



تأثير قدرات التفكير النقدي لدى طلاب الجامعة العراقيين من متعلمي اللغة الانكليزية

لغة اجنبية على استخدامهم لاستراتيجيات تعلم اللغة

لحاظ عبد الأمير كريم^١

عباس علي رضائي^٢

١- جامعة بابل/ كلية التربية للعلوم الانسانية/ قسم اللغة الإنكليزية، العراق؛

hum.lihadh.abdula@uobabylon.edu.iq

دكتوراه في اللغة الإنجليزية / أستاذ مساعد

٢- جامعة طهران/ كلية اللغات الأجنبية/ قسم اللغة الإنكليزية، ايران؛ aarezaee@ut.ac.ir

دكتوراه في علم اللغة التطبيقي/ أستاذ مساعد

ملخص البحث:

شكلت أهمية التفكير النقدي حافزاً للباحثين في مجالات التعليم المختلفة، مثل سياقات اللغة الإنجليزية لغة أجنبية (EFL) ولغة ثانية (ESL). وبالمثل، فإن الوعي بأهمية استراتيجيات تعلم اللغة أصبح يتنامى خلال المراحل المختلفة لتاريخ تعلم اللغة. خطت الدراسة الحالية للتحقيق في تأثير قدرات التفكير النقدي لدى متعلمي اللغة الإنجليزية لغة أجنبية على استخدامهم لاستراتيجيات تعلم اللغة المختلفة. تحقيقاً لهذه الغاية، قدم جرد استراتيجيات تعلم اللغة (SILL) وتقييم التفكير النقدي (Watson-Glaser WGCTA) إلى ١٠٠ طالب جامعي عراقي من متعلمي اللغة الإنجليزية لغة أجنبية. أجريت تجربة لمدة خمسة عشر أسبوعاً في محاولة لتحسين قدرات التفكير النقدي لدى المشاركين. كشفت النتائج عن وجود علاقة ذات دلالة إحصائية بين استخدام المشاركين لاستراتيجيات تعلم اللغة المختلفة وقدراتهم على التفكير النقدي. ووجد أيضاً أن تأثير تدريس التفكير النقدي يكون أكثر وضوحاً في حالة استخدام استراتيجيات الذاكرة وأقل في استخدام الاستراتيجيات الوجداني. أخيراً تم التوصل إلى بعض الاستنتاجات والتوصيات.

تاريخ الاستلام:

٢٠٢١/٥/٥

تاريخ القبول:

٢٠٢١/١١/٢٥

تاريخ النشر:

٢٠٢٣/٩/٣٠

الكلمات المفتاحية:

التفكير النقدي، استراتيجيات تعلم اللغة، متعلمي اللغة الإنجليزية لغة أجنبية في العراق.

السنة (١٢) - المجلد (١٢)

العدد (٤٧)

ربيع الاول ١٤٤٥هـ. أيلول ٢٠٢٣م

DOI:

10.55568/amd.v12i47.275-302



The Effect of Iraqi EFL University Students' Critical Thinking Abilities on Their Use of Language Learning Strategies

Lihadh A. Kareem ¹

Abbas Ali Rezaee ²

1- University of Babylon / College of Education for Human Sciences / Department of English, Iraq; hum.lihadh.abdula@uobabylon.edu.iq

PhD in English Language/ Assistant Professor

2- University of Tehran/ College of Foreign Languages / Department of English, Iran;

aarezaee@ut.ac.ir

PhD in English Language/ Assistant Professor

Received:

5/5/2021

Accepted:

25/11/2021

Published:

30/9/2023

Keywords:

Critical Thinking,
Language Learning
Strategies, Iraqi EFL
Learners

Al-Ameed Journal

Year(12)-Volume(12)
Issue (47)

Rabi' Al-Awwal 1445 AH
September 2023 AD

DOI:
[10.55568/amd.v12i47.275-302](https://doi.org/10.55568/amd.v12i47.275-302)



Abstract:

The importance of critical thinking has formed a motivation for educators at different fields of education, such as EFL and ESL contexts. Similarly, the awareness of the importance of language learning strategies has been growing throughout the different stages of language learning history. The current study is planned to investigate the effect of EFL learners' critical thinking abilities on their use of the different language learning strategies. To this end, the Strategy Inventory for Language Learning (SILL) and the Watson-Glasser Critical Thinking Appraisal (WGCTA) were administered to 100 Iraqi EFL university students. A fifteen-week experiment was conducted in an attempt to improve the participants' critical thinking abilities. The findings reveal that there is a statistically significant relationship between the participants' use of the different language learning strategies and their critical thinking abilities. It is also found out that the effect of teaching critical thinking is most clear in the case of the use of memory strategies and less in the use of the affective strategies.

1- INTRODUCTION

Throughout the last few decades, a gradual shift of attention has taken place within the field of teaching English as a foreign or a second language resulting in greater emphasis on the learners' skills and abilities. Researchers as well as language teachers have been paying more attention to improving the EFL learners' different skills such as the critical thinking skills and the use of the different Language Learning Strategies (LLS). Critical thinking refers to the ability to master a number of skills such as comprehension, analysis, application, synthesis and evaluation¹.

Similarly, the awareness of the importance of the LLS has been growing throughout the different stages in exploring these strategies over its history. It is an agreed upon fact that even with the best methods and teachers, learners are actually responsible for their learning². Therefore, it is important to equip EFL learners with a set of skills and strategies that could increase their ability to retain and retrieve the different materials they are exposed to in the target language³. Consequently, investigating EFL learners' use of these strategies and the factors that could increase this use worth investigating. Critical thinking has turned out to be one of the most promising and effective methods of teaching foreign/second languages. As such, developing critical thinking skills for college students has become an important issue and has been set as a primary goal in higher education⁴. Thus the importance of teaching critical thinking is increasingly recognized, for that, it requires great attention for EFL teachers and researchers, especially those specialized in teaching and training pre-service English language teachers.

A number of studies have tackled the concept of critical thinking and its relation to different kinds of success. However, the majority of these studies concentrate on the theoretical rather than the practical aspects, especially in contexts like the

1 Chaffee, John. *Thinking Critically*, 11th ed. (Dallas: Houghton Mifflin Company, 2015).

2 Griffiths, Carol. "Language Learning Strategies: Theory and Research" (New Zealand, 2004).

3 Nambiar, Radha. "Learning Strategy Research – Where Are We Now?," *The Reading Matrix* 9, no. 2 (2009).

4 LAI, YING-CHUN. "Language Learning Strategy Use and English Proficiency of University Freshmen in Taiwan," *TESOL Quarterly* 43 (2009).

Iraqi university education⁵. Furthermore, in EFL university contexts, the emphasis has often been given to developing the four language skills, with no or very little attention to cultivating higher level of critical thinking. Thus, EFL learners usually gain good amount of knowledge about the language itself without promoting important critical thinking skills that are crucial for improving their ability to effectively use that language.

