

**Al-Quds University
Graduate Studies
Department of Education**

**The Relationship of FL Reading Comprehension and
Critical Thinking of Seniors in the
Palestinian Universities**

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Abstract

The Relationship of FL Reading Comprehension and Critical Thinking of Seniors in the Palestinian Universities

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This study investigated the relationship between reading comprehension and critical thinking in a foreign language for a sample of seniors in the Palestinian universities at the West Bank. The sample of this study consisted of (90) fourth year female and male students majoring in English Language and Literature during the academic year (1999-2000). The universities participated were: Al-Najah National University, Al-Quds University, BeirZeit University, Bethlehem University, and Hebron University.

The present study aimed to answer the following research questions:

1. To what extent do reading comprehension and critical thinking test scores correlate with each other?
2. To what extent are the reading comprehension and critical thinking test scores affected by:
 1. Gender;
 2. University;
 3. Passage type (RC);

4. Question type (RC);
5. Critical thinking sub-scales;
6. Type of reasoning (CT);
7. Taking courses or programs in reading comprehension and critical thinking; and
8. Believing in the importance of reading comprehension and critical thinking.

A number of hypotheses issued from the above questions. Thus, three tools were used to collect data. These were:

1. A special personal data form,
2. Reading comprehension test items from the Test of English as A Foreign Language (TOEFL), and
3. Critical thinking test items from the California Critical Thinking Skills Test (CCTST, Form A, in English)

The last two means used multiple-choice test items. (4-5) distracters followed each question. While the reading test comprised of (30) test items, the thinking test contained (34) items. All items were expected to cover the maintained purposes of the study.

To ensure tests validity and reliability, the reading test was submitted to a jury of five university teachers; the critical thinking test was submitted to a jury of four. A pilot study was also conducted to assure understanding of words, instructions, determining time. And internal reliability, using the

Cronbach Alpha Formula, computed was (0.74) for the reading test and (0.69) for the thinking test. A second means was used to calculate reliability which was the test/re-test. reliability calculated was (0.82) in the reading comprehension test and (0.91) in the critical thinking test.

After the necessary data were collected, they were processed through appropriate statistical analyses whereby the researcher used frequencies, percentages, means, standard deviations; as well as, Pearson correlation coefficient, t-Test for independent samples, and One-way analysis of variance.

The researcher arrived at the following findings that respond to the questions and hypotheses of the study:

1. There is a relationship between the students' reading comprehension and critical thinking test scores. Pearson correlation coefficient was (0.35).
2. There were no significant differences in the students' total reading comprehension test scores due to gender.
3. There were also no significant differences in the students' total critical thinking test scores due to gender.
4. There were significant differences in the students' total reading comprehension test scores due to university.
5. There were no significant differences in the students' total critical thinking test scores due to university in favor of Al-Najah university.

6. No significant differences were found in the students' total reading comprehension test scores due to question-type. Only finding the main idea/ topic/ or subject in given paragraphs showed significant effect.
7. Significant differences were found in the students' total reading comprehension test scores due to passage-type in favor of the scientific passages.
8. There were also no significant differences in the students' total critical thinking test scores due to the three sub-scales: analysis, evaluation, and inference.
9. There were also no significant differences in the students' total critical thinking test scores due to the type of reasoning being either deductive or inductive.
10. There were no significant differences in the students' total reading comprehension test scores due to having courses or programs for enhancing reading comprehension ability.
11. There were no significant differences in the students' total critical thinking test scores due to having courses or programs that develop critical thinking skills.
12. There were no significant differences in the students' reading comprehension test scores due to believing in the importance of reading comprehension.
13. There were no significant differences in the students' critical thinking

test scores due to believing in the importance of critical thinking.

Based on the forgoing findings, the researcher came up with a number of relevant recommendations.

Background

An Idea on Reading Comprehension

Over the past decades many educational researchers had been concerned with the process of reading (Nuttall, 1996; Paris, 1997; Wilson, 1987; Mason, 1984; Melnik & Marsh). In fact their efforts had led to many insights and models.

Researchers addressed a variety of issues relating to reading such as those concerning with the reading process itself, the reader, the reader's background, the teaching methods and means of assessment. Though some results were more theoretical and some showed very little knowledge of how students go about reading a second language in an instructional setting, they did not prevent researchers, educationalists, instructors in the field from investigating the applicability of these theories and foundations (Melnik, 1993).

