



Effects of Critical Thinking Strategies: Seeking Self-Efficacy in vocabulary performance and oral proficiency in Lower-Intermediate Iranian Learners

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ABSTRACT

The present study aimed the effect of incorporating critical thinking into an EFL curriculum to in order to see whether it has any effect on learners' self-efficacy in vocabulary as well as speaking ability. To comply with the objective 44 lower-intermediate learners were divided into experimental and controlled group. The controlled group received instructions for CT strategies as a part of their curriculum whereas the experimental group had their usual curriculum without CT instructions. As the pretests and posttests of the study, the participants took a test of vocabulary, a test of self-efficacy and a topic to speak about. The results of the Independent Samples T-Test for comparison of pretest and the posttest of vocabulary for the control and experimental group showed that the participants in the experimental group had higher vocabulary scores than the control group. Also the results of the self-efficacy test showed incorporating CT strategies into an EFL curriculum statistically affected Iranian EFL learners' self-efficacy. Finally the results of the speaking test showed that the participants in the experimental group improved both in terms of duration and the number of the vocabulary in their speaking skill.

Keyword:

Critical Thinking Strategies,
Self -efficacy,
EFL Curriculum,
Speaking Skill

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INTRODUCTION

Critical thinking has gained widespread popularity in recent decades. According to Bracken, Brown, and Feng (2009) the importance of teaching CT is nowadays obvious to all educators. The intellectual root of CT refers to the teaching practice and vision of Socrates, 2500 years ago. Socrates proposed the importance of asking deep questions that make us think before accepting ideas as worthy of belief. His method of questioning is now known as 'Socratic questioning' and is the best known CT teaching strategy. In a language learning setting, like any other learning milieu, teachers try to elicit answers by asking student questions which make them think about different things. So, teachers have great responsibility for teaching CT to students. Fisher and Scriven (1997) state CT skills are required to be taught since students' thinking skills are not enough to face the problems students deal with either in education or in daily life. According to Myers, (1992) Instructors should attempt to create an interesting environment in which learners' motivation for exploring CT process can be arisen. This means hard work for the teacher. For language learners, it is absolutely essential to gain independence from their teachers. It is a well-known fact in vocabulary research and instruction that teachers cannot teach all the words learners may need to know. In fact, Nation (2008) argues that in a well-designed vocabulary development program, the teacher's jobs "in order of importance are planning, strategy training, testing and teaching vocabulary" (p. 1). In Iran, which is considered an EFL setting, CT strategies are seldom an issue of concern in language classes. Teachers either pay some perfunctory attention or totally avoid it in their classes. In fact, many teachers find it impossible to work on strategies of CT due to time constraints in their syllabus. The syllabi do not usually allow any room for the teachers to work on CT strategies in their classes. In this study, however, the researchers aims to add the CT strategies to language learning syllabi in Iran and observe whether the learners benefit from the CT instruction as an indispensable part of their classes. As mentioned above, CT strategies have shown to bring about many good results language learners. The present study is aimed at finding the results of the CT strategies in an EFL in three aspects. In most school classes and institutes in Iran, learners find it frustrating to be dependent on their teachers all the time. In fact their dependence on their teachers make it hard for them to stand on their own when they want to learn and use their language. Most of the time, the frustration is caused by some psychological factors such as CT and self-efficacy which can have a great effect on language teaching and learning in classroom and ignoring them would lead to ineffective teaching strategies and wasting time. As an English language teacher in an EFL setting, in Iran, I have seen quite a number of learners who feel unable to communicate what they mean even after passing high levels of language proficiency. One of the main things many of the EFL language learners complain about is their inability to use an acceptable range of vocabulary in the foreign language. For instance, a student might refer to his teacher many times while reading a passage containing a number of unknown words. They feel too dependent on their teacher for every single word they encounter. This clearly shows a lack of self-efficacy and self-regulation. It means they need to need to know how to stand on their while learning language, especially vocabulary. The independence from their teacher might have many advantages for them. For instance, they might become better speakers or they might use wider ranges of vocabularies in their speaking or writing. But, to the researcher's best knowledge; none of the CT-related research to date has investigated the effect of CT on improvement in self-efficacy in their vocabulary. Another problem is the syllabus designing in Iran, which is usually void of CT strategies instruction. As a language teacher in Iran, I have never seen nor heard of any language institute in which CT strategies are vigorously planned in their syllabus. This shows that there is still lack of understating towards the benefits of CT