In addition, a considerable number of studies about the importance of learning strategies in helping EFL learners acquiring the new language are found in the literature^{6 7 8 9 10}. Even though, the effect of improving critical thinking abilities on the EFL learners' investment of the different language learning strategies are not sufficiently covered. Therefore, it is important to know whether the improvement of critical thinking skills helps in increasing the use of the learning strategies.

In an attempt to fill this void, this paper attempts to propose some practical tasks and activities for finding a place for critical thinking in Iraqi EFL university classrooms. Applying a practical experience for teaching/improving critical thinking skills, the current study attempts to provide information about the effect of teaching critical thinking abilities on the use of the LLS by studying the case of Iraqi EFL university students.

2. REVIEW OF THE LITERATURE

2.1 Critical Thinking

A wide range of definitions for critical thinking are found in the literature. According to Beyer (1983), critical thinking involves people's ability to evaluate, judge, gather and use information effectively, understanding different points of

5 Al-Juboury, Nejat. "From Passive Learning to Critical Thinking," College of Education for Woman 18, no. 1 (2007).

6 Halpern, Diane F. Thought and Knowledge: An Introduction to Critical Thinking, 4th ed. (Mahwah: Erlbaum, 2003).

7 Nambiar, "Learning Strategy Research – Where Are We Now?"

8 Ehrman, Madeline and Oxford, Rebecca "Adult Language Learning Styles and Strategies in an Intensive Training Setting," Modern Language Journal 74, no. 3 (1990).

9 O'Malley, J. Michael and Chamot, Anna Uhl. Learning Strategies in Second Language Acquisition (Cambridge: Cambridge University Press, 1990).

10 Rubin, J. "Learner Strategies: Theoretical Assumptions, Research History and Typology," in Wenden, & J. Rubin, (Eds). Learner Strategies in Language Learning (New Jersey: Prentice Hall, 1987), 15–30.

views, and solve problems. Halpern¹¹, as well, adopts a similar view of critical thinking seeing it as the ability to generate and organize ideas, analyze facts, make comparisons, defend opinions, evaluate arguments, draw inferences and solve problems.

The importance of critical thinking skills has been emphasized in education as an essential goal not only for academic success but for life success in general¹². In addition, it is argued that students need to learn to think critically in order to be able to reach their best future achievements. Critical thinking is often seen as crucial to every student because the ability to think critically has important effects on the success and failure in different academic branches¹³. Recent studies, such as Zare¹⁴ have stressed that good use of such skills in EFL contexts has a central role in achieving success in learning a new language. Similarly, Schmid¹⁵ highlights that promoting critical thinking is an integral part of the process of English teaching and learning, and it is teachable within academic EFL instruction. This is because critical thinking is, in fact, related to the quality of thinking, and if it is developed in an adequate manner, it would help EFL learners to acquire knowledge, and deal with beliefs, attitudes and ideas more skillfully. As a result, it would help them to communicate with others using the new language¹⁶.

Concerning EFL classrooms, Mayfield¹⁷ states that it is possible to increase students' critical thinking abilities by getting them explicitly involved in critical thinking situations and opportunities. This could be done by engaging them in dialogues with others, leading them to think about their own way of thinking, which will increase awareness of their own thinking.

11 Halpern, Thought and Knowledge: An Introduction to Critical Thinking.

12 Chaffee, Thinking Critically.

13 Anderson, Gina and Piro, Jody "Conversations in Socrates Café: Scaffolding Critical Thinking via Socratic Questioning and Dialogues," *New Horizons for Learning* 11, no. 1 (2014).

14 Zare, Pezhman "Critical Thinking Skills among EFL/ESL Learners: A Review of Literature," *Language in India* 15, no. 11 (2015), <http://www.languageinindia.com/nov2015/zarecriticalthinking.pdf>.

15 Schmidt, Anthony "Critical Thinking and English Language Teaching PT.1," *EFL Magazine*, 2017, <https://eflmagazine.com/critical-thinking-english-language-teaching>.

16 XU, Qing "Fostering Critical Thinking Competence in EFL Classroom," *Studies in Literature and Language* 7, no. 1 (2013).

17 Mayfield, Marlys *Thinking for Yourself: Developing Critical Thinking Skills Through Reading and Writing*, 5th ed. (London: Harcourt College, 2001).

2.2 Learning Strategies

O'Malley and Chamot¹⁸ describe learning strategies as "special ways, of processing information that enhance comprehension, learning or retention of the information" (p. 1). Cook¹⁹ says that a learning strategy is a choice made by language learners during learning or using a new language in a way that affects learning. Chamot²⁰ adds the concept of communication to the definition of learning strategies saying that learning strategies are both mental and communicative procedures employed by language learners to be able to use the new language.

Research on language learning has proved that using appropriate strategies are of great help in developing learners' autonomy and communicative competence and in improving language proficiency²¹. Oxford²² says that "appropriate language learning strategies result in improving proficiency and greater self-confidence" (p.1). This appropriateness is very much important in humanistic education at all different levels of proficiency.

A number of classifications of learning strategies have been proposed throughout the literature^{23 24 25}. In fact, from 1980s on, numerous numbers of studies have been trying to specify broad types or classes of learning strategies under which numbers of more specific strategies are grouped. The classification proposed by Oxford is followed in the current study. She distinguishes between direct and indirect strategies: direct strategies involve direct mental processing of the new language and are sub-classified into three classes: memory, cognitive

18 O'Malley and Chamot, Learning Strategies in Second Language Acquisition.

19 Cook, Vivian. Second Language Learning and Language Teaching (London: Edward Arnold, 2001).

20 Chamot, Anna Uhl "Issues in Language Learning Strategy Research and Teaching," Electronic Journal of Foreign Language Teaching 1, no. 1 (2004): 14-26.

21 Bakhtiarvand, Morteza and Tabatabaei, Soudabeh. "A Closer Look at Different Dimensions of Needs Analysis in the Field of ELT," ELT Voices-India 3, no. 1 (2013).

22 Ehrman and Oxford, "Adult Language Learning Styles and Strategies in an Intensive Training Setting."

23 Rubin, "Learner Strategies: Theoretical Assumptions, Research History and Typology."

24 O'Malley and Chamot, Learning Strategies in Second Language Acquisition.

25 Oxford, Rebecca L. Language Learning Strategies: What Every Teacher Should Know (Boston: Heinle & Heinle, 1990).

and compensation strategies. Indirect strategies support language learning without involving the new language directly and are also divided into three sub-classes, namely, metacognitive, affective and social strategies.

