyday topics. Recorded materials may include announcements, interviews and discussions about everyday life.

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Part 1 has seven short recordings and three pictures for each. Candidates listen for key pieces of information in order to complete seven multiple choice questions. Part 2 has a longer recording either in monologue or interview format. Candidates identify simple factual information in the recording to answer six multiple choice questions. Part 3 has a longer monologue, which may be a radio announcement or a recorded message with information about places and events. Candidates are given a page of notes summarizing the recording and must fill in six pieces of information which are missing from the notes. Part 4 has an informal conversation between two people who are discussing everyday topics. Candidates decide whether six statements are true or false, based on the information, attitudes and opinions of the people in the recording.

3.2.4. **Speaking** (10–12 minutes – *25% of total marks*)

The Speaking paper has four parts and is conducted face-to-face, with one or two other candidates and two examiners. Candidates are expected to demonstrate conversation skills by answering and asking questions and talking freely about their likes and dislikes.

Part 1 is a general conversation with the examiner. Candidates give personal information about themselves, e.g. talk about their daily life, studies, plans for the future, etc. Part 2 is a collaborative task with the other candidate(s). The examiner gives the candidates some pictures and describes a situation. The candidates discuss the issues and decide what would be best in the situation. Part 3 is completed individually. Each candidate has one minute to describe a photograph provided by the examiner. Part 4 is a discussion with the other candidate(s). The candidates discuss the topic related to the photographs they were given in Part 3 of the exam, talking about their opinions.

The scores were reported to be between 120 and 139. Candidates who achieved a score in this range not received the *Preliminary English Test certificate*, but their score was shown on their Statement of Results.

3.2.5. Pre-Post- Tests:

The Preliminary English Test (PET) from Cambridge ESOL exams, by Cambridge University is adopted in this study to a) determine the homogeneity of the participants before the treatment starts, and b) to measure their speaking proficiency before and after the treatment.

The mainstream instruction of general English taught to students of all intermediate classes in the institute includes units one and two of Cambridge Total English course books for Intermediate Students which is covered in twelve sessions of classes held in 4 weeks, with each session lasting one and half hours.

The material employed to explicitly teach critical thinking and train the learners in the experimental group is based on the general approach of critical pedagogy. In the general approach, direct and explicit instruction in critical thinking skills is provided as a separate course, where critical thinking skills and abilities are emphasized outside the context of specific subject matter. Some content is involved to contextualize examples and tasks (Ennis, as cited in (Lai, 2011).

Strands of simplified literature are combined with real life stories and situations for which the participants were asked to think about, analyze and make decisions based on their own judgments. Their decisions were then analyzed through debates and discussions, then conclusions were drawn in class. It is intended to create a clear concept of critical thinking in the minds of the participants and the exercises and examples given are designed to trigger

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critical thinking in students when making decisions or analyzing situations through debates and group/pair discussions.

3.3. Procedure

The study is conducted on Iranian EFL learners in a private language institute in Karaj. At first to homogenize participants a proficiency test which is preliminary English Test (PET) is given to Students. Based on its result two classes were selected as the homogenous ones. After that the two critical thinking and metacognitive strategy groups received 10 sessions of the treatment. The participants were assigned into two groups. Both groups take a pre-test to establish initial differences or similarities in English overall knowledge. Afterwards, the training sessions were begun. The training period consisted of twelve sessions; each one lasting ninety minutes. The first session was used to administer the PET speaking pre-test. The Speaking paper had four parts and was conducted face-to-face, with one or two other candidates and two examiners. Candidates are expected to demonstrate conversation skills by answering and asking questions and talking freely about their likes and dislikes. Students were given ten to twelve minutes to respond to the questions.

The second session contained an introduction to the training program, including an introduction to the research study and its foreseeable benefits. Starting in this session and continuing until the tenth session, explicit and direct instructions were given to the students to clarify the concept and usage of the metacognitive and critical thinking strategies. The researcher modeled the use of each strategies and allowed the students to apply them in class using a “gradual release of responsibility” (Shanahan et al., 2010, p. 68) where the teacher explains the strategy explicitly and models its use then gradually turns the responsibility over to the students to apply it independently.

