**Critical Thinking and EFL Students' Performance on Open and Closed Reading Tasks**

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**Introduction**

Every person thinks. It is the nature of human beings to think. The quality of our life and what we do and produce depends on the quality of our thoughts. But much of people's thinking is biased, partial, and without enough information. To live and compete in today's information age, individuals must ask questions, invent new ways of solving problems, connect new knowledge to the information they already have and apply their knowledge in new situations. In short, individuals must develop critical thinking skills which are the most important goal in education. According to Ennis (1987) cited in Bensley (1998 p.5), "critical thinking is reasonable, reflective thinking that is focused on deciding what to believe or do."

In recent years critical thinking became important in educational circles and educators have become very interested in teaching 'thinking skills'. To develop thinking and problem solving skills, the schools must provide experiences in thinking and problem solving. In order to make a student a good critical thinker, teachers should systematically and continually instruct in way to think more critically. Language teaching is a dynamic concept which changes continually. Language teachers and theoreticians of language pedagogy have always had different viewpoints toward language learning and teaching. Task-based language teaching is among the methods of teaching which, as Richards and Rodgers (2001) state, is an approach based on the use of tasks as the core unit for planning and executing lessons. They state that engaging learners in task work provides a better context for activation of learning processes.

According to Green (2005), in task-based classrooms it is well established that the teacher conducts a class survey to find out the students' preferred topic and the literature to this topic can become a source for different tasks. Green states that by reading such literature students can improve certain core competencies such as research, critical thinking skills, and the ability to synthesize information drawn from different sources. Therefore, tasks may be considered as a means of improving thinking in students.

**Statement of the Problem**

Education is not efficient if it does not produce a well-developed critical faculty. An education which emphasizes the development of critical faculty aims at teaching the students how to learn effectively to become independent learners. Considering the books and different methods of teaching, it will be clear that critical thinking is not considered as it should be. Since second or foreign language learning provides a setting for integrating into another culture and confronts the learner with new perspectives, it will be fruitful in educating critical thinkers.

One of the skills that involve thinking processes is reading. Reading is a skill which makes students familiar with other people's ideas; compare and contrast different ideas; examine and evaluate arguments, interpretations, beliefs, or theories; make inferences, predictions, or interpretations; explore implications and consequences, and in short it is a skill which makes students think critically. According to Hudelson (1994) cited in Edigar (2001, p.154), in reading

"an individual constructs meaning through a transaction with written text that has been created by symbols that represent language. The transaction involves the reader's acting on or interpreting the text and the interpretation is influenced by reader's past experiences, language background, and cultural framework, as well as the reader's purpose for reading."

Using authentic and challenging texts, task-based language teaching might be able to encourage students to read passages more seriously and critically. Since a task, as Prabhu (1987) cited in Richards and Rodgers (2001) defines, is "an activity which requires learners to arrive at an outcome from given information through some process of thought", it is considered to be related to critical thinking. Having in mind that critical thinking, as a cognitive ability, has unquestionably an effect on the quality of learning a foreign language, knowing the possible relationships between tasks and critical thinking will help language practitioners in decision making. Task-based approaches introduce various interesting procedures (i.e. reading tasks) to teach reading comprehension. Open and closed tasks are among the tasks which are used often in language teaching classes; therefore, they provide researchers ample opportunities for investigating critical thinking. Accordingly, the aim of the study is to determine whether there is any relationship between learners' performance on open and closed reading tasks and their critical thinking ability.

**Research Questions**

To fulfill the purpose of this study which was to see whether there is any relationship between critical thinking levels of EFL learners and their ability in performing open and closed reading tasks, the following research questions were raised:

- Does critical thinking affect their reading proficiency of Iranian EFL intermediate learners?

- Does critical thinking affect learners' performance in open and closed reading tasks?

**Significance of the Study**

It is argued that critical thinking is well beyond the boundaries of personal affair and can directly affect social life and political issues. To live successfully in this world, people must be able to think critically in order to make sound decisions about personal and social affairs. If the students learn to think critically, they can use this skill as a guide in their lives. The significant of critical thinking is obvious since it serves as a filter which does not allow people easily be influenced by the information they receive. Critical thinking as a cognitive skill can have a profound effect on different steps of our education in planning the course, in teaching phase, and in assessing or testing the learners.

The study which is going to be done provides the experts in the field of language teaching with information about the relationship between critical thinking and learners' performance on open and closed reading tasks.

**What is Critical Thinking?**

A great deal has been written about critical thinking, yet definitions of it differ. Gibson (1995) cited in Dam and Volman (2004) states that from a philosophical point of view critical thinking is primarily considered as "the norm of good thinking, the rational aspect of human thought, and as the intellectual virtues needed to approach the world in a reasonable, fair-

minded way" . Psychologists conceptualize critical thinking as higher-order thinking skills and focus on the suitable learning and teaching processes (Halpern, 1988, & Kuhn, 1999). Benesch (1993) points out critical thinking is not simply higher-order thinking. As she explains "it is a search for the social, historical, and political roots of conventional knowledge and an orientation to transform learning and society"

Robert Ennis, a recognized authority on critical thinking, has provided an important definition of critical thinking that emphasizes its practical aspects. According to Ennis (1987) cited in Bensley (1998, p.5), "critical thinking is reasonable, reflective thinking that is focused on deciding what to believe or do". Therefore, Bensley (1998) concludes, critical thinking can improve both how and what people think about a variety of questions. According to Bensley (1998, p.5), "critical thinking is reflective thinking involving the evaluation of evidence relevant to a claim so that a sound conclusion can be drawn from the evidence.