2.3 Studies on Critical Thinking

Critical thinking has been explored by a considerable number of scholars. Boroushaki²⁶, for instance, investigated the relationship between EFL learners' use of vocabulary learning strategies and their critical thinking ability and made a comparison among the levels of critical thinking ability of proficient and less proficient students. The results of his study revealed that there is no significant difference in regard to critical thinking abilities between proficient and less proficient students. Regarding vocabulary strategies, he found out that determination strategies were the most frequently used while social strategies were the least frequently used ones. In addition, he found out a significant difference between proficient and less proficient students in their use of cognitive strategies.

Likewise, Anderson and Piro²⁷ highlighted an instructional framework using Socratic questioning and dialogue to scaffold critical thinking. They employed nine of Paul and Elder 's²⁸ Universal Intellectual Standards. They concluded that a combination of Socratic questioning and dialogue as well as the Universal Intellectual Standards were positively effective in providing a comfortable framework that would scaffold and boost critical thinking skills for EFL learners.

Feng²⁹, as well, attempted to examine the nature of critical thinking skills exploring the possibility to teach and increase these skills in EFL learners through analyzing and discussing the teachers' questions and Bloom's Taxonomy of questions. He found out that among the different types of teachers' questions, the higher order questions were vital to the development of critical thinking abilities of EFL students because the questions asked by the teachers actually

26 Noushin Boroushaki, "The Relationship between Critical Thinking Ability and Vocabulary Learning Strategy among EFL Learners" (Malaya, 2015).

27 Anderson and Piro, "Conversations in Socrates Café: Scaffolding Critical Thinking via Socratic Questioning and Dialogues."

28 Elder, Linda and Paul, Richard. *Critical Thinking: Tools for Taking Charge of Your Professional and Personal Life* (New Jersey: Pearson Education, 2002).

29 Zhiwen Feng, "Using Teachers' Questions to Enhance EFL Students' Critical Thinking Ability," *Journal of Curriculum and Teaching* 2, no. 2 (2013).

control the way in which their students' thinking moves. He added that higher order questioning drove student's thinking deep below the surface of things, and so, provoked them to deal with complexity.

Concerning studies about critical thinking in the Iraqi EFL contexts, Almaliki³⁰ conducted a study to find out the effect of using Socratic questioning on enhancing Iraqi EFL university students' critical thinking ability in reading comprehension. His study revealed that questioning is an important device of thinking that stimulates inquiry and thus improves critical thinking. Covering the same topic, Al-Juboury³¹ focused upon the problem of passive learning in Iraq. Investigating this problem, he assumed four reasons which could be the main cause of passive learning, which are students' classroom attitude, the instruction approach (teacher-centered approach) that is dominant in Iraq, the learning process and the precarious situations in Iraq. Finally, he made some recommendations for both teachers and learners to be used to lower the negative effects of these reasons.

3. THE STUDY

Overviewing the literature about critical thinking, it can be deduced that there are still areas to be investigated. Although there are a number of studies that explored the effect of critical thinking on learning English as a foreign language, there are yet no sufficient studies covering the effect of critical thinking on the use of LLS. In addition to that, no sufficient empirical studies have been conducted to increase critical thinking abilities especially in Iraqi EFL university contexts. As such, the current study is designed to seek answers for the following questions:

1. What is the effect of teaching critical thinking to Iraqi EFL university students on their use of the language learning strategies?
2. What type of learning strategies are most affected by increasing the Iraqi EFL university students' critical thinking ability

3.1 Participants

The participants of the current study were 100 Iraqi EFL university students

30 Muhammad Qassim Almaliki, "The Role of Socratic Questioning in Promoting Students' Critical Thinking in EFL Classrooms at the University of Basra: A Qualitative-Based Study," *The Journal of Kufa Center for Studies* 1, no. 46 (2017).

31 Al-Juboury, "From Passive Learning to Critical Thinking."

who were admitted to the Department of English at the College of Education for Human Studies/University of Babylon for the academic year 2015-2016. All were first year students who had studied English for about nine years in their primary and secondary schools. So, they were homogeneous in regard to their educational background as well as their age which ranged between 18 and 24. The participants were divided into two groups, an experimental group and a control one. The primary number of participants was 116; the answers of 12 ex-primary school teachers were excluded from the analysis in order not to violate the homogeneity of the sample and four answers were excluded because the students either neglected one or more items and/or made two choices for the same item in one or both of the tests used in the study. So, the final number of participants was 100 students, 32 males and 68 females. Fifty students were included in each group, as shown in Table 1:

Table 1: Demographic Features of the Participants

| Group | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------------|-------|--------|-----------|---------|---------------|--------------------|
| Experimental Group | Valid | Male | 14 | 28.0 | 28.0 | 28.0 |
| | | Female | 36 | 72.0 | 72.0 | 100.0 |
| | | Total | 50 | 100.0 | 100.0 | |
| Control Group | Valid | Male | 18 | 36.0 | 36.0 | 36.0 |
| | | Female | 32 | 64.0 | 64.0 | 100.0 |
| | | Total | 50 | 100.0 | 100.0 | |

3.2 Instruments

In order to get answers for the questions of the present study, two instruments were exploited:

3.2.1 The Strategy Inventory for Language Learning (SILL)

SILL questionnaire was developed by Oxford. It covers the six categories for language learning strategies: cognitive, memory, compensation, meta-cognitive, affective and social strategies. The whole questionnaire consists of 50 items divided into six parts: part A consists of 9 items concerned with cognitive

strategies, part B consists of 14 items and deals with memory strategies, part C consists of 6 items covering compensation strategies, part D consists of 9 items dealing with meta-cognitive strategies, part E consists of 6 items assigned for affective strategies and finally part F consists of 6 items covering social strategies. Regarding reliability, this inventory is used in a considerable number of studies and it scored more than (0.85) using Crognpach’s alpha³². To find out the suitability of this inventory to the sample of the current study, Cronbach’s alpha was calculated and it was found to be 0.857 in the pre-administration of the inventory, i.e. before intervention (at time 1 –T1) and 0.915 in the post-administration, i.e. after intervention (at time 2 – T2). The Cronbach’s alphas were also calculated for each part of the questionnaire and it was found to be at accepted values, as shown in Table 2:

Table 2: Cronbach’s Alpha Values for SILL at T1 and T2

| Strategy | Cronbach’s Alpha at T1 | Cronbach’s Alpha at T2 |
|---------------------------|------------------------|------------------------|
| Cognitive strategies | .782 | .786 |
| Memory strategies | .863 | .843 |
| Compensation strategies | .810 | .803 |
| Meta-cognitive strategies | .791 | .799 |
| Affective strategies | .813 | .854 |
| Social strategies | .756 | .788 |
| Total SILL | .857 | .915 |

3.2.2 Watson-Glaser Critical Thinking Appraisal WGCTA

The Watson-Glaser Critical Thinking Appraisal (WGCTA) was administered in order to estimate the critical thinking ability for the students before and after intervention. Two different forms of the test were used in order to avoid and limit the practice effect i.e. re-administration of the same test for the same participants. The two forms used were form A and form B. These two forms were

32 Ehrman and Oxford, “Adult Language Learning Styles and Strategies in an Intensive Training Setting.”

used because they are reported by the designers of the test as parallel forms which are created to compare between two time administrations for the same sample,³³. It has often been used in academic contexts as a measure of critical thinking skills. The WGCTA comprises a variety of question types. Since critical thinking is defined by the formers of this appraisal as “the ability to identify and analyze problems as well as to seek and evaluate relevant information in order to reach an appropriate conclusion”³⁴, the questions designed in the WGCTA are of varying formant and difficulty in order to estimate all areas of critical thinking ability. This test is reported as being appropriate for use with general as well as high ability population including university students. It has 99 items divided into five subtests. Each of the subtests is devoted to test one of the five components of critical thinking, namely, Inferences, Recognition of assumptions, Deduction, Interpretation and Evaluation of arguments.