strategies for language learners. Therefore, regarding the voluminous number of researches conducted on the influence of CT, it seems reasonable to try to add CT strategies to the language class syllabi. Also, despite some previous studies (Malmir & Shoorcheh, 2012) on the effect of CT on speaking, it is still not clear whether the use of CT can have impacts on lower-intermediate level language learners. The researcher of the present study believes that CT might help students improve their self-efficacy in their vocabulary as well as speaking. Generally, it is believed that low achievement of EFL learners is related to their low self-efficacy. Intellectual abilities may be important in the process of learning language but other factors may also be involved. The first purpose of the study is to find out if CT strategies can help language learners learn vocabulary more easily. Secondly, the researcher aims to see whether the use of the CT strategies in the EFL language learning curriculum can help learners become more self-efficient in their language learning or not. The last purpose of the present study is to investigate whether CT strategies can help learners become more efficient while speaking. Therefore, the following research questions were raised:
 RQ1. Do critical thinking strategies have any statistically significant effect on Iranian EFL learners' vocabulary learning?
 RQ2. Do critical thinking strategies have any statistically significant effect on Iranian EFL learners' self-efficacy?
 RQ3. Do critical thinking strategies make the learners self-efficient in speaking?

2. Literature Review

2.1 Critical Thinking

A commonly perceived definition is needed for CT (Porter, Igein, Alexander, Blaylock, Comb & Williams, 2005). But there is no consensus about CT definition (Kennedy, Fisher & Ennis, 1991). Lyutykh (2009) argues that CT is "a right way of thinking". Bowen and Kemp (2005) believe that CT is an individual's engagement in/deciding on/ responsibility for actions they deal with in daily life. Some argue that CT is determined by especial skills such as ability to evaluate the presented reasons sensibly (Mason, 2008). Citing Bloom, Page (2007) argues that CT relates to high level cognitive thinking (analysis, synthesis and evaluation). Bullen (1998) says that CT is a well-founded thought which focuses on what we believe and what we do. Facion and Facion (1994) state that CT includes evaluation, inference, analysis, deductive reasoning and inductive reasoning.

2.2 Critical Thinking Skills

Fisher (2003) emphasizes the significance of teaching CT skills. He contends that CT skills are required to be taught since students' thinking skills are not enough to face the problems students deal with either in education or in daily life. Therefore, educators are required to focus on teaching CT to inform them how to learn instead of just transmitting information that is what to say.

Glaser (1941) cited in Fisher (2001) listed CT skills as:

- (a) To recognize problems,
- (b) To find workable means for meeting these problems,
- (c) To gather and marshal pertinent information,
- (d) To recognize unstated assumptions and values,
- (e) To comprehend and use language with accuracy, clarity and discrimination,
- (f) To interpret data,
- (g) To appraise evidence and evaluate students,
- (h) To recognize the existence of logical relationships between propositions,
- (i) To draw warranted conclusions and generalization,
- (j) To put to test the generalizations and conclusions at which one arrives,
- (k) To reconstruct one's patterns of beliefs on the basis of wider experience, and
- (l) To render accurate judgments about specific things and qualities in everyday life (pp.4-5).

Facione (2004) considers cognitive skills and affective dispositions and mentions that cognitive skills are at the very core of CT. These cognitive skills are: interpretation, analysis, evaluation, inference, explanation, and self-regulation.

2.3 Four Aspects of Critical Thinking

Good CT cannot be learned overnight, it takes a long time for each person to make changes in his habits of thought to become an excellent thinker. According to Daly, cited in Gardner and Jewler (2000), the basic skill of CT divides into four basic types:

1- Abstract thinking: discovering larger ideas from details. From large amounts of facts, one should seek bigger ideas or the abstraction behind the facts.

2- Creative thinking: finding new possibilities. One should use the general idea he has found to see what further ideas it suggests.

3- Systematic thinking: organizing the possibilities. Systematic thinking involves looking at the outcome of the second phase in a more demanding, critical way.

4- Precise communication of ideas to others: great conclusions are not very useful if one cannot communicate them to others. One should consider what his audience will need to know to follow his reasoning and be persuaded.

2.4 Self-Efficacy Beliefs

The idea that the beliefs the students develop about themselves are key elements for academic success or failure makes it possible to believe that self-efficacy is the vital part of the motivation (Pintrich & Schunk, 1996). Of all these self-beliefs, self-efficacy is the most effective on learning process. Due to this fact, self-efficacy has come to forefront of language learning research studies as well. Bandura (1986) defines self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p. 391). Bandura introduced the construct of self-efficacy as a part of Social Cognitive Theory. Social Cognitive Theory is a view about the human functioning emphasizing that humans can regulate their behavior (Bandura, 1997). That is, individuals "possess a system of self-beliefs that enables them to exercise control over their thoughts, feelings and actions" (Pajares, 2002a). The core of this theory is formed by the interplay among personal, behavioral, and environmental influences, which is called "reciprocal determinism" (Pajares, 2002a). These three factors work in accordance and influence one another in two directions as it is shown in the figure 1 below (Bandura, 1997). Because of this bidirectionality of influence, the individuals are both the "products" and "producers of their own environment and of their social systems" (Bandura, 1997, p. 6).