Metacognitive Strategy Training

In this study, the CALLA (Cognitive Academic Language Learning Approach) instructional framework which consists of five stages as Preparation (eliciting students' prior knowledge about and use of learning strategies); Presentation (introducing new strategies); Practice (active applications of new strategies to language learning tasks); Evaluation (student self-evaluation of the strategies practiced); and Expansion (connecting strategies taught to new tasks and contexts) were used for the purpose of metacognitive strategy training. This model has been proposed by Chamot and O’Malley (1994) and consists of five instruction components. In *preparation* part, the teacher makes the students ready to learn strategies by activating their background knowledge about the topic and the use of specific strategies, such as establishing goals, determining the purpose of a language task, overviewing and linking the task with already known material. In the second phase, or the *presentation* phase, the teacher teaches the new learning strategy and points out how and when to use it. In the third phase or *practice* phase, students practice using the strategy with regular class activities, such as asking questions and seeking practice opportunities. The fourth phase is *evaluation*; in this phase, students evaluate their use of the learning strategy and how well the strategy is working for them. In *expansion* phase, students extend the usefulness of the learning strategy by applying it to other listening activities.

What are metacognitive strategies?

The basic metacognitive strategies include connecting new information to the old one; selecting deliberate thinking strategies; and planning, monitoring and evaluating thinking processes (Oxford, 2002). They help learners regulate and oversee learning activities such as

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taking conscious control of learning, planning and selecting strategies, monitoring the process of learning, correcting errors, analyzing the effectiveness of learning strategies, and changing learning behaviors and strategies when necessary (Ridley, Schutz, Glanz, and Weinstein, 1992).

Critical Thinking Skill Training

In the next step, the participants in the experimental groups (critical thinking and metacognitive strategy groups) were taught the critical thinking skills through Yang's (2012) model of CT-integrated instruction under the Mixed Approach proposed by Ennis (1987). In the Mixed Approach, the CT skills were taught explicitly and then infused into the English language content. The treatment lasted for 14 sessions and each session lasted for 30 minutes.

In the first session, the necessary guidelines were given to the students in order to make them familiar with the CT-integrated skills. The techniques through which the CT-integrated skills were taught to the experimental groups were presented in the following order:

First, in order to develop students' inductive reasoning, they were divided into small groups. Pictures with some controversial points included were shown to the students. Then, the students were given enough time to think about the picture while sharing their opinions with their friends. Finally, they were asked to write an appropriate title or summary for the pictures and defend their ideas by providing judgments and drawing inferences.

In the teaching of deductive reasoning strategy, a scenario (or story) without a conclusion were presented to the class. In small groups, students were required to reach a conclusion from different premises based on evidence in the scenarios and establish logical relationships among the statements.

In order to enhance the interpretation skills of the students, they were asked to write personal reflections about a controversial report related to the current classroom content taken from newspapers, magazines, and television. Using this technique, students were able to develop their critical writing skills.

Written assignments were utilized in order to increase students' evaluation skills. Students were required to cooperatively write a short argumentative essay on a controversial issue. They were asked to elaborate, compare, and give their own ideas on the topic. In order to enhance students' open-mindedness and confidence in speaking, they were asked to discuss a challenging topic related to their daily life or the content of the lesson. The students were given enough time to think about the topic from different perspectives and express their ideas freely and critically.

To encourage students' truth-seeking and curiosity, the teacher asked the students to read the story of a well-known person, i.e., Nelson Mandela who demonstrated the attitudinal and behavioral characteristics of critical thinking. While reading the story, the students were taught to annotate the text. In other words, they were asked to highlight the main ideas, underline the keywords, write their questions or ideas in the margin, mark important parts of the text, and make notes of anything interesting, important, or questionable. Then, using Socratic Questioning, the students were required to talk about the main points included in the story, such as 'the possible reasons for the character's achievements during his life'.

Following the above mentioned training steps and sessions, data collection of this study were completed through pre-test-post-tests (PET speaking part). Having collected the two scored tests.

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The last step was the analysis of the data transcribed by the researcher. The students' level of speaking proficiency was assessed before and after the training sessions to determine any changes made as a result of the treatment that they receive. In order to avoid any threats to the reliability of the scores, the pretest and posttests were scored by the researcher and a second scorer. The mean of the two scores for each participant was calculated and reported as the participant's test score.