Regarding the validity and reliability of the test, this test is reported as representing a valid and reliable estimate of critical thinking ability³⁵. Different aspects of validity were examined and proved to be achieved by the designers of the test. For reliability, the Cronbach’s Alpha values had been calculated for different samples ranged between .81 and .95,³⁶. Even though, in order to ensure reliability of the test in regard to the sample of the present study, internal reliability was tested. The Cronbach’s alpha was calculated twice: at time 1 (T1), pre intervention and at time 2 (T2) post intervention. It was 0.950 for pre-intervention and 0.959 for post-intervention. It was measured for each one of the five subtests of the appraisal as well as the cumulative test as a whole. The results reached accepted values as shown in Table 3:

33 Watson, Goodwin and Glaser, Edward M. Watson-Glaser II Critical Thinking Appraisal, Technical Manual and User’s Guide (San Antonio: TX: Pearson, 2012).

34 Watson and Glaser, 3.

35 Watson and Glaser, Watson-Glaser II Critical Thinking Appraisal, Technical Manual and User’s Guide.

36 Watson and Glaser.

Table 3: Cronbach's Alphas for WGCTA at T1 and T2

| The test components | At T1 | At T2 |
|---------------------------|-------|-------|
| Inferences | .724 | .785 |
| Recognition of assumption | .764 | .828 |
| Deduction | .761 | .756 |
| Interpretation | .739 | .772 |
| Evaluation of arguments | .772 | .833 |
| Total | .950 | .959 |

4. Procedure

First of all, the participants were divided into groups of experimental and control groups. The existence of the control group helped to demonstrate that the results gained were solely due to the teaching of critical thinking skills. Initially, the two instruments used in the current study, i.e. WGCTA and SILL, were administered to the whole sample on two different days matching the weekly schedule of the department.

Then the participants in the two groups were taught conversation, one of the compulsory materials assigned by the education authorities, using the textbook *Situational Dialogues*, by Micheal Okenden³⁷. The same dialogues were selected to be taught to both groups and the same number of hours was spent. The teaching period covered a whole course period starting from February and ending at May 2016. The whole teaching period lasted for 30 sessions (15 weeks – two hours per week).

In the experimental group, diverse activities were designed for each lesson to increase the participants' critical thinking abilities drawing their attention to the importance and benefit of critical thinking in general. The objectives sought after the lessons taught to the experimental group were:

- Helping students to develop their critical thinking ability in a two-way interaction: by asking questions and by seeking answers in order to better understand a situation and becoming able to practice and improve certain

37 Okenden, Micheal. *Situational Dialogues* (London: Longman, 1987).

critical thinking skills like analyzing, making inferences, evaluation and problem solving.

- Arousing the students' curiosity and promoting mutual co-operation which should help in solving problems and developing the learners' ability in English language as well.
- Enabling equal participation for all the students in the class.
 - Enabling the participants to collaborate in groups.

The researchers tried to create a friendly atmosphere inside the classroom; this was achieved in different ways. The students' seats were not identical in all lessons, the normal lesson scene, where all the students facing the teacher, was avoided as much as possible. Sometimes the seats were put in U-shape or in circles, some other times the students were divided into two groups sitting on the two sides of the class facing each other. In the first hours of each week, certain dialogues selected from the text book were taught. While teaching the selected dialogues, the students were asked to accomplish certain tasks and activities that could motivate critical thinking. They were working in pairs or groups to accomplish these tasks. Below are examples of those activities:

- Sometimes, the students were given a dialogue with an omitted title and asked to suggest a suitable title for that dialogue and to guess and describe the situation in which the dialogue could take place.
- Some other times, the students were asked to take the position of one of the characters in the dialogue and asked to take a different action giving an explanation for this different action supporting it with evidences.
- For some of the dialogues they were asked to make guesses about some cultural status about the situation in which the dialogue is taking place and to make a comparison with their own culture and beliefs pointing to the differences and similarities between the two cultures.
- For some other dialogues, part of the dialogue was omitted, i.e. the role of one of the characters was omitted and the students were asked to guess and suggest suitable respond in the omitted parts. Then they were given the whole complete form of the dialogue and were asked to make a comparison

and decide which one is more convenient and why.

In the second hours of each week, the lessons were devoted to free discussions. Different topics were chosen for discussion. The researchers tried to choose topics which could be source of interest and/or disagreement among students, in order to encourage the students to take part in the conversations. Each group of students who shared specific opinion, were asked to work together by providing arguments that would support their opinion. In some other lectures, some pictures and postures were given to the students and they were required to talk about the pictures, giving their guesses about the characters, places, occasions, etc. available in the pictures and postures.

Regarding the control group, the students participated in normal conversation class, with routine teaching strategies. The routine lecture method based on teacher-centered approach was followed throughout the teaching period. Here the students' seats were put in the routine way with all the students facing the teacher, similar to scene in other regular lectures. In some lectures, the students were given the chosen dialogues with an explanation and clarification for different aspects in the dialogues. And in other lectures, the students were asked to read the dialogues by heart and were asked to explain the meaning of some of the important words in the dialogues.

At the end of the study, SILL and WGCTA were re-administered for the participants in the two groups in order to find out whether there was any change in the participants' use of learning strategies and/or any increase in their level of critical thinking especially for the participants in the experimental group.

5. RESULTS

The Statistical Package for Social Sciences (SPSS) was employed to analyze the data collected in the study. Before going through the analysis of the data to achieve possible answers to the research questions, the normality of distribution of scores for both SILL and WGCTA was tested. For that, the normality assessment was run for both instruments at time 1 (T1), before the intervention, and time 2 (T2), after the intervention. The results showed that there was normal distribution for both groups regarding SILL at T1 and T2, as well as for the WGCTA at T2.