2.5 Studies on Self-efficacy

As mentioned earlier, self-efficacy of individuals affects the choices they make, the effort they put on the task and their thoughts and emotional reactions. As self-efficacy is an influential factor in human behavior, it has been studied in relation to different variables such as career choices (Betz & Hackett, 1986), athletic performances (Feltz, 1982), interpersonal relationships (Kanfer & Zeiss, 1983), career planning (Lent, Brown, & Larkin, 1984), self-regulation (Zimmerman, 2000) and teacher education (Ashton & Webb, 1986; Gibson & Dembo, 1984; Woolfolk & Hoy, 1990).

The other field that self-efficacy has been an appeal for many years is the academic achievement. Believing that self-efficacy is critical to academic achievement, researchers have done studies to investigate the relationship between self-efficacy and academic achievement of students. As the self-efficacy is context specific and subject-matter specific, relationship between academic achievement and self-efficacy has been studied in various educational fields from mathematics (Hackett & Betz, 1989; Norwich, 1987; Pajares & Kranzler, 1985; Pajares & Miller, 1994) and science (Andrew, 1998; Britner, & Pajares, 2001; 2006; Lawson, Banks & Logvin, 2006), to first language reading and writing (Pajares, & Valiante, 1997; Shell, Murphy, & Bruning,

1989; 1995). Language learning is another field that self-efficacy studies have been applied to, yet in a limited number. Both the achievement in general and the achievement in specific skills have been analyzed in relation to self-efficacy.

3. Methodology

3.1 Participants

Forty two lower- intermediate Iranian male and female students studying English as a foreign language at a private Language institute in Sari, Mazandaran participated in the present study. Their age ranged from 19 to 30. The participants were divided into two groups. Each group consisted of 22 students. There were one experimental group and one control group.

To ensure the homogeneity of the participants in terms of their vocabulary, several criteria were considered. At first, these students had taken Afarinesh Language Institute's placement test when they registered themselves as students at Afarinesh Institute and they had all studied English at the above-mentioned institute for several terms. Secondly, after passing the previous levels successfully, they were all studying at the same level at the same language institute. To further ensure the homogeneity of the participants, the researcher used the Oxford Placement Test (OPT) to make sure they are all at the same level in terms of their language proficiency.

3.2 Instruments

3.2.1 Oxford Placement Test

The Oxford Placement Test helps teachers quickly measure students' general language ability to place them into the appropriate level class for a language course. This test is different from most other placement tests. Not only does it test grammar and vocabulary, it also tests how learners use that knowledge in order to understand the meaning in communication, helping students to practice using English naturally and confidently in preparation for real-world situations. The test has two sections: Use of English and Listening. It gives individual scores for each section as well as an overall score, shown as a number between 0-120, and an equivalent CEFR (Common European Framework of Reference for Languages) level.

3.2.2 Self-Efficacy for Learning Form (SELF)

The self-efficacy for Learning Form (SELF—A; Zimmerman & Kitsantas, 2007) is a 57-item instrument designed to measure various self-efficacy processes that are important to academic functioning (e.g., reading, note taking, test-taking, writing, and studying). Specifically, the SELF-A is designed to measure beliefs students have about their ability to "self-regulate learning" (Zimmerman & Kitsantas, 2007, p. 157), which includes such skills as the ability to set goals, self-monitor, self-evaluate, and monitor self-reactions. The SELF-A may be useful in a range of educational settings as an indicator to determine the role of motivation in the learning process and to measure perceptions of efficacy in relation to self-regulation of academic functioning.

3.2.3 Test of Vocabulary

Since the purpose of the study was to see the effects of applying CT in their self-efficacy of vocabulary, the students answered a set of fifty-item vocabulary test form the "Vocabulary In Use Test" written by Michael McCarthy, 2008, as pre and posttest of the study. The results were analyzed and compared to see whether the incorporation of CT strategies helped learners become self-efficient in learning vocabulary.