4. RESULTS

First Research Question

RQ1: Does Metacognitive strategy have any significant effect on EFL learners' speaking ability?

At first, the oxford placement test was conducted at the beginning of the study to check for the homogeneity of learners among participants. The results are provided for all participants before classifying them into groups.

Table 1: Descriptive Statistics PET for participated students before classifying them into groups

	N	Range	Min	Max	Mean	S. D	Variance
PET	100	36.00	59.00	95.00	79.10	8.58	73.62

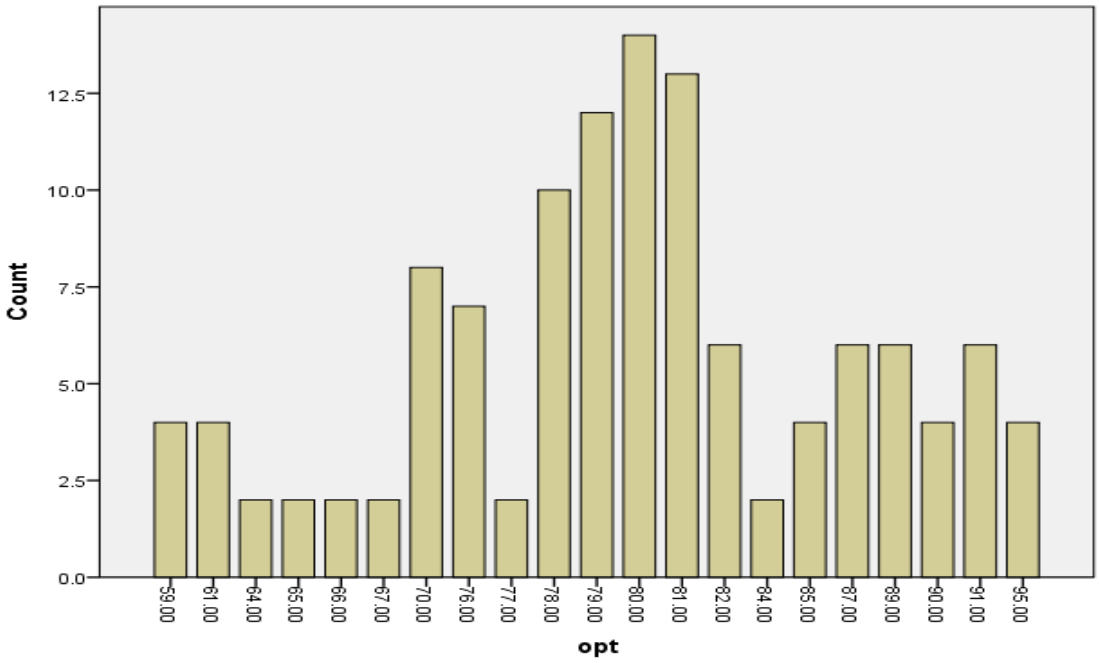

Figure 1: Diagram of the speaking grades

As it is clarified from the bar graph of the 4.1 table, the minimum grade of the participants PET test scores is around 59.00 and the maximum or the highest grade is related to participants with 95.00 score of proficiency. The highest frequency of grades distribution is related to 80 score with 12.5 count on the bar graph which is selected as the mean or average point of the grades with the standard deviation of 8.5 on the descriptive statistics Table 1 which +_1 SD is computed as a selection criterion for selected participants of audio and video conferencing groups.

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After collecting data from the performance of Metacognitive strategy training group on pre-post-tests scores (PET speaking test), the researcher analyzed the data of research groups' performances by an Independent-Sample T-Test to compare the means of Metacognitive strategy training group in pre-test and posttest and to get the final conclusion.

Considering students' pre- and posttest scores of Metacognitive strategy training group on PET speaking proficiency Test, Means and standard deviations for pre- and posttest academic scores were analyzed to see if there was a statistically significant difference between the two tests grades or not (Table 2).

Table 2: Means and Standard Deviations Metacognitive strategy training group

N	Means	SD
30	Pre- 4.13	1.3
30	Post- 5.80	.65

The results, presented in Table 2, show that there were obviously statistically significant differences between the averages of the pre and post-tests of Metacognitive strategy training group Means and standard deviations. As concerning the hypothesis, it was rejected that there is not statistically significant difference in terms of speaking proficiency of Metacognitive strategy training group.