Glaser (1941) cited in Fisher (2001, p.4) defined critical thinking as: "(1) an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experience, (2) knowledge of the methods of logical enquiring and reasoning; and (3) some skill in applying those methods." Critical thinking calls for a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends.

According to Paul, Fisher and Nosich (1993) cited in Fisher (2001, p.5), "critical thinking is not that mode of thinking -about any subject, content, or problem- in which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them". This definition, as Fisher (2001) state, is interesting because it shows that the only realistic way to develop one's critical thinking ability is through 'thinking about one's thinking (often called 'metacognition').

Critical or reflective thinking is concerned with assessing the effectiveness of our thinking rather than evaluating our methods of investigating or conclusions. The latter is involved in problem solving (de Boo, 1999). According to McPeck (1981) cited in de Boo (1999), "thinking critically is not easy: our cherished theories can be proved 'wrong' and this can affect our self-esteem or require readjustments in our behavior –an uncomfortable process" (p.64). However, as he believes critical thinking can reduce biases and contribute to a more rational society.

Facione (1990) cited in Giancarlo, Blohm, and Urdan (2004) defines critical thinking as "the process of purposeful, self-regulatory judgement. Throughout this cognitive, nonlinear, process, a person gathers and evaluates evidence to form a judgment about what to believe or what to do in a given context" (p.348). As facione points out, in so doing, a person who thinks critically uses his or her cognitive skills to form a judgment and to monitor and improve the quality of that judgment.

According to Wright (2002), it has been said that critical thinking privileges rational, linear thinking and downplays the emotions; it has been criticized by some as sexist, as promoting a stereotypically "masculine" way of thought, ignoring feeling and intuition, and detaching the knower from the unknown. Wright (2002) believes that all kinds of strategies can be used in critical thinking not just linear ones. We do need to be emotional about such things as seeking truth and avoiding harm to others. But while emotions are clearly important in our thinking, we do not want always to act on the basis of emotions without reflection.

According to Benesch (1993), some writers define critical thinking as "a democratic learning process examining power relations and social inequities" (p.547). Auerbach and McGrail (1991) cited in Benesch (1993) define classes which feature critical thinking as ones in which students are encouraged to participate actively in discussing issues of concern in their life such as work, housing, marriage, etc.

As in many field of human science, there is little point in trying to define abstract concepts. Thus, it seems to be better to see who a critical thinker is.

**The Elements of Critical Thinking**

According to Goscik (1990), the discrete activities that comprise different learning theories categorize thinking differently. She categorized the elements of critical thinking as including:

- Observation. From a series of observations, we can come to establish
- Facts. From a series of facts, or from an absence of facts we make
- Inferences. Testing validity of our inferences, we can make
- Assumptions. From our assumptions, we form our
- Opinions. Taking our opinions, we use the principles of logic to develop
- Arguments. And when we want to challenge the arguments of others, we employ
- Critical Analysis (through which we challenge the observation, facts, inferences, and so on, in the arguments that we are analyzing) (p.3).

**Four Aspects of Critical Thinking**

Good critical thinking can not be learned overnight nor always accomplished in a neat set of steps. According to Daly, cited in Gardner and Jewler (2000), the basic skill of critical thinking 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 can not communicate them to others. One should consider what his audience will need to know to follow his reasoning and be persuaded.

**Reasoning as the Basic Tool in Critical Thinking**

Our success or failure in life is largely determined by our ability to make wise decisions to benefit from the situations. Much of our important and purposeful activities are concerned with decision making. Freely and Steinberg (2000) state "decisions should be justified by good reasons based on accurate evidence and valid reasoning" (p.3).

As Bensley (1998) states, reasoning is the basic tool which a critical thinker uses to come to a conclusion. Psychologists and thinkers in all fields use reasoning to help them think more clearly about the questions they ask and to advance the state of their knowledge.

According to Mckay (2000), when someone gives reasons to justify a belief, he or she is presenting an argument and the standards of reasoning help him/her distinguish acceptable arguments from those that are not acceptable. The study of reasoning will help people to evaluate sources of information.

Two kinds of reasoning, inductive and deductive reasoning, are commonly used in psychology and other fields of study. According to Bensley (1998), in inductive reasoning, one reasons from specific cases to a general principle. In deductive reasoning, one proceeds in the other direction, reasoning from general principles to specifics. While each kind of reasoning has somewhat different applications and rules, both of them use evidence to draw sound conclusions about claims. Unlike deductive arguments, inductive arguments never lead to certainty.

**Teachability of Critical Thinking**

There are different views about the fact that whether critical thinking is teachable or not. According to Manlove (1989) thinking can not be taught, it is a matter of practice and instinct. Atkinson (1997) and Atkinson and Ramanathan (1995) believe that critical thinking is acquired through an unconscious process of socialization and it can not be taught at schools. They believe that native English speaking students have been socialized at school as critical thinkers but nonnative students should not be asked to do critical thinking tasks because they may be hard for them.

According to Ramanathan and Kaplan (1996) cited in Benesch (1999), teachers should not impose critical thinking to students. According to Benesch (1999), even type of teaching imposes a specific way of thinking on students. He states that not only critical thinking can be taught through the encouragement of greater awareness, but also choosing not to teach critical thinking may result in the acceptance of conditions without any question and it limits possibilities for change.