3.3 Procedure

In this study, 60 learners of English studying the books 'Interchange 2' in a language school in the city of Sari, Iran, and ranging from 17 to 25 in age take part in Oxford Placement Test to determine whether they are in the same level of proficiency in terms of vocabulary. Out of sixty learners, 42 learners were placed in two classes of twenty one students. Then, group one, the experimental group, received some instruction of CT for 20 hours and group two, the control group, had no instruction on how to think critically. The CT strategies instruction included four skills of CT.: abstract thinking, creative thinking, systematic thinking and systematic thinking, and precise communication of ideas to others. The treatment was given to the experimental group by a single teacher three hours a week. After giving the CT instruction to the experimental group for 20 hours and the usual instruction to the control group for also 20 hours, the learners were required to take the self-efficacy test designed by Zimmerman et al (2005). The test APP consists of 57 items which asks the learners' ideas on five main categories: reading items, study items, test preparation items, note-taking items, writing items. To answer the second research question, the participants were asked to answer the vocabulary test from 'Vocabulary In Use' test APP prior and after the CT instructions. Also to answer the third research question, which was the impact of incorporating critical thinking strategies into an EFL curriculum on self-efficacy in speaking, the participants were asked to talk about two topic prior and after the treatment. Their voices were recorded and analyzed in terms of duration and the number of vocabulary used in their speaking.

3.4 Data Analysis

Table 1. The Descriptive Statistics of the OPT Scores

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
OPT	60	15.00	41.00	30.9833	5.14367	26.457
Valid N (listwise)	60					

Out of the 60 participants, 42 were considered homogenous members at the lower-intermediate level based on their scores ranging from 28 to 36 (according to the test guide of the OPT). The homogenized participants were randomly assigned into two groups of control and experimental (N= 22).

Table 2. Result of Normality Test for Vocabulary Posttest Scores of the Control and the Experimental Groups

	Shapiro-Wilk		
	Statistic	df	Sig.
VocabCon	.925	22	.108
VocabExp	.919	22	.081

As it can be seen in table 2 above (result of Shapiro-Wilk), the data is normally distributed for the two sets of scores ($p > .05$).

Table 3 Descriptive Statistics for the Vocabulary Posttest Scores of the Control and the Experimental Groups

VocabularyScores	ConExp	N	Mean	Std. Deviation	Std. Error Mean
	control		22	21.0000	2.16795
experimental		22	28.9524	5.37100	1.17205

The means of the posttests for the control and experimental groups are 22 and 28.95 respectively. The result of the Independent Samples T-Test is presented below.

First of all the results of Oxford Placement Test were analyzed to see whether the participants were homogeneous. To do this a test of Shapiro-Wilk was done to make sure the learners were evenly distributed in the control and experimental groups. Finally Result of the Independent T-Test for both groups were analyzed to make sure they are all at the same level. A T-Test was conducted to analyze the pre and post test scores of the vocabulary test to see whether the incorporation of the CT strategies into curriculum could benefit students in term of self- efficacy in vocabulary.

To answer the second research question Mann-Whitney U Test was conducted to analyze the effects of CT strategies on the learners' self-efficacy scores. The test was conducted based on the learners' answers to the self-efficacy questionnaires prior and after the treatment. Finally, to answer the third research question, the researched applied Independent Sample T-Test to compare the duration and the number of the vocabularies in pre and post speaking test. The results of the independent sample T-Test could show if the CT strategies helped the learners become more efficient in their speaking.

4. Results

4.1 Result of the OPT Used as the Homogeneity Test

In order to have homogenized participants in terms of their general English language proficiency, the Oxford Placement Test (OPT) was administered. The descriptive analysis for the OPT test is displayed in the following table.

4.2 Analysis of the First Research Question

In order to choose the appropriate test for the posttest comparison between the control and the experimental groups, the researcher ran the test of normality. The following table shows the normality analysis result.

Therefore, the Independent Samples T-Test was used for posttest comparison of vocabulary. The descriptive statistics of the two sets of scores is presented below.

Table 4. The Result of the Independent Samples T-Test for Comparison of the Vocabulary Posttest Scores of the Control and the Experimental Groups

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	(2-Mean Difference)	Std. Error Difference
VocabularyScoresEqual variances assumed	13.117	.081	6.29240		.000	-7.95238	1.26392
Equal variances not assumed			6.29226	348.000	.000	-7.95238	1.26392

As it can be seen in table 5.4 above, the obtained Sig value is less than .05, $t(40) = 6.29$, $p < .05$. Therefore, the researcher safely **rejects** the research hypothesis that incorporating critical thinking strategies do not have any statistically significant effect on Iranian EFL learners' vocabulary learning.