For more clarification of the positive effect of Metacognitive strategy training on speaking proficiency Test of EFL learners, the acquired results of pre-and posts are compared in Table 3 through independent sample t-test. Table 3 depicted the values of means and standard deviation along with standard error of the mean for the two speaking proficiency tests.

Table 3: Independent samples T-test for speaking proficiency pre-post-test grades of EFL participants

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
grade	Equal variances assumed	1.310	.160	-3.624	36	.000	1.000	.21628	-1.483	-.517
	Equal variances not assumed			-3.624	35.2	.000	1.000	.21628	-1.812	-.568

The independent sample T-test procedure (Table 3) offered two tests of the comparison between the pre and post-tests. The significance index of the Levene statistic was .260 (greater than .05); it could be assumed that the both tests had equal variances.

Based on Table 3, there was a significant difference (sig 2 tailed= .000) between the mean differences of the speaking proficiency test scores of participants before and after the treatment in terms of their speaking proficiency tests because the Sig (2-Tailed) value is less than.05. So, we can conclude that there is a statistically significant difference between two conditions (p<0.05). Thereby, the hypothesis that there is not statistically significant difference in terms of speaking proficiency of Metacognitive strategy training group was rejected.

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Second Research Question

RQ2: Does critical thinking skill have any significant effect on EFL learners' speaking ability?

After collecting data from the performance of critical thinking skill group on pre-post-tests scores, the researcher analyzed the data of research groups' performances by an Independent-Sample T-Test to compare the means of critical thinking skill group in pre-test and posttest and to get the final conclusion.

Considering students' pre- and posttest scores of critical thinking skill group on PET speaking proficiency Test, Means and standard deviations for pre- and posttest academic scores were analyzed to see if there was a statistically significant difference between the two tests grades or not (Table 4).

Table 4: Means and Standard Deviations Critical Thinking Skill group

N	Means	SD
30	Pre- 4.60	1.8
30	Post- 6.32	.73

The results, presented in Table no. 4, show that there were obviously statistically significant differences between the averages of the pre and post-tests of critical thinking skill group Means and standard deviations. As concerning the hypothesis, it was rejected that there is not statistically significant difference in terms of speaking proficiency of critical thinking skill group. For more clarification of the positive effect of critical thinking skill on PET speaking proficiency Test of EFL learners, the acquired results of pre-and posts are compared in Table 6 through independent sample t-test. Table 5 depicted the values of means and standard deviation along with standard error of the mean for the two speaking proficiency tests.

Table 5: Independent samples T-test for speaking proficiency pre-post-test grades of EFL participants

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
grade	Equal variances assumed	1.310	.260	-4.624	38	.000	-2.000	.21628	-1.437	-.56217
	Equal variances not assumed			-4.624	37.2	.000	-2.000	.21628	-1.438	-.56188

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The independent sample T-test procedure (table 5) offered two tests of the comparison between the pre and post-tests. The significance index of the Levene statistic was .260 (greater than .05); it could be assumed that the both tests had equal variances.

Based on Table 5, there was a significant difference (sig 2 tailed= .000) between the mean differences of the speaking proficiency test scores of participants before and after the treatment in terms of their speaking proficiency tests because the Sig (2-Tailed) value is less than.05. So, we can conclude that there is a statistically significant difference between two conditions (p<0.05). Thereby, the null hypothesis that Critical thinking skill does not have any significant effect on EFL learners' speaking ability was rejected.

Third Research Question

RQ3: Is there any significant difference between the effect of metacognitive strategy and critical thinking skill on EFL learners' speaking ability?

In order to test the hypothesis of the research related to equivalence among groups treatment affection, the t-test for independent samples was used to examine the difference between the mean of the post-test results of the students in the metacognitive strategy and critical thinking skill groups.

In order to determine the effects of the metacognitive strategy and critical thinking skill groups regarding speaking proficiency for the students in both of groups, the t-test for independent samples was used to examine the difference between the mean of the post-test results of the students. So the acquired results are explained and clarified through the statistical tables. Considering students' posttest scores on speaking test scores, Means and standard deviations for posttest academic scores were analyzed to see if there was a statistically significant difference between the two metacognitive strategy and critical thinking skill groups tests grades or not.