Dam and Volman (2004) state that students' ability to understand and master critical thinking varies with age, and teaching needs to be tailored to the developmental level of students. As they say even young learners benefit from critical-thinking training.

De Boo (1999) states that 'thinking' requires a particular emphasis as many classroom activities are prescriptive and do not encourage children to think. As he says thinking is an important skill; supportive strategies and teaching help children to think and function more effectively. De Boo mentions that the first step in teaching children to think is teaching them to be objective. Objective thinking allows them to "abstract ideas and processes from their initial context and apply them in other situations" (p.54).

According to de Boo, under appropriate guidance or teaching, children's thinking develops from initial subjective responses to objective reasoning and from there to metacognitive or critical, reflective thinking. Also he says that critical thinking can be taught successfully as a skill.

Fisher (1990) cited in de Boo (1999) states that research into teaching children to think suggests that, with training, young children can use metacognitive processes such as reflective or critical thinking. De Boo (1999) believes that children's ability to think critically is

dependent on experience, the development of self control and self-awareness, linguistic and reading abilities, and subject knowledge.

**Participants**

To accomplish the purpose of the research, a sample of 150 male and female students participated in this study. The subjects were between 19 and 28 years old. These participants were studying English as a foreign language. After giving a TOEFL test, eighty students whose scores were more than 600 were chosen as the subjects of this study. They were undergraduate students from Rudehen Azad university and Sokhan Ashna Language School whose major field of study was English translation and English language teaching.

**Instrumentation**

To carry out any types of research investigation, data must be gathered with which to test the hypothesis. Many different instruments and methods have been developed to aid the acquisition of data. In this research, the researcher has tried to choose the most appropriate instruments to collect data. Several kinds of tests and tasks were used which are described here.

**Homogeneity Test**

An original test of TOEFL was administrated to achieve the purpose of this study. This test had been administered in 2004. It is a standard test which is provided to measure the students English proficiency level. It consisted of two sections: (1) structure and written expression (40 items), and (2) reading comprehension (50 items). The total time for this test was 80 minutes (see appendix A). Participants are not going to take part in the listening sections. The reliability coefficient of this test is in table 3.1.

**Table 3.1 Reliability Coefficient of the Pretest**

|  | N | Minimum | Maximum | Mean | Std. Deviation | Reliability Coefficient |
|---|---|---|---|---|---|---|
| **TOEFL** | **150** | **530** | **630** | **591.74** | **21.57** | **.81** |

**Test of Critical Thinking**

The importance of critical thinking and the teaching of such skills have been widely emphasized. The question often asked is what instrument(s) can best measure critical thinking. From among the different tests which were used by the previous researchers "The Critical Thinking Appraisal (CTA) Form A" which was used by Jodeiri (2005) was selected as the most suitable test among the others. According to Jodeiri, this test was published by Watson-Glaser Organization to assess critical thinking.

This test of critical thinking measure some of the important abilities involved in critical thinking. It consists of 80 items. The CTA is designed to measure level of ability not an individual's rate of performance so, as Bachman (1990) states, it is a power test. As Jodeiri

states, this form is deemed appropriate in terms of reading difficulty for use with subjects who have the equivalent of a ninth-grade education. This test consists of 5 subtests as follows:

Test 1. Inference: Discriminating among degrees of truth or falsity of inferences drawn from given data.

Test 2.Recognizing Unstated Assumptions: Recognizing unstated assumptions or presuppositions in given statements or assertions.

Test 3. Deduction: Determining whether certain conclusions necessarily follow from information in given statement or premises.

Test 4. Interpretation: Weighing evidence and deciding if generalizations or conclusions based on the given data are warranted.

Test 5. Evaluation of Arguments: Distinguishing between arguments that are strong and relevant and those that are weak or relevant to a particular question at issue.

Test items are similar to problems, statements, arguments, and interpretations which we encounter in our daily life in different situations such as reading a newspaper or book or listening to the news.

The test is a reliably standardized test since it has been administered to students of different education levels in different parts of the world (Jodeiri, 2005). Reliability of this test has been determined in three ways. Estimates of the tests' internal consistency, stability of the test scores over time and the correlation between scores on alternate forms. Internal consistency was measured using split half reliability coefficients using the spearman-brown formula. Testing stability over time, by administrating the test to the same group with an interval difference, indicate an acceptable level of stability (0.73). Overall reliability estimates are sufficiently high to warrant use of the test for group administration and research studies. J. Shimmen. (Personal Communication, May 12, 2008). Hunt and Londen (1999) cited in Dam and Volman (2004) point out that "the Watson-Glaser test measures the ability of persons to follow the 'rules' involved in various forms of reasoning. To the extent that one can accept the underlying rules, the test is valid" (p.369). As Jodeiri states "the norms for raw scores for high school students ranged from 42.6 for nine-grade students to 48.5 for twelve-grade students out of the total score of 80" (p.89). Differences in mean scores among the high school and college groups are in the expected direction. The higher the grade of the students, the higher their average scores on the CTA. As he mentions, differences between genders were examined in different studies by Watson-Glaser Organization and no consistent differences were found between males and females.

Since Watson-Glazer Critical Thinking test was designed for native speakers, to avoid any misunderstanding in part of cultural differences and lack of vocabulary and grammar knowledge, the researcher used the translated version of this test which was prepared by Mohammad Yari (2004) cited in Faravani (2006). According to Faravani (2006), its Farsi version is culturally adapted to be suitable for use in Iran. The recommended time for the examinees to finish the test was 40 minutes (see appendix B).