4.3 Analysis of the Second Research Question

The second research question of this study was as follows:

Table 5 Descriptive Statistics for the Self-Efficacy Scores of the Control and Experimental Groups

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
SelfefficacyCont	22	3.40	3.68	3.5714	.08639	.007
SelfefficacyExp	22	3.68	4.71	4.1200	.36576	.134
Valid N (listwise)	22					

As it can be seen in table 5.5, the mean scores for the self-efficacy of control and experimental groups are 3.57 and 4.12

RQ2. Do critical thinking strategies have any statistically significant effect on Iranian EFL learners' self-efficacy?

Since the two types of data were of an ordinal type, the non-parametric Mann-Whitney U test was used for the self-efficacy comparison between the control and the experimental groups. Table 5 below shows the result of the descriptive statistics.

respectively. The result of the inferential statistics is presented in the following table.

Table 6. The Result of the Mann-Whitney U Test for the Self-Efficacy Scores of the Control and Experimental Groups

	SelfefficacyScores
Mann-Whitney U	4.000
Wilcoxon W	235.000
Z	-5.470
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: ConExp	

As it can be seen in table 6 above, the obtained Sig value is less than .05, $U = 4$, $p < .05$. Therefore, the researcher safely **rejects** the research hypothesis that incorporating critical thinking strategies into an EFL curriculum do not have any statistically significant effect on Iranian EFL learners' self-efficacy.

4.4 Analysis of the Third Research Question

RQ: Do critical thinking strategies make them self-efficient in speaking?

In order to choose the appropriate test for the comparison between the control and the experimental groups on their speaking time and vocabulary usage, the researcher ran the test of normality. The following table shows the normality analysis result.

Table 7. Result of Normality Test for the Speaking Time Duration and Vocabulary Usage for the Control and the Experimental Groups

	Shapiro-Wilk Statistic	df	Sig.
Speaking_Time_Con	.965	22	.620
Speaking_Time_Exp	.950	22	.345
Vocabulary_usage_Con	.843	22	.003
Vocabulary_usage_Exp	.882	22	.016

As it can be seen in table 7 above (the result of the Shapiro-Wilk test), the data are normally distributed for the two sets of speaking time duration ($p > .05$) but not for the vocabulary usage ($p < .05$). Therefore, the Independent Samples T-Test should be used for the

comparison of speaking time duration and the non-parametric Mann-Whitney U test should be used for the comparison of vocabulary usage. The descriptive statistics of the two sets of scores is presented below.

Table 8 Descriptive Statistics for the Speaking Time Duration and Vocabulary Usage for the Control and the Experimental Groups

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Speaking_Time_Con	22	1.90	3.20	2.4571	.34657	.120
Speaking_Time_Exp	22	2.52	4.20	3.5071	.40413	.163
Vocabulary_usage_Con	22	215.00	312.00	243.5714	28.00816	784.457
Vocabulary_usage_Exp	22	221.00	380.00	274.5238	44.53832	1983.662
Valid N (listwise)	22					

The means of the speaking time duration for the control and experimental groups were 2.45 and 3.50 respectively. The means of the vocabulary usage for the control and experimental groups were 243.57 and 274.52 respectively. The minimum and maximum duration for the control and experimental groups were 1.9, 3.2 and

2.52, 4.2 respectively. The minimum and maximum of the vocabulary usage for the control and experimental groups were 215, 312 and 221, 380 respectively. The result of the Independent Samples T-Test is presented below.

Table 9. The Result of the Independent Sample T-Test for the Comparison of the Speaking Time Duration for the Control and the Experimental Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means					
Speaking duration		F	Sig.	t	df	Sig. (2-tailed)	(2-Mean Difference)	Std. Difference	Error
		Equal variances assumed	.000	.992	9.03840		.000	-1.05000	.11618
	Equal variances not assumed			9.03839	091.000	.000	-1.05000	.11618	

As it can be seen in table 5.9 above, the obtained Sig value is less than .05, $t(40) = 9.03$, $p < .05$. Therefore, there has been a

statistically significant difference between the speaking time duration of the control and the experimental groups.

Table 10 The Result of the Mann-Whitney U Test for the Comparison of the Vocabulary Usage for the Control and the Experimental Groups

		Vocabulary usage
Mann-Whitney U		113.000
Wilcoxon W		344.000
Z		-2.705
Asymp. Sig. (2-tailed)		.007

As it can be seen in table 5.10 above, the obtained Sig value is less than .05, $U = 113$, $p < .05$. Therefore, there has been a statistically significant difference between the vocabulary usage of the control and the experimental groups.