Table 6: Descriptive statistics for the Metacognitive Strategy and Critical Thinking Skill groups (Post-test)

	Metacognitive Strategy group		Critical Thinking Skill group	
N	**Means**	**SD**	**Means**	**SD**
30	*5.80*	*.65*	*6.32*	*.73*

The results, presented in Table 6, show that there were obviously statistically significant differences between the averages of the two groups of Metacognitive Strategy and Critical Thinking Skill Means and standard deviations.

As concerning the hypothesis, it was rejected that there is not statistically significant difference between the effect of Metacognitive Strategy and Critical Thinking Skill on EFL learners' speaking proficiency.

For more clarification of difference between the effect of Metacognitive Strategy and Critical Thinking Skill on EFL learners' speaking proficiency, the acquired results of posts of experimental groups are compared in table 7 through independent sample t-test. Table 7 depicted the values of means and standard deviation along with standard error of the mean for the tests.

The mean score of the Critical Thinking Skill group was higher than that of the Metacognitive Strategy group.

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Table 7: Independent samples T-test for Metacognitive Strategy and Critical Thinking Skill groups' post-test scores

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
grade	Equal variances assumed	1.310	.60	-4.6	38	.000	-1.00	.216	-1.43	-.562
	Equal variances not assumed			-4.6	37.2	.000	-1.00	.216	-1.43	-.561

The independent sample T-test procedure (table 7) offered two tests of the comparison between the post-tests. The significance index of the Levene statistic was .260 (greater than .05); it could be assumed that the both tests had equal variances.

Based on Table 7, there was a significant difference (sig 2 tailed= .000) between the mean differences of the scores of Metacognitive Strategy and Critical Thinking Skill groups' post-test scores because the Sig (2-tailed) value is less than.05. So, we can conclude that there is a statistically significant difference between two conditions ($p< 0.05$). Thereby, the null hypothesis that there is not statistically significant difference between the effect of Metacognitive Strategy and Critical Thinking Skill on EFL learners' speaking proficiency was rejected.

The third part of the Independent Samples Test output, provides the confidence intervals for the difference between the group means. This interval allows the researcher to estimate the actual difference found in the population between the groups of students. In this case, it is shown that, the researcher can be 95% confident that actual difference between the effect of Metacognitive Strategy and Critical Thinking Skill on EFL learners' speaking proficiency in the population is somewhere between (1.43 and 1.56).

5. DISCUSSION

Of course both groups showed improvements in their speaking skills in comparison with their status at the beginning of the study. Namely both groups speaking improved irrespective of the methodology for teaching speaking. But there was a significant difference between the performances of the two groups after the special treatment was given to the Critical Thinking group. So it was concluded that critical thinking training had a crucial impact on promoting speaking ability of Iranian EFL learners.

The post-test findings of this study revealed a significant difference in the participants' oral performance at the end of the study. A moderate improvement in performance between the Metacognitive Strategy group (M = 5.80) and the Critical Thinking Skill group (M = 6.32) was observed. The Critical Thinking Skill group participants outperformed the Metacognitive

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Strategy group in speaking proficiency test components (see Table 4.7). These findings support the literature's view that Critical Thinking Skill has positive impacts on EFL learners' oral skills.

Critical thinking techniques helped the learners to uses evidence skillfully and impartially in their interactions with their classmates during the treatment. Such kind of techniques motivated the learners to organize their thoughts and to articulate them concisely and coherently in their oral productions. But the students in the metacognitive group didn't enjoy the benefits of such powerful strategies. Furthermore, in the critical thinking group the implementation of critical teaching strategies was very effective to guide the students to distinguish between logically valid and invalid inferences when they were talking to the teacher or to the peers.