**Reading Tasks**

Considering the purpose of this study, two major types of tasks (open and closed reading tasks) were used. After consulting with different experts and during a pilot study, four different tasks were selected. Making inferences and summarizing were selected to serve as the closed reading tasks, and conversation writing and summary writing were selected to serve as the open reading tasks. The appropriate time to do each of the tasks was the average time in which ten students performed them.

In order to be assured of the appropriateness of these tasks in this research, the readability index of the reading passages was calculated by Flesch readability index. In this regard, five passages of the text books studied by the subjects in their formal education served as the criterion. Flesch readability scale was applied to all five passages, and their readability indexes were computed. The mean of the readability indexes of these passages was 33.42 as it is shown in table 3.2. The readability of the reading passages used in this study was between the mean of the selected passages and one standard deviation above and below the mean.

**Table 3.2 Readability of the Passages**

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| **Readability** | **5** | **18.1** | **48.2** | **33.42** | **10.90** |

**Making Inferences**

According to Nuttall (1996, p.72), "learning how to infer can be enjoyable. Its problem-solving character appeals to most people and it challenges students to make use of their intelligence." Making inferences focuses on meaning and engages cognitive processes. In real world communication people also deal with misunderstandings or ask and answer questions most of the time. Because of the fact that cognitive skills (eg. inference) are at the very core of critical thinking the researcher has chosen this kind of task for this research study. It is in the form of table completion which requires non-verbal response (see appendix C).

This task was piloted with thirty subjects the same as the target group. The results of the item analysis are shown on table 3.3.

**Table 3.3 Item Analysis of Making Inferences**

| Questions | IF | ID |
|---|---|---|
| 1 | .50 | .60 |
| 2 | .53 | .40 |
| 3 | .53 | .53 |

| | | |
|---|---|---|
| 4 | .53 | .53 |
| 5 | .50 | .60 |
| 6 | .57 | .60 |
| 7 | .63 | .47 |
| 8 | .57 | .47 |

In order to estimate the reliability of the task, Cronbach alpha was applied. The reliability coefficient of the task is shown on table 3.4.

**Table 3.4 Reliability Statistics of Making Inferences**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .87 | .87 | 8 |

**Summarizing**

Summarizing, as Langan (2002) states, will improve students' ability to take effective classroom and textbook notes. As one can observe the students use summarizing most of the time in their native language classes.In the summarizing task which was used in this study as a closed reading task the major ideas and supporting details were enclosed in boxes (see appendix D). In this way the relationship between different points of the text is clearer.

This task was piloted with thirty subjects the same as the target group. The results of the item analysis are shown on table 3.5.

**Table 3.5 Item Analysis of the Summarizing Task**

| Questions | IF | ID |
|---|---|---|
| 1 | .60 | .40 |
| 2 | .50 | .46 |
| 3 | .60 | .54 |

| | | |
|---|---|---|
| **4** | **.63** | **.47** |
| **5** | **.63** | **.47** |
| **6** | **.53** | **.40** |
| **7** | **.53** | **.40** |
| **8** | **.50** | **.46** |
| **9** | **.50** | **.46** |
| **10** | **.50** | **.60** |
| **11** | **.53** | **.53** |

In order to estimate the reliability of the task, Cronbach alpha was run. The reliability coefficient of the task is shown on table 3.6.

**Table 3.6 Reliability Statistics of the Summarizing Task**

| **Cronbach's Alpha** | **Cronbach's Alpha Based on Standardized Items** | **N of Items** |
|---|---|---|
| **.82** | **.82** | **11** |

## Conversation Writing

Sometimes when the students read a passage they are required to use what they have read. Using the information taken from the text can be considered as a measure of their understanding. The students should understand the passage and use its information in a different way. Conversation writing is considered to be among these kinds of tasks. This task is chosen according to the examples provided in Nuttall (1996). In this task the students should read the text and write a conversation accordingly. A copy of the task is provided in appendix E.

## Summary Writing

To be ensured that students get to grips with the text, it is better to make them use what they have read. Giving such tasks which do not allow the students to use the exact sentences of the text without understanding the text thoroughly is considered suitable. Summary writing was one of the tasks which was used in this study as an open task. In this task the students were supposed to read a passage and restate it from their own point of view. This one was also selected according to the examples provided in Nuttall (1996).A copy of the task is provided in appendix F.

**Procedure**

To collect appropriate data for this study several steps were taken.

In order to ensure the homogeneity of the participants and determine the participants' language proficiency level a TOEFL test was conducted at the outset of the study. Those participants whose scores were above 600 were selected as a homogenized group.

After homogenizing the students 80 of them were selected to be included in this study. During four sessions the tasks were given to the students. The students had to read the instruction and do the task accordingly. Since the purpose of the tasks was to check the students' comprehension the students were supposed to do what they have understood and no question was answered by the teacher. In the last session, the students were asked to answer the Critical Thinking Appraisal.

After collecting the data, the CTA answer sheets were corrected. CTA is a multiple-choice test which is objectively scored. The raw score on the CTA is the total number of correct responses. The closed reading tasks were also objectively scored. The score for these tasks were the sum of the correct responses.