5. Discussion

This study aimed to investigate whether the incorporation of critical thinking strategies into an EFL curriculum and its impact on learners' self-efficacy in vocabulary performance and speaking. The study was focused on three research questions. In this section, the research questions will be discussed separately. The first research question was to find whether incorporating critical thinking strategies into an EFL curriculum have any statistically significant effect on Iranian EFL learners' vocabulary learning. As mentioned before, 44 language learners were divided into two groups of 22 students. The first group, the experimental group, was given instructions on critical thinking in a three-month period in a private institute. In fact, the critical thinking strategies were added to their normal curriculum of the institute. Then they were asked to give a test of vocabulary to measure the effects of the critical thinking on their vocabulary performance.

One of the main goals of this study was evaluating the impact of applying critical thinking strategies on vocabulary learning. According to the results, the incorporation of critical thinking strategies significantly affected Iranian learners' vocabulary learning. Thus, the findings of the present study revealed that critical thinking ability of Iranian EFL learners correlated

positively and significantly with their L2 vocabulary knowledge. The result seems to be in line with the findings of Kamali and Fahim (2011) who found that critical thinking caused significant improvements in the learners' ability in comprehending unfamiliar words. Also, according to Mirzai (2008), there is a significant relationship between critical thinking and lexical inferencing. He found that when the learners were faced with unknown words while reading, those who had higher levels of critical thinking showed more ability of lexical inferencing. Moreover, Paul and Elder (2005) found that learning and thinking are related stating that "the only capacity we can use to learn is human thinking. It can be concluded that the use of critical thinking skills would help EFL students learn L2 vocabulary more effectively and profoundly." (p.10). In addition, in different studies conducted by Pressley et al. (1982), Huckin *et al.* (1993), Gu and Johnson (1996) and Kizlik (2011) the application of critical thinking strategies remarkably augment students' vocabulary learning as one of the learning strategies. Fahim and Komijani (2010) also found a positive correlation between L2 vocabulary knowledge and critical thinking ability. In addition, they declared that the participants' critical thinking ability also correlated positively with their self-assessed degree of determination, memorization, cognitive, and meta-cognitive strategies of L2 vocabulary learning.

The results of the study enjoy a good level of support from previous researches on the field. In particular, the results of the present study reinforce previous research which indicated a close relationship between critical thinking ability and learners' self-efficacy in learning a second language (Dehghani, et al. 2011;

Sariolghalam & Noruzi, 2010). To mention a study in a EFL milieu, Ghanizadeh (2012) found that it appears that the same also goes for the development of EFL learners' CT will have a positive effects on their self-efficacy and the more the EFL learners try to expand their CT skills, the more self-regulated they will become in their learning.

Also, the finding of the study showed that when students' awareness rises about critical thinking strategies, their speaking proficiency will significantly improve in terms of duration and the number of vocabularies. The result of the study is line with the findings of a similar study conducted by Malmir and Shoorcheh (2012) in which they found that a critical thinker stands for a better language learner.

In addition, since the present study was conducted in an EFL context, the students find almost no opportunity to improve their speaking proficiency outside the classroom. Thus, the critical thinking should be regarded as an important part of the curriculum to help the students become more sufficient. In this study deeper learning of the new vocabulary was observed in the course of critical thinking training. Accordingly, Malmir and Shoorcheh (2012) revealed that enhancing critical thinking strategies can directly lead to learning a language betterment. They concluded that language teachers should try to include the explicit instruction of critical thinking strategies in the classrooms.

To instruct critical thinking skills, teachers are need to possess these skills and get some training in critical thinking themselves (Lai, 2011). Therefore, to establish courses for explicit critical thinking training, it is necessary that teachers at English Language institutes attend sessions on explicit critical thinking instruction as a part of their teacher training course or their in-service training.

6. Suggestion for Further Research

In order to complement the findings of the present study, some further research can be suggested:

- 1- The same kind of research should be done on a larger scale to support generalizations.
- 2- The same kind of research should be done on different genders in Iran separately.
- 3- Further qualitative research should be done on how explicit training in critical thinking improves the speaking proficiency of learners.