The findings of this study revealed that raising critical thinking awareness explicitly has a significantly positive impact on the speaking proficiency of female Iranian adult intermediate EFL learners. This aligns with the findings of a similar study conducted by Malmir and Shoorcheh (2012) in which they concluded that a critical thinker is a better language learner. The findings are also in agreement with the results of the study carried out by Cosgrove (2011) in Oxford University who concluded that there was a need for an explicit and systematic approach to teaching critical thinking as the students internalized the explicit and required aspects of critical thinking and largely missed those that were implicit. Drawing from the literature on expertise, Van Gelder (2005) argued that students need ―deliberate practice‖ in exercising critical thinking skills and abilities. This type of practice can only occur when critical thinking is taught as a separate and explicit part of the curriculum. Similarly, Halpern (as cited in Lai, 2011) argued that instruction in general thinking skills taught as a ―broad-based, cross-disciplinary‖ course, as done in the treatment in this study, is the most effective way of teaching critical thinking. However, the findings disagree with Pithers and Soden (2000) who rejected the view that critical thinking could be taught as a separate subject and believe that critical thinking should be viewed as a way of teaching and learning in any domain.

6. CONCLUSION

The results of this study demonstrated that critical thinking and metacognitive awareness of Iranian EFL learners affected their vocabulary knowledge achievement scores.

Metacognitive strategy training made students more aware on what they planned, managed, monitored, evaluated, and expanded to improve their speaking performance. They improved their speaking performance as well as their metacognitive strategy use. Students needed more time to transfer their declarative knowledge of metacognitive strategy use and speaking aspects into procedural knowledge so that they would be able to use it on the right time. The implementation of metacognitive strategy training has resulted on the design of training. It requires the active roles of between the students as well as the teacher. The phases of planning, managing, monitoring, evaluating, and expanding should be accompanied by the teacher in form of presentation of the phase. Modeling was needed as it helped the students to figure out what should be done to accomplish the phases.

Critical-thinking strategies helped the learners to become active participants in the interaction process by listening carefully to other students' lectures, by judging on those utterances, and by making the best decisions about what to say in response to what has been said in the conversation by other interactants. In fact, critical thinking strategies help the

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learners consider all the characteristics of a good conversation when they were talking in the classroom. The students were totally attentive to what other students said and to what themselves wanted to say in the interactions.

A highly important aspect in the experimental class was that critical thinking strategies were quite suitable for a cooperative classroom. And cooperate learning in turn can facilitate critical thinking and can foster critical thinking abilities of the language learners. This idea is a very important one which has been studied in many investigations. For example Cooper (1995) argues that putting students in group learning situations is the best way to foster critical thinking. "In properly structured cooperative learning environments, students perform more actively benefiting from critical thinking with continuous support and feedback from other students and the teacher" (p. 8). So cooperative learning directly and indirectly enhances critical thinking and speaking ability of language learners. Based on the finding of this study, it is concluded that critical thinking must explicitly be taught at schools or universities in Iran.

Pedagogical Implications

The prominent pedagogical implications in this research correspond with what the following scholar believes in. Worrell and Profetto-McGrath (2007) asserted that applying and using critical thinking activities with different levels of language proficiency in English language classrooms can increase learner's level of thinking and simultaneously can help language learners promote their speaking abilities and enhance their own judgmental power in authentic and real-world conversations. Critical thinking techniques can equip learners with instruments which help them to go beyond the surface information presented in the conversation by other participants and to make their own decisions when they want to talk and to enhance their speaking abilities in long turn. The findings of the current study indicate that a critical thinker is a better language learner. Because a person who thinks critically can ask appropriate questions, can activate relevant information, efficiently and creatively sort through this information, reason logically from this information, and come to reliable and trustworthy conclusions about what other people have said that helps him to arrange what he wants to say in the best way.

Suggestions for Further Research

The limited study of this research such as the use of small sample size and the one group pretest and posttest design lead the researcher to propose further research related to metacognitive strategy training to promote speaking skill. Further study should investigate bigger sample size with more details of how to implement metacognitive strategy declarative knowledge into procedural one. Besides that, different level of students' speaking skill might give better understanding on the process of implementing metacognitive strategy training. Further study is needed to investigate the effect of the above-mentioned strategies at different levels of language proficiency, with a fixed gender, comparing children and adults, comparing learners with different learning styles, and even those whose major is not English.

As it was mentioned above, the good results of critical thinking strategies instruction are not limited to the speaking ability and they are helpful for other language skills. Thus the researchers of the study think that further research is needed to investigate the impact of teaching critical thinking on the other language skills and sub-skills like listening comprehension, reading comprehension, writing, vocabulary and grammar. Furthermore, the effect of implicit vs. explicit teaching of critical thinking strategies on EFL learners' different language skills and sub-skills needs more research.

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