The scoring procedure for the open reading tasks was subjective. Because of the fact that the most important factor in the students' response was their comprehension, the researcher tried to consider only those features which were related to their comprehension of the passage.

After discussing with different experts in this field and studying different articles and studies such as those written by Barkaoui (2007) and Akef (2007), some features were chosen as the most appropriate ones. They include the following features:

- Central idea: the extent to which a certain number of ideas is generated.
- Relevance: the extent to which students' writing provides relevant information about the central idea of the text through supporting sentences. No deviation from the main topic of the text is observed.
- Organization: the extent to which the students' writing presents a short summary of the text, has sense of wholeness, and has a conclusion which is linked to its opening and its thesis.
- Coherence: the extent to which the students' written text is coherent. The meanings of their sentences are linked logically and by using the mechanical (cohesive) devices throughout the text.
- Task Completion: the extent to which the students have completed the task according to the instruction.

The score given to each feature was ranged from 0 to 4, so the highest score in this part was 20.

Two raters participated in this scoring procedure. The two were MA. holders majoring English language teaching. All the papers were subsequently scored by the two raters. To estimate the inter-rater reliability, Pearson Product Moment Correlation was applied to find the relationship between the scores of the open tasks scored by the two raters.

**Deign of the Study**

All the participants were given the language proficiency test. Then 80 students were selected as a homogenized group. During four sessions the students performed different tasks. Then the critical thinking test was given to the students in order to assess their critical thinking ability.

This study was done through an ex post facto design. In this kind of design, as Best and Kahn (1989, p.97) explain, the researcher "seeks to find answers to questions through the analysis of variable relationships." It is a kind of design in which the researcher does not try to find any cause and effect relationship between the variables.

**Descriptive Data**

Given the hypotheses above, the first statistical procedure was to conduct a series of descriptive data analysis on the results of the Watson-Glaser Critical Thinking Appraisal (CTA), and open and closed reading tasks. As mentioned in the previous chapter, the subjects were 80 students who were studying English as the second language. The descriptive data of critical thinking test and the tasks i.e. the mean, median, mode, standard deviation and variance were measured.
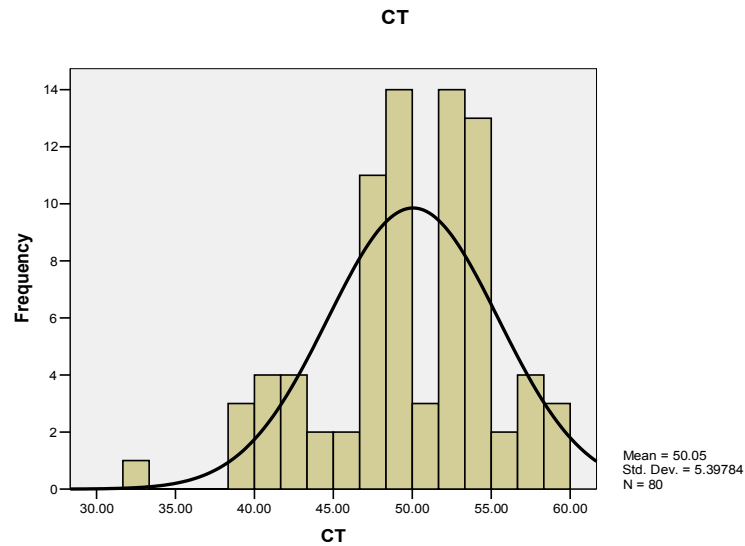
**Descriptive Data of CTA**

Critical Thinking Appraisal (CTA) was one of the instruments which were used in this study. The maximum score in this test was 80. The descriptive statistics related to the scores obtained by the subjects in this test are displayed in Table1.

**Table1 Statistical Description of CTA**

| N | Valid | 80 |
|---|---|---|
| | Missing | 0 |
| Mean | | 50.05 |
| Median | | 50 |
| Mode | | 49 |
| Std. Deviation | | 5.39 |
| Variance | | 29.13 |
| Minimum | | 33 |
| Maximum | | 60 |
| Sum | | 4004 |

As it is obvious from the above table, the minimum and maximum scores obtained by the participants were 33 and 60 respectively. The mean was 50.05 and the median was 50. Put on a curve, the CTA scores would represent Figure 4.1 below.

**Figure 4.1 Score Distribution of CTA**



CT

Mean = 50.05
Std. Dev. = 5.39784
N = 80

**Descriptive Data of Closed Tasks**

The other variables which were used in this study were closed tasks. There were two closed reading tasks which were utilized in this study.

Table2 describes the statistics for the first reading task which was *making inferences*. This task was scored objectively and the maximum possible score was 8.

**Table2 Statistical Description of the Inference Task**

| N | Valid | 80 |
|---|---|---|
| | Missing | 0 |
| Mean | | 5.57 |
| Median | | 6 |
| Mode | | 6 |

| | |
|---|---:|
| **Std. Deviation** | **1.44** |
| **Variance** | **2.09** |
| **Minimum** | **1** |
| **Maximum** | **8** |
| **Sum** | **446** |

As it is clear from this table the maximum score obtained by the students was 8 and the minimum score was 1. The mean was 5.57 and the median was 6. The standard deviation was 1.44, so the variance was 2.09. Figure 4.2 below depicts the frequency and distribution of the scores of the subjects in this task.