7. References

- Allen, G.D., Rubenfield, M.G., & Scheffer, B.K. (2004). Reliability of assessment of critical thinking. *Journal of Professional Nursing*, Vol 20, No 1, pp 15-22.
- Angeli, C., & Valanides, N. (2009). Instructional effects on critical thinking: Performance on ill-defined issues. *Learning and Instruction*, 19 (2), pp. 322-334.
- Atkinson, D. (1997). A critical approach to critical thinking in TESOL. *TESOL Quarterly*, 31(1), 71-79.
- Bensley, D. A. (1998). Critical thinking in psychology: A unified skills approach. Pacific Grove, CA: Brooks/Cole Publishing.
- Benesch, S. (1993). Critical thinking: A learning process for democracy. *TESOL Quarterly*, 27(3), 545-548.
- Benesch, S. (1999). Thinking critically, thinking dialogically. *TESOL Quarterly*, 33(3), 573-580.
- Bracken, B., Brown, E., & Feng, A. (2009). Critical thinking instruction. *Journal for the Education of the Gifted*. Vol. 33(1), pp. 7-37.
- Brown, H. D. (2002). An interactive approach to language pedagogy. (2nd ed). White plains, NY: Pearson Production.
- Carroll, R. T. (2005). Teaching critical thinking. The Amazing Meeting in Las Vegas. McGrawhill.
- Center for critical thinking. (1996b). Definition of a critical thinker. Retrieved October 30, 2006 from <http://www.criticalthinking.org/aboutCT/criticalthinker.shtml>
- Celce-Murcia, M. (2001). Teaching English as a second or foreign language. (3rd ed). Los Angeles: Heinle & Heinle.
- Curtis, F., Tracy, I., Rick, R., Gallo, M., Erin, E., & Ricketts, J. (2008). Overtly Teaching Critical Thinking and Inquiry-Based Learning: A Comparison of Two Undergraduate Biotechnology Classes. *Journal of Agricultural Education*, 49, 72-84.
- Davidson, B. (1998). A case for critical thinking in the English language classroom. *TESOL Quarterly*, 32(1), 119-123.
- Dam, G., & Volman, M. (2004). Critical thinking as citizenship competence: Teaching strategies. *Learning and Instruction*, 14, 359-379. Retrieved October 16, 2006 from <http://ilt.msu.edu/vol14/article1.pdf>
- Damirchi, Q. V., Seyyedi, M. H., & Rahimi, G. (2012). Evaluation of knowledge and critical thinking at Azad Islamic University. *Interdisciplinary Journal of Contemporary Research in Business*, 3(9), 213-221.
- Dehghani, M., Mirdoraghi, F. & Pakmehr, H. (2011). The role of graduate students' achievement goals in their critical thinking disposition. *Procedia - Social and Behavioral Sciences*, 15, 2426-2430. <http://dx.doi.org/10.1016/j.sbspro.2011.04.121>
- Ennis, R. (1987). A taxonomy of critical thinking dispositions and abilities. In J. Baron & R. Sternberg (Eds.), *Teaching thinking skills: theory and practice* (p.7). New York: Freeman.
- Ennis, R. (1992, March). Critical thinking: What is it? In Paper presented at the 48th annual meeting of the Philosophy of Education Society, Denver, Colorado.
- Facione, P. A. (2004). Critical thinking: What it is and why it counts. Retrieved November 1, 2006 from <http://www.insightassessment.com/pdf/files/what&why2006.pdf>
- Facione, P. A. (2007). Critical thinking: What it is and what it counts. Retrieved February 26, 2008, from <http://www.control-z.com/storage/what-is-ct.pdf>
- Fahim, M., & Komijani, A. (2010). Critical thinking ability. L2 vocabulary knowledge and L2 vocabulary learning strategies. *Journal of English Studies, IAUSRB*, 1(1), 23-38.
- Fisher, A. (2001). Critical thinking: An introduction. Cambridge: Cambridge University Press.
- Folse, Keith. (2006). The art of teaching speaking. Michigan: Michigan University Press.
- Fisher, A. (2003). An introduction to critical thinking. Mahwan, NJ: Lawrence Erlbaum.
- Fisher, A., & Scriven, M. (1997). Critical thinking: Its definition and assessment. CA: Edgepress.
- Fulcher, G. (2003). Testing second language speaking. New York: Pearson Longman.
- Ghanizadeh, A. (2011). An investigation into the relationship between self-regulation and critical thinking among Iranian EFL teachers. *The Journal of Technology & Education*, 5(3), 213-221.
- Ghanizadeh, A., & Mirzaee, S. (2012). EFL learners' self-regulation, critical thinking and language achievement. *International Journal of Linguistics*, 4 (3), 451-468. doi:10.5296/ijl.v4i3.1979
- Gardner, J. N., & Jewler, A. J. (2000). Your college experience: Strategies for success (4th ed.). Belmont, CA: Wadsworth.