Only for T1 administration of WGCTA the scores were not normally distributed. In Figure 1, Figure 2, Figure 3 and Figure 4, the histograms for the four variables SILL - T1, SILL-T2, WGCTA-T1 and WGCTA-T2 are shown:

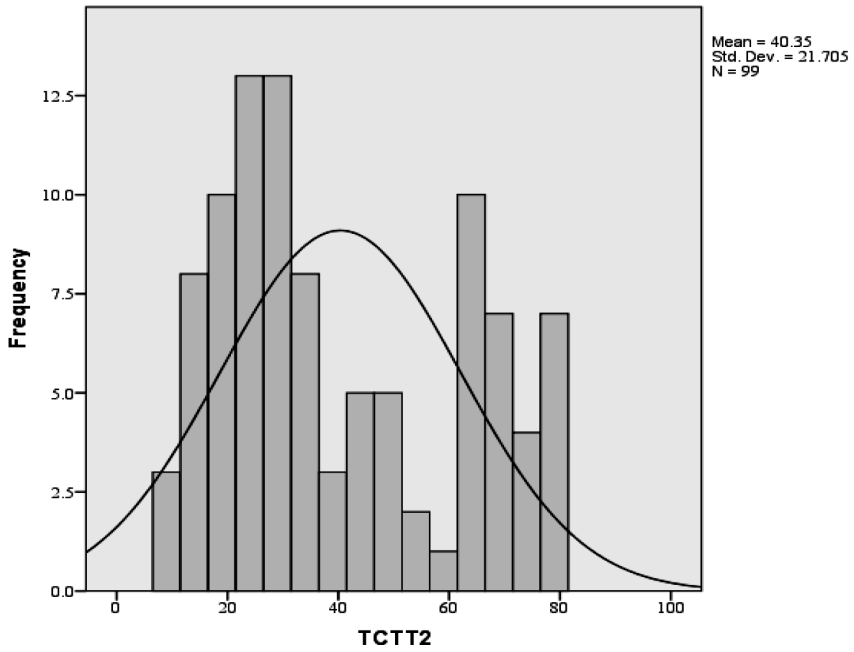


Figure 1. Histogram for the SILL at Time 1

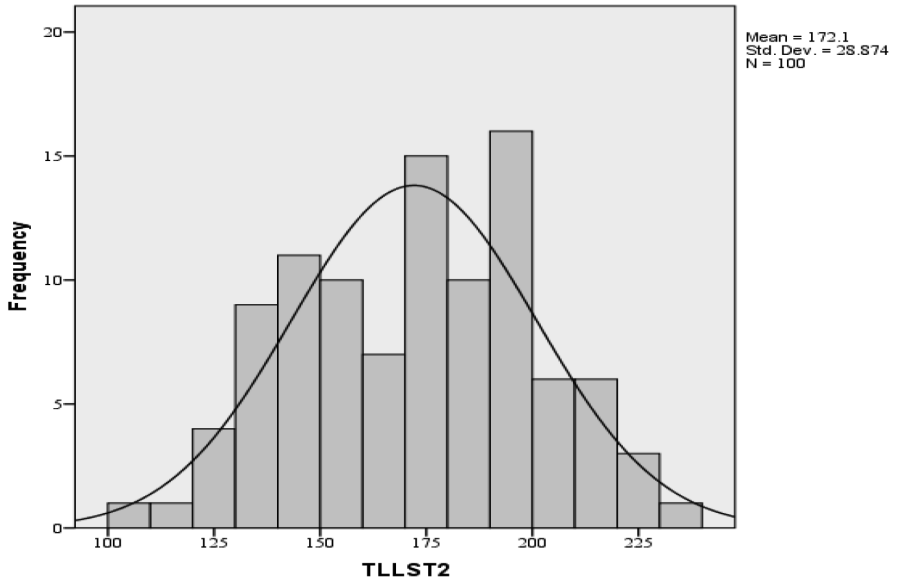


Figure 2. Histogram for the SILL at Time 2

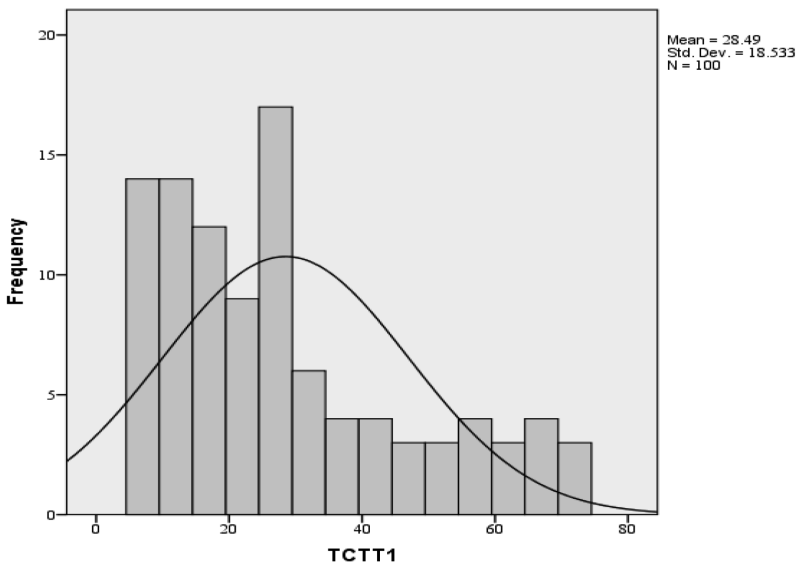


Figure 3. Histogram for the WGCTA at Time 1

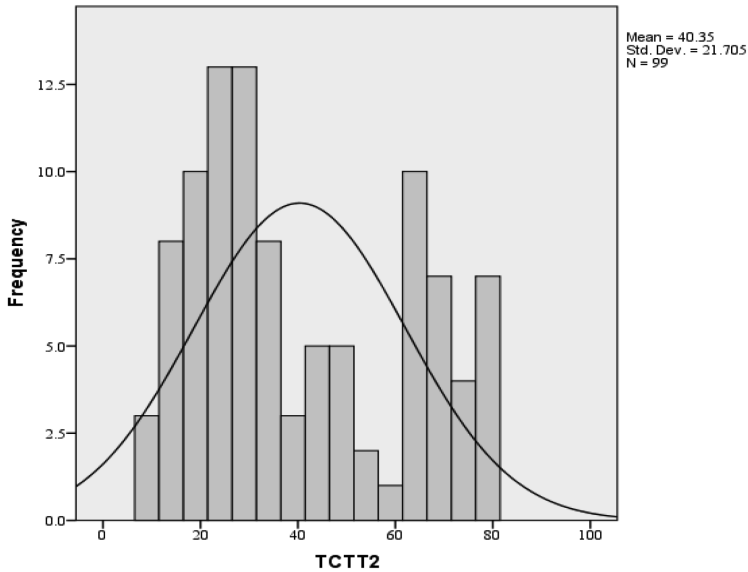


Figure 4. Histogram for the WGCTA at Time 2

Examining Figure 3, it can be noticed that the scores do not fall in a nice normally distributed curve. The scores for the WGCTA at time 1 are positively skewed (Skewness value=0.891) which means that most of the respondents record low scores on the scale. For that, a decision was made to transform this variable, i.e. the scores in the WGCTA at time 1 (TWGCTAT1). The scores were mathematically modified using the Square root formula – SQRT (TCTT1) – with the hope to have a distribution of scores that looks more normal. After running the test of normality for the new variable (i.e. the transformed form of the scores in WGCTA at time 1) it was found that the Skewness value is 0.437. The histogram for the new variable (the transformed TWGCTAT1 entitled SQRT (CTT1)), presented in Figure 5, shows normal distribution:

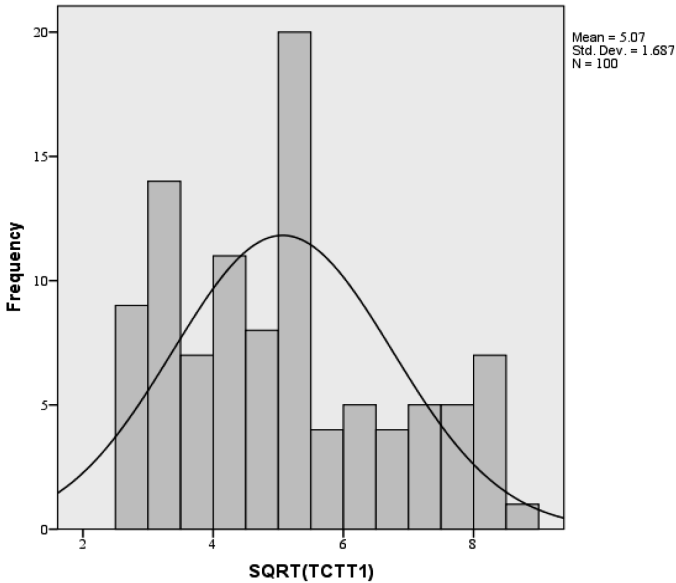


Figure 5. Histogram for the Transformed WGCTA at Time 1 - SQRT (CTT1)

Now having all the data checked, it is time to do the calculations required to answer each of the research questions. In order to answer the first research question which deals with finding out the effect of teaching critical thinking to the Iraqi EFL university students on their use of LLS, an independent-sample t-test was run. The participants' scores in SILL for the experimental group and the control group were compared at time 2, i.e. after the intervention. The result of the independent-sample t-test showed that the difference between the scores of the experimental and control groups were statistically significant, Sig.2 tailed=0.000 as shown in Table 4:

Table 4: Independent Sample t-test for SILL scores at T2 for the two groups

| | t-test for Equality of Means | | |
|----------------------------|------------------------------|--------|-----------------|
| | t | df | Sig. (2-tailed) |
| Equal variance assumed | 6.343 | 98 | .000 |
| Equal variance not assumed | 6.343 | 97.815 | .000 |

Furthermore, a paired sample test was run to find out the difference in the use of the leaning strategies from time 1 to time2 for both the experimental and the control groups. It was found that the increase in the scores of the experimental group (mean of 140.30 at T1 and 187.40 at T2) was more than that in the control group (mean= 147. 38 at T1 and mean=156.60 at T1). Moreover, the difference between T1 cores and T2 scores obtained from the experimental group is statistically significant (Sig. 2-tailed=0.000<0.05). For the control group, the difference between T1 and T2 scores is not significant (Sig. 2-tailed=0.069>0.05). These results are shown in Table 5:

Table 5: Paired Samples T-Test for the Experimental and Control Groups at T1 and T2

| Group | Std. Deviation | T | df | Sig. (2-tailed) |
|--------------|----------------|---------|----|-----------------|
| Experimental | 29.289 | -11.419 | 49 | .000 |
| Control | 35.126 | -1.856 | 49 | .069 |

To make sure that this noticeable increase in the use of LLS for the experimental group is due to the increase of their critical thinking abilities, it is important to find out whether the participants' critical thinking skills really improved after the experiment. Thus, a paired sample test was run for the scores obtained in the WGCTA to find out whether the difference in scores is statistically significant or

not. The results showed that the increase in the participants' scores in the test for critical thinking ability was significant for the experimental group, as the Sig. 2-tailed value was $0.000 < 0.05$. Regarding the control group, the Sig. 2-tailed value was $0.823 > 0.05$ which means that the difference is not significant. See

Table 6: Paired Samples T-Test for the scores in WGCTA at T1 and T2 for the two groups

| Group | Std. Deviation | t | df | Sig. (2-tailed) |
|--------------|----------------|---------|----|-----------------|
| Experimental | 9.893 | -16.639 | 49 | .000 |
| Control | 3.772 | -.225 | 49 | .823 |

Regarding the second research question which deals with finding out the type of learning strategies that is most affected by increasing the different critical thinking skills, a one-way between groups multivariate analysis (MANOVA) was run. First, preliminary tests were conducted to check whether any of the assumptions required in the MANOVA were violated. The results of these tests showed that there is no violation for linearity, normality, univariate and multivariate outliers and multicollinearity. But there were violations for the assumptions of homogeneity and equality of variance, hence, Pillai's trace value was considered instead of Wilk's Lambda value. Running the multivariate ANOVA, a statistical significant difference was found between the two groups in regard to the whole SILL scores ($F=9.092$, $p=0.000$, Pillai's trace=0.370, partial eta squared=0,370), as shown in Table 7

Table 7: Multivariate Tests for the Difference between SILL Scores for the Experimental and the Control Groups

| Effect | Value | F | Sig. | Partial Eta Squared | |
|--------|--------------------|------|--------------------|---------------------|------|
| Group | Pillai's Trace | .370 | 9.092 ^b | .000 | .370 |
| | Wilks' Lambda | .630 | 9.092 ^b | .000 | .370 |
| | Hotelling's Trace | .587 | 9.092 ^b | .000 | .370 |
| | Roy's Largest Root | .587 | 9.092 ^b | .000 | .370 |

Concerning the scores obtained for each of the six strategies, the Bonferroni adjusted alpha level of (0.159) was used (this value is obtained from dividing the alpha value (0.959) by 6: the number of the dependent variables used in MANOVA). The difference was found statistically significant for all six learning strategies as the Sig. values were less than 0.159, as shown in Table 8:

Table 8: Test of Between-Subjects Effects for the Six Learning Strategies at T2 for the two Groups

| Source | Dependent Variable | df | F | Sig. | Partial Eta Squared |
|--------|---|----|--------|------|---------------------|
| Group | Total for the 9 Cognitive Strategies -T2 | 1 | 4.602 | .034 | .045 |
| | Total for the 14 Memory Strategies -T2 | 1 | 17.093 | .000 | .149 |
| | Total for the 6 Compensation Strategies -T2 | 1 | 18.874 | .000 | .161 |
| | Total for the 9 Meta-Cognitive Strategies -T2 | 1 | 42.279 | .000 | .301 |
| | Total for the 6 Affective Strategies -T2 | 1 | 9.742 | .002 | .090 |
| | Total for the 6 Social Strategies -T2 | 1 | 13.443 | .000 | .121 |