**Figure 4.2 Score Distribution of Making Inferences**
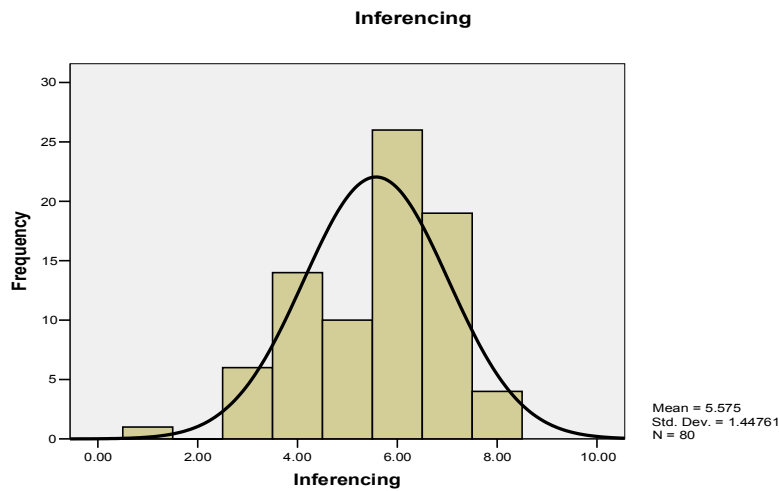


The other task which was used in this study was *summarizing*. This task was scored objectively and the maximum possible score was 11. The descriptive statistics related to the scores obtained by the subjects in this task are displayed in the following table**.**

**Table3 Statistical Description of the Summarizing Task**

| N | Valid | 80 |
|---|---|---:|
| | Missing | 0 |
| **Mean** | | **7.36** |

| Median | 8 |
|---|---|
| Mode | 8 |
| Std. Deviation | 2.15 |
| Variance | 4.66 |
| Minimum | 1 |
| Maximum | 10 |
| Sum | 589 |

The maximum obtained score, as it is shown in the table, was 10 and the minimum score obtained was 1. The mean was 7.36 and the median was 8. The standard deviation was 2.15 and the variance 4.66. Figure 4.3 below depicts the frequency and distribution of the scores of the subjects in this task.

**Figure 4.3 Score Distribution of the Summarizing Task**



**Summerizing**

Mean = 7.3625
Std. Dev. = 2.15972
N = 80
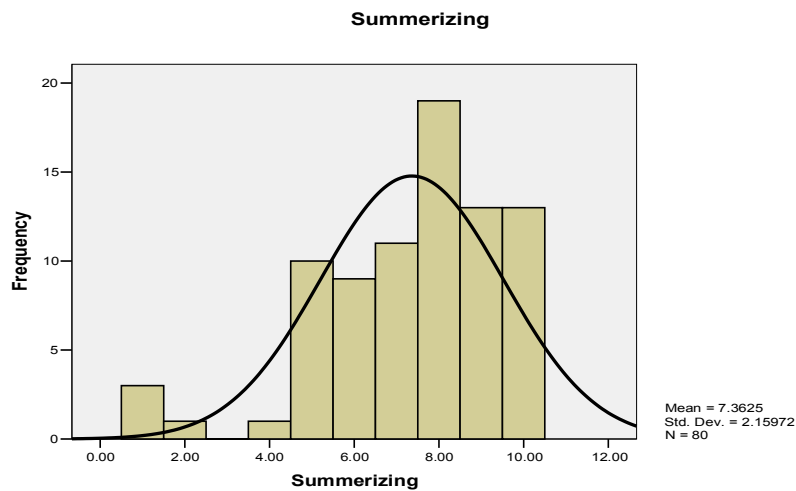
**Descriptive Data of Open Tasks**

There were also two open reading tasks which were used in this study. These tasks were scored subjectively. The maximum possible score for these tasks was 20. The descriptive statistics related to the scores obtained by the subjects in these tasks are displayed in this section.

One of the open tasks used in this study was conversation writing. The descriptive statistics for this task is shown in Table4.

**Table4 Statistical Description of the Conversation Writing Task**

| N | Valid | 80 |
|---|---|---|
| | Missing | 3 |
| Mean | | 13.67 |
| Median | | 14.25 |
| Mode | | 17.5 |
| Std. Deviation | | 4.34 |
| Variance | | 18.86 |
| Range | | 18.5 |
| Minimum | | 1.5 |
| Maximum | | 20 |
| Sum | | 1094 |

As it was mentioned before, the maximum score could be obtained by the subjects in this task was 20. Considering the table the maximum score taken by the students in this study was 20 and the minimum score was 1.5. The mean was 13.67, the median was 14.25 and the mode was 17.5. Figure 4.4 below depicts the frequency and distribution of the scores of the subjects on the conversation writing task.

**Figure 4.4 Score Distribution of the Conversation Writing Task**
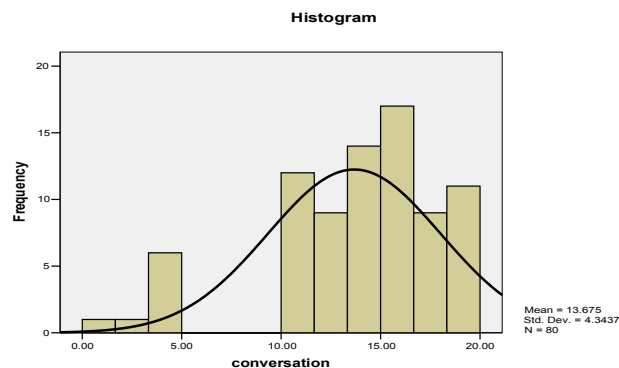
The other kind of task which was used in this study was summary writing. Table5 shows the statistical descriptions of this task.