University College of Takestan

- Gu, Y. & Johnson, R.K. (1996) Vocabulary learning strategies and language learning outcomes. UK: University of Hong Kong.
- Halpern, D. (1996). *Thought and knowledge: an introduction to critical thinking*. (3rd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Halpern, D. A. (1998). Teaching for critical thinking: Helping college students develop the skills and dispositions of a critical thinker. *New Directions for Teaching and Learning*, 1998(80), 69-74.
- Joiner, R., & Jones, S. (2003). The effects of communication medium on argumentation and the development of critical thinking. *International Journal of Educational Research*, 23 (4), pp. 39 861–871.
- Kamali, Z., & Fahim, M. (2011). The relationship critical thinking ability of Iranian EFL learners and their resilience level facing unfamiliar vocabulary items in reading. *Journal of Language Teaching and Research*, 2(1), 104-111. <http://dx.doi.org/10.4304/jltr.2.1.104-111>
- Kizlik, B. (2011). Assertive discipline information. Retrieved 1 June 2011, from <http://www.adprima.com/assertive.htm>
- Kurfiss, J.(1988). Critical thinking: theory, research, practice and possibilities. Washington: Higher Education.
- Luoma, S. (2004). *Assessing speaking*. New York, Cambridge University Press.
- Malmir, A., & Shoorcheh, S. (2012). An investigation of the impact of teaching critical thinking on the Iranian EFL learners' speaking skill. *Journal of Language Teaching and Research*, 3(4), 608-617.
- McPeck, J. (1981). *Critical thinking and education*. New York: St Martin's.
- Mirzai, Z. (2008). *The relationship between Critical Thinking and Lexical Inferencing of Iranian EFL Learners*.
- Unpublished master's thesis, Azad University of Science and Research, Tehran, Iran.
- Myers, Ch. (1992). *Teaching critical thinking*. Khodayar Abily (Translator), Tehran: Samt, 2007: 8-36, (Chapter 1): Persian.
- Mayer, R., & Goodchild, F. (1990). *The critical thinker*. New York: Brown.
- Mishoe, S. C., & Welch, M. A., Jr. (2002). *Critical thinking in respiratory care: A problem-based learning approach*. New York: McGraw-Hil.
- Ozturk, C., Muslu, G. K., & Dicle, A. (2008). A comparison of problem-based and traditional education on nursing students' critical thinking disposition. *Nurse Education Today*, 28, 627-632.
- Profetto, M. J. (2003). The relationship of critical thinking skills and critical thinking dispositions of baccalaureate nursing students, *Journal Advance Nurse*, 43, 569-577.
- Peak, F. S. (1997). Attributes of critical thinking. Retrieved March 12, 2008, from [//www.accd.edu/sac/history/keller/Accditg/ssct.htm](http://www.accd.edu/sac/history/keller/Accditg/ssct.htm).
- Paul, R. (1989). Critical thinking in North America: a new theory of knowledge, learning and literacy. *Journal of Argumentation*, 3, 197–235.
- Porter, O. T., Igein, G., Alexander, D., Blaylock, J., McComb, D., Williams, S. (2005). Critical thinking for nursing leadership. *Journal Nurse Leader*, 3, 28-31.
- Qing, Z., Ni, SH., & Hong, T. (2010). Developing critical thinking disposition by task-based learning in chemistry experiment teaching. *Procedia - Social and Behavioral Sciences*, 2, 4561-4570.
- Richards, J.C. & Schmidt, R. (2002). *Longman dictionary of language teaching and applied linguistics*. London: Pearson Education
- Seligson, P. (1997). *Helping students to speak*. Richmond Publishing.
- Stapleton P. (2002) .Critical thinking in Japanese L2 writing: rethinking tired Constructs. *ELT Journal* Volume 56/3, pp. 123-143.
- Siegel, H. (1988). *Educating reason: rationality, critical thinking and education*. New York: Routledge.
- Strohm, S. M., & Baukus, R. A. (1995). Strategies for fostering critical thinking skills. *Journalism and Mass Communication Educator*, 50 (1), 55-62.
- Thornbury, S. (2007). *How to teach speaking*. Pearson Longman.
- Wade, C. (1995). Using writing to develop and assess critical thinking. *Teaching of Psychology*, 22(1), 24-28.
- Worrell, J.A., & Profetto-McGrath, J. (2007). Critical thinking as an outcome of context-based learning among post RN students: A literature review. *Nurse Education Today* 27, 420–426.
- Wright, I. (2002). *Is that right? Critical thinking and the social world of the young learner*. Toronto: Pippin Publishing.
- Zimmerman, B. J., Kitsantas, A., & Campillo, M. (2005). Evaluación de la autoeficacia regulatoria: Una perspectiva social cognitiva. *Evaluar*, 5, 1-21.