Examining the mean scores for the six strategies obtained from the experimental group, it is noticed that the experimental group scored higher levels for the use of all learning strategies. That is the scores representing the use of the six learning strategies at T2 were noticeably more than those at T1, as shown in Table 9:

Table 9: Mean scores for the six LLS at T1 and T2 for the two groups

| | Time | Mean | Std. Deviation |
|---|------|-------|----------------|
| Total for the 9 Cognitive Strategies | T1 | 24.98 | 6.206 |
| | T2 | 30.40 | 7.186 |
| Total for the 14 Memory Strategies | T1 | 37.36 | 11.633 |
| | T2 | 53.70 | 9.964 |
| Total for the 6 Compensation Strategies | T1 | 16.94 | 5.658 |
| | T2 | 21.94 | 4.731 |
| Total for the 9 Meta-Cognitive Strategies | T1 | 29.28 | 7.907 |
| | T2 | 38.86 | 5.115 |
| Total for the 6 Affective Strategies | T1 | 15.48 | 4.532 |
| | T2 | 19.56 | 5.901 |
| Total for the 6 Social Strategies | T1 | 15.72 | 5.059 |
| | T2 | 23.14 | 5.488 |

As shown in Table 9, the memory strategies is the type of strategy most affected by teaching critical thinking to the participants, followed by meta-cognitive, then social, followed by cognitive, then compensation and the less affected strategy was the affective strategies (See Figure 6):

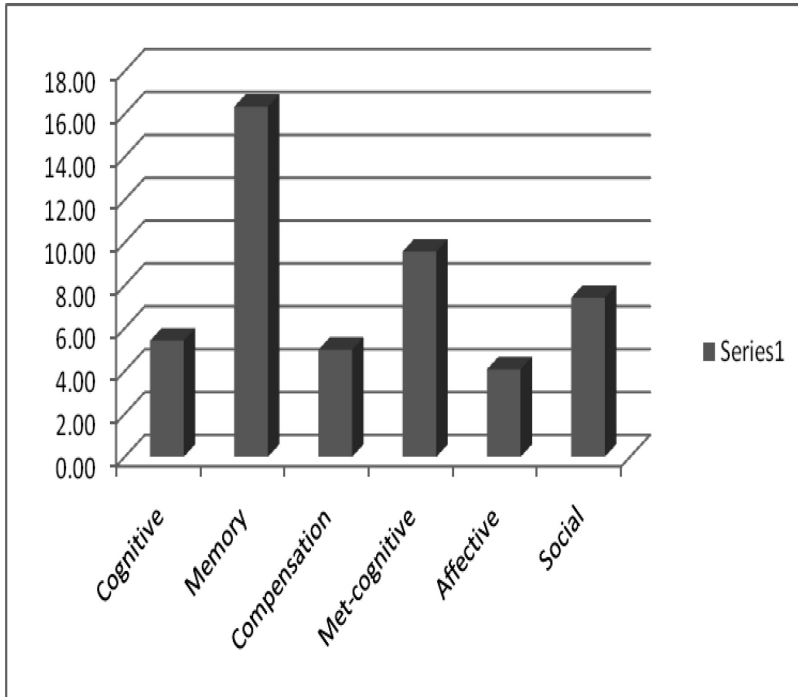


Figure 6. Bar Graph for the Six LLS

6. DISCUSSION

The positive effect of critical thinking on EFL learners' success in acquiring a foreign language has often been studied and proved to be effective by a considerable number of studies. Many studies confirm the effectiveness of critical thinking ability on the various aspects of foreign language learning^{38 39 40}
^{41 42} This study tries to investigate this positive effect of critical thinking through

38 Liaw, Meei-Ling. "Content-Based Reading and Writing for Critical Thinking Skills in an EFL Context," *English Teaching and Learning* 31, no. 2 (2007).

39 Mirzaei, Azizullah; Abbaszadeh, Masoomah and Hashemian, Mahmood. "Relationship between Critical Thinking and Compensatory Strategies by Iranian Upper-Intermediate EFL Learners in Oral Communication," *Mediterranean Journal of Social Sciences* 6, no. 6 (2015).

40 Jasim, Basim Y. "The Impact of Instruction in Critical Reading Strategies on Advanced Iraqi EFL Learners' Comprehension," *College of Basic Researchers Journal* 7, no. 1 (2007).

41 Daniel, Bethany Rae "Defining Critical Thinking for the 21st Century World Language Classroom" (Brigham Young University, 2013).

42 Junining, E. "The Relationship between Intelligence, Critical Thinking Skills in Reading and EFL Proficiency Among EFL Learners," *Semantic Scholar*, 2013.

seeking its influence on the use of LLS. The results of the current study designate that there is a significant relationship between Iraqi EFL university students' use of LLS and their critical thinking abilities. It is also found out that teaching critical thinking is most effective on the use of memory strategies and least effective on the use of affective strategies.

This result goes in line with the theoretical and experimental studies found in the literature which revealed the positive effect of critical thinking on academic achievement. It supports the theoretical arguments which claim that there is a strong and important relationship between critical thinking and individuals' ability to think clearly which leads to best future achievements. Critical thinking is crucial as well in EFL learners' success in the challenging process of acquiring the new language. A learner with good critical thinking ability concentrates on relevant information, asks appropriate question, makes logic reasoning and consequently be a better learner.

This positive relationship replicates numerous previous studies concerning the effect of critical thinking on academic success in general and on success of EFL learners in acquiring the new language. Nosratinia, Asiabar⁴³ and Sarabchian (2014), for example, found that significant relationships exist between Iranian EFL learners' critical thinking abilities and their use of LLS. Similarly, Nikoopour, Farsani and Nasiri (2011) explored the relationship between direct and indirect LLS and critical thinking ability. The findings of their study revealed a significant relationship of critical thinking with specific LLS such as meta-cognitive, cognitive and social strategies and non-significant relationship with compensation, memory and affective strategies.

In a similar vein, Bagheri (2015) investigated the use of LLS by 256 Chinese EFL university students and its relationship to their critical thinking ability. She compared between general English students and EAP (English for Academic Purpose) students in regard to their use of LLS and its relation with their critical thinking ability. She found that EFL students who received critical thinking training for 17 weeks made better use of the LLS.

The current study supports the notion of teaching critical thinking in the EFL contexts. It confirms that critical thinking is teachable and that critical thinking

43 Nosratinia, Mania : Asiabar, Mojganah Ghanbari and Sarabchian, Elnaz "Exploring the Relationship between Iranian EFL Learners' Language Learning Strategies and Critical Thinking," . . International Journal of Language Learning and Applied Linguistics World 5 (2014).

ability could be improved if materials concentrating on critical thinking skills are taught using appropriate methods. It proves that EFL students who go through critical thinking training can be better thinkers and better learners simultaneously. Consequently, they can be better language learners.