**Table5 Statistical Description of the Summary Writing Task**

| N | Valid | 80 |
|---|---|---|
| | Missing | 3 |
| Mean | | 15.34 |
| Median | | 15.5 |
| Mode | | 12.5 |
| Std. Deviation | | 3.27 |
| Variance | | 10.73 |
| Range | | 12.5 |
| Minimum | | 7.5 |
| Maximum | | 20 |
| Sum | | 1227.75 |

As it is shown in this table the maximum and minimum score obtained by the students were 20 and 7.5. The mean was 15.34, the median was 15.5 and the mode was 12.5.Figure 4.5 depicts score distribution of this task.

**Figure 4.5 Score Distribution of the Summary Writing Task**
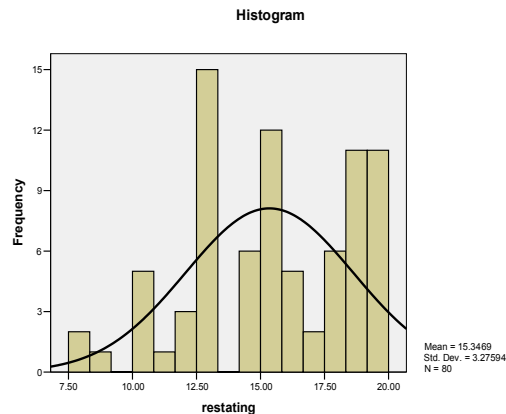
**Inter-Rater reliability of the Raters**

The scoring procedure for the open tasks was subjective. The writing papers were rated according to a scale which considered several features such as central idea, organization, relevance, coherence, and task completion. In order to minimize the rater variable in this study, two raters rated the papers. Both raters were English teachers with a master's degree in TEFL. To estimate the inter-rater reliability, Pearson Product Moment Correlation was applied to find the relationship between the scores of the conversation writing task scored by the two raters. The results are displayed in Table6.

**Table6 Correlation of the Scores of the Conversation Writing Task between the Two Raters**

|  |  | Conversation Writing Task Rater 2 |
|---|---|---|
| Conversation Writing Task Rater 1 | Pearson Correlation | .94(**) |
|  | Sig. (2-tailed) | .000 |
|  | N | 80 |

As it is displayed above the correlation between the performances of the two raters on the conversation writing task is .94 which is significant on the level of .01. Therefore, it can be concluded that there is a high correlation between the raters' performance.

To estimate the inter-rater reliability of the other open task, which was summary writing, the same statistical procedure was done. Pearson Product Moment Correlation was applied to find the relationship between the scores of the students given by the two raters. The results are displayed in Table7.

**Table7 Correlation of the Scores of the Summary Writing Task between the Two Raters**

|  |  | Summary Writing Task Rater 2 |
|---|---|---|

| Summary Writing Task Rater 1 | Pearson Correlation | .96(**) |
|---|---|---|
| | Sig. (2-tailed) | .000 |
| | N | 80 |

** Correlation is significant at the 0.01 level (2-tailed).

As it is displayed above, the correlation between the performances of the two raters on this task is .96 which is significant on the level of .01. Therefore, it can be concluded that there is a high correlation between the raters' performance.

**Testing the Hypotheses**

Following the descriptive statistics of this study the two hypotheses were tested to confirm the relationship between the variables. The statistical procedures applied to test the two hypotheses are elaborated below.

**Testing the First Hypothesis**

In order to test the first hypothesis Pearson Product Correlation was applied to find the relationship between the closed tasks and critical thinking ability. The results are displayed in Table8.

**Table8 The Correlation between the Closed Tasks and Critical Thinking**

| | | CT |
|---|---|---|
| Summarizing | Pearson Correlation | .51 (**) |
| | Sig. (2-tailed) | .000 |
| Making Inferences | Pearson Correlation | .45 (**) |
| | Sig. (2-tailed) | .000 |

** Correlation is significant at the 0.01 level (2-tailed).

As it is obvious from this table, the correlation between the students' performance on the summarizing task and their critical thinking ability is .51 which is significant on the level of .01, and the correlation between the students' performance on making inferences and their critical thinking ability is .45 which is also significant on the level of .01. Therefore, one can

conclude that there is a correlation between the students' performance on the closed reading tasks and their critical thinking ability.

**Testing the Second Hypothesis**

In order to test the second hypothesis a Pearson Correlation was applied to find the relationship between the students' performance on open tasks and their critical thinking ability. The results are displayed in Table9.

**Table9 The Correlation between the Open Tasks and Critical Thinking**

|  |  | CT |
|---|---|---|
| **Conversation Writing** | **Pearson Correlation** | **.36 (\*\*)** |
|  | **Sig. (2-tailed)** | **.001** |
| **Summary Writing** | **Pearson Correlation** | **.27 (\*)** |
|  | **Sig. (2-tailed)** | **.015** |

\*\*  Correlation is significant at the 0.01 level (2-tailed).

\*  Correlation is significant at the 0.05 level (2-tailed).

As it is displayed above the correlation between the students' performance on the conversation writing task and their critical thinking ability is .36 which is significant on the level of .01, and the correlation between their performance on summary writing task and their critical thinking ability is .27 which is significant on the level of .05. Therefore, it can be concluded that there is a correlation between the performance on open tasks and critical thinking ability.

As the statistics show, the first and second null hypotheses were rejected.

**Discussion**

Students need to be exposed to diverse teaching methods that promote critical thinking. Sometimes students are unable to understand that various answers exist for one problem. This is the responsibility of the educators to help the students to be exposed to ambiguity and multiple interpretations and perspectives of situations or problems in order to stimulate growth in critical thinking. One of the methods which help teachers in the classes to promote the students' critical thinking skills is using reading passages. As Facione (2004) mentions there is a significant correlation between critical thinking and reading comprehension. Improvement in one is paralleled by the improvement in the other. The findings of the present study appear to support this fact. The students' critical thinking ability correlated with their performance on open and closed reading tasks.

According to the results of this study, the correlation between the performance on the closed tasks and critical thinking ability was higher than the correlation between the performance on the open tasks and the critical thinking ability. The findings of this study support Long's study who presented a rationale for the use of the closed tasks. As Long argues, "closed tasks are more likely to promote negotiation work than open tasks because they make it less likely that learners will give up when faced with a challenge"(1989, cited in Ellis, 2003, p.89). In the case of open tasks there is no need for the students to pursue difficult topics. They can treat topic briefly or switch topic. As Long argues closed tasks require students to try to make themselves understood, resulting in greater precision and more language recycling which is good for acquisition.

Berwick (1990) cited in Ellis (2003) found that in general closed tasks led to more clarification requests, more comprehension checks, more confirmation checks, more self expansions, and more self repetitions than the open tasks. The results of this study also indicate that critical thinking ability has a higher relationship with closed tasks than open tasks.

A rather detailed discussion on the conclusions and implications of this study appears in the next chapter.

The present study aimed at exploring the impact between students' critical thinking ability and their performance on closed reading tasks and open reading tasks. The previous chapter dealt with analyzing the data through several sets of techniques. In this chapter the conclusions drawn from the results will be discussed.

**Conclusion**

The importance of thinking for language learning has been recognized for a long time. It is widely accepted that learning occurs when mind connects what it already knows to the new, unknown items of information, i.e. that knowledge is constructed by the use of thinking processes (Gleitman, 1995, cited in Waters, 2006). Considering this fact, there has been a growth of interest in ELT in the use of activities which encourage active mental processing. Guidelines for teaching concern ways, in which teachers can motivate, activate and instruct their students to argue logically and solve problems. It is important that critical thinking skills be encouraged and reinforced in all classes by teaching faculty, not only at the college level but at every level of education. As Facione (2004) states a main purpose of learning how to think critically is to achieve "liberal education". As he explains liberation here means, becoming independent from the teachers, sothat "they no longer stand as infallible authorities delivering opinions beyond the students' capacity to challenge, question and dissent" (p.13).

Learning to learn and to think for oneself, leads people away from naïve acceptance of ideas during their life. Using classroom tasks for encouraging students to use critical thinking skills would be to the benefit of the English teacher. As Thompson (2002) states, "critical thinking highlights the interconnections between pedagogical activities and the realities of the worlds that lie beyond the confines of the classroom" (p.19). Open and closed tasks of reading used in this research have resulted in students practicing their critical thinking skills. Using tasks that encourage them to generate new ideas, problem-solve through reasoning, and make the best decisions possible in a given situation makes them think more critically. This makes them involved in a complex type of thinking which they confront in their everyday life.

**Pedagogical Implications**

The use of activities or tasks involving problem-solving and other more complex types of thinking has become increasingly common in recent years. However, there are some parts of the ELT world where this trend has not yet become widespread. It is hoped that the conceptual framework and sample tasks provided in this research will help those teaching in ELT situations to see how tasks which stimulate thinking at a variety of different levels can be used in a way to practice critical thinking skills.

As the findings of the present study indicate, there is a relationship between the students' performance on open and closed reading tasks and their critical thinking ability. The higher their ability to think, the better their performance on the tasks. But it should be mentioned here that the effectiveness of the materials of teaching will not be maximized unless those materials are designed to nurture the dispositional dimensions of critical thinking as well.

What this study found can be of use in all educational centers, and have direct or indirect applications in teaching, learning, syllabus design, and material development. Incorporating tasks in the students' syllabus may be an appropriate strategy to make students think critically.

**Suggestions for Further Research**

Like any other research, this one was also limited in a number of ways. For instance, (a) given the fact that conducting several tasks in the classes which have a limited amount of time is too difficult and takes time, the researcher was not able to use several kinds of open and closed tasks, (b) the tasks which were used here considered just the students' reading ability, (c) the small number of male students, majoring in English in the universities, prevented the researcher to compare male and female participants' performance in this study, (d) finding advanced level students in English was a difficult task, so the number of students participated in this study was limited.

To sum up, the present study can be replicated with larger samples, various task types with different modalities, different levels of language proficiency, different language skills and components. Consequently, further research in this line of research needs to address some important questions that remained unanswered from this experiment. The following further suggestions seem worth considering:

1- Do gender and/or age play a role in the students' performance on tasks?
2- Do different kinds of tasks have an impact on critical thinking ability of the students?
3- Do different language skills and/or components differentially affect the results of such a study?
4- Would task modality affect learners' performance in answering the tasks?
5- Does time have any impact on the students' performance in the same study?
6- Do other individual differences (e.g. motivation, anxiety, and intelligence) affect learners' performance on doing tasks?

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