7. CONCLUSIONS AND IMPLICATIONS

Critical thinking is an important ability that should be developed by students while learning a new language helping them to make better use of the LLS. This study indicates that there is a positive effect of teaching critical thinking for Iraqi EFL university students on their use of the different learning strategies. That is, when the critical thinking ability of the participants increased after the experiment, their use of the LLS increases as well. Moreover, the most clearly noticed effect is seen in the use of memory strategies and the least effect is seen on the affective strategies. This means that teaching and improving the critical thinking ability for EFL learners is of noticeable importance in improving their use of LLS. Since a significant relationship was found between the level of critical thinking and the use of LLS, it can be concluded that improving EFL learner's critical thinking skills can help students to invest learning strategies in a better way. So it is recommended that appropriate materials which can stimulate critical thinking must be taught for those who are studying English academically. Moreover, it is highly recommended that EFL learners should be taught critical thinking and should be encouraged to develop their critical thinking skills. They should be stimulated to think about the processes that trigger learning and to feel responsible for their own learning.

The major suggestion of the current study is directed to EFL teachers and syllabus designers for proposing materials that consider critical thinking as one of the important and effective elements in academic success. In short, involving courses that focus on critical thinking and LLS will result in having intellectual students who have analytical abilities that are very much helpful in learning the new language. The findings of the current study indicate that the implementation of critical thinking materials not only help EFL students to develop their critical thinking ability, but also their investment of the LLS.

References.

- Al-Juboury, Nejat. "From Passive Learning to Critical Thinking." College of Education for Woman 18, no. 1 (2007).
- Almaliki, Muhammad Qassim. "The Role of Socratic Questioning in Promoting Students' Critical Thinking in EFL Classrooms at the University of Basra: A Qualitative-Based Study." The Journal of Kufa Center for Studies 1, no. 46 (2017).
- Anderson, Gina, and Jody Piro. "Conversations in Socrates Café: Scaffolding Critical Thinking via Socratic Questioning and Dialogues." New Horizons for Learning 11, no. 1 (2014).
- Bakhtiarvand, Morteza, and SOUDABEH TABATABAEI. "A Closer Look at Different Dimensions of Needs Analysis in the Field of ELT." ELT Voices-India 3, no. 1 (2013).
- Boroshaki, Noushin. "The Relationship between Critical Thinking Ability and Vocabulary Learning Strategy among EFL Learners." Malaya, 2015.
- Chaffee, John. Thinking Critically. 11th ed. Dallas: Houghton Mifflin Company, 2015.
- Chamot, Anna Uhl. "Issues in Language Learning Strategy Research and Teaching." Electronic Journal of Foreign Language Teaching 1, no. 1 (2004): 14–26.
- Cook, Vivian. Second Language Learning and Language Teaching. London: Edward Arnold, 2001.
- Daniel, Bethany Rae. "Defining Critical Thinking for the 21st Century World Language Classroom." Brigham Young University, 2013.
- Ehrman, Madeline, and Rebecca Oxford. "Adult Language Learning Styles and Strategies in an Intensive Training Setting." Modern Language Journal 74, no. 3 (1990).
- Elder, Linda, and Richard Paul. Critical Thinking: Tools for Taking Charge of Your Professional and Personal Life. New Jersey: Pearson Education, 2002.
- Feng, Zhiwen. "Using Teachers' Questions to Enhance EFL Students' Critical Thinking Ability." Journal of Curriculum and Teaching 2, no. 2 (2013).
- Griffiths, Carol. "Language Learning Strategies: Theory and Research." New Zealand, 2004.
- Halpern, Diane F. Thought and Knowledge: An Introduction to

- Critical Thinking. 4th ed. Mahwah: Erlbaum, 2003.
- Jasim, Basim Y. "The Impact of Instruction in Critical Reading Strategies on Advanced Iraqi EFL Learners' Comprehension." *College of Basic Researchers Journal* 7, no. 1 (2007).
- Junining, E. "THE RELATIONSHIP BETWEEN INTELLIGENCE, CRITICAL THINKING SKILLS IN READING AND EFL PROFICIENCY AMONG EFL LEARNERS." *Semantic Scholar*, 2013.
- LAI, YING-CHUN. "Language Learning Strategy Use and English Proficiency of University Freshmen in Taiwan." *TESOL Quarterly* 43 (2009).
- Liaw, Meei-Ling. "Content-Based Reading and Writing for Critical Thinking Skills in an EFL Context." *English Teaching and Learning* 31, no. 2 (2007).
- Mayfield, Marlys. *Thinking for Yourself: Developing Critical Thinking Skills Through Reading and Writing*. 5th ed. London: Harcourt College, 2001.
- Mirzaei, Azizullah, Masoomeh Abbaszadeh, and Hashemian Mahmood. "Relationship between Critical Thinking and Compensatory Strategies by Iranian Upper-Intermediate EFL Learners in Oral Communication." *Mediterranean Journal of Social Sciences* 6, no. 6 (2015).
- Nambiar, Radha. "Learning Strategy Research – Where Are We Now?" *The Reading Matrix* 9, no. 2 (2009).
- Nosratinia, Mania, Mojganeh Ghanbari Asiabar, and Elnaz Sarabchian. "Exploring the Relationship between Iranian EFL Learners' Language Learning Strategies and Critical Thinking." . . *International Journal of Language Learning and Applied Linguistics World* 5 (2014).
- O'Malley, J. Michael, and Anna Uhl Chamot. *Learning Strategies in Second Language Acquisition*. Cambridge: Cambridge University Press, 1990.
- Okenden, Micheal. *Situational Dialogues*. London: Longman, 1987.
- Oxford, Rebecca L. *Language Learning Strategies: What Every Teacher Should Know*. Boston: Heinle & Heinle, 1990.
- Rubin, J. "Learner Strategies: Theoretical Assumptions, Research History and Typology." In Wenden, & J. Rubin, (Eds). *Learner Strategies in*

- Language Learning, 15–30. New Jersey: Prentice Hall, 1987.
- Schmidt, Anthony. "Critical Thinking and English Language Teaching PT.1." EFL Magazine, 2017. <https://eflmagazine.com/critical-thinking-english-language-teaching>.
- Watson, Goodwin, and Edward M. Glaser. Watson-Glaser II Critical Thinking Appraisal, Technical Manual and User's Guide. San Antonio: TX: Pearson, 2012.
- XU, Qing. "Fostering Critical Thinking Competence in EFL Classroom." Studies in Literature and Language 7, no. 1 (2013).
- Zare, Pezhman. "Critical Thinking Skills among EFL/ESL Learners: A Review of Literature." Language in India 15, no. 11 (2015). <http://www.languageinindia.com/nov2015/zarecriticalthinking.pdf>.