Today, reading research focuses on investigating what goes on in the reading process, the skills of reading, strategies for reading, the potential causes and their effect on reading success and failure (Griffiths, 1997; Ryland, 1995; Cooper, 1994; Ehly, 1978; Hansen, 1974). The implications have been divergent, and no one theory has been

Chapter One

Introduction

Background

An Idea on Reading Comprehension

Over the past decades, many educational researchers had been concerned with the process of reading (Nuttal,1996; Paris,1987; Wixon,1987; Mason,1984; Melnik & Merritt .In fact their efforts had led to many insights and much data.

Researchers addressed a variety of issues relating to reading such as those concerning with the reading process itself, the researcher, the reader, the text, the teaching methods and means of assessment. Though some results were more theoretical and some showed very little knowledge of how students go about reading a second language in an instructional setting that did not prevent researchers, educationalists, instructors in the field from investigating the applicability of these theories and foundations (Bernhardt, 1993).

Today, reading research focuses on investigating what goes on in reading lessons, the skills of reading, strategies for reading, the potential causes and their effect on reading success and failure (Guthrie,1998; Taguchi,1997; Hyland,1995; Cooper, 1984; Elley,1984; Hosenfeld,1984). The implications have been divergent, and no one skill, cause or effect

could be interpreted solely since reading involves the integration of different parts within every specific domain.

The following are not all but some areas which reading researchers and interested scholars thought and think of in this case, reading: Reading with relation to curriculum, vocabulary and grammar development, text types and question types, background knowledge, length of texts, teacher and students interaction, first language interference 'mother-tongue', readiness, attitudes, motivation, cultural biases, etc(Spires & Donley,1998; Ridgway,1997; Reves,1993; Pintrich & Schrauber,1992; Recht & Leslie,1988; Steffensen & Joage,1984).

The field of reading as shown is wide and can accommodate various dimensions. Since each contributes to language success, reading as part of a whole has become one of the wide-ranged areas in language acquisition assessment.

Because of this increasing interest in reading many scholars (Surber & Pallock,1997; Taguchi,1997; Taylor & Pearson,1988; Garner,1987;Nuttall, 1996) have set different techniques, methods, to tackle down different problems in learning and teaching reading skills and programs. However the deficiency of any of these has been under attack. Nevertheless, more access to development in this area is continuing to be a desired achievement.

Most of second language reading failure occurs in classroom settings where reading, which is part of the school curricula, is taught and evaluated. This; unfortunately, transmits into the real day life situations where students fail to read and understand pieces of information unless helped by their family members or friends. Children, students, and adults seem to have difficulties in approaching any given texts especially those unfamiliar texts. Continuous practice is a desirable tendency. Hyland (1995) stated that reading is a means to an end and should not be an end in itself. Reading is a purposeful activity, and our job as teachers is to help students identify these different purposes and to master the strategies best suited to achieving them. In this connection, Hyland's claims are enlightening. They stress the fact that reading lessons should be used to develop students' proficiency, i.e. to be able to communicate in the foreign language spoken or written rather than only to improve linguistic competence being lexical or syntactic.

An Idea on Critical Thinking

The roots of critical thinking can be traced to the teaching practice and vision of Socrates, Plato, and the ancient Greeks who established the traditions of critical thinking. They are to reflectively question common beliefs and explanations, and to carefully distinguish those beliefs that are reasonable and logical from those appealing to be "our native egocentrism"

since they may lack adequate evidence or rational foundation (Sonoma, 1998).

From this tradition emerged the need to think systematically, to trace implications broadly and deeply, for only thinking that is comprehensive, well-reasoned and responsive to objections could help us see the realities of life deeply not on the surface.

This desire continued and scholars in Europe began to think critically about religion, art, human nature, society, law, and freedom. Actually, there was an assumption that most of the domains of human life were in need of searching, analysis and critique. Among these scholars were Colet, Erasmus and Bacon (Sonoma, 1998). The later, in his book **The Advancement of Learning** (Sonoma, 1998), argued for "the importance of studying the world empirically while emphasizing on the information-gathering processes which were the traditional agenda of critical thinking.

The thinkers of France had also significantly contributed to critical thinking. Among them were Bayle, Montesquieu, Voltaire and Diderot (Sonoma, 1998) . They claimed that the human mind being disciplined by reason, it became better able to figure out the nature of the social and political world, all views, they thought, had to be submitted to serious analysis and critique.

Critical thinking extended into different domains in the 19th century. Applying critical thinking to the problems of Capitalism produced the

searching social and economics critique of Karl Marx. Applied to the history of human culture and the basis of biological life, it led to Darwin's **Descent of Man** (Sonoma, 1998). It has also been reflected in the works of Sigmund Freud about the unconscious mind. When applied to cultures, it established the field of anthropological studies. And when applied to language, which is a manifestation of its speakers and their culture, it led to the field of linguistics and to many deep probing of the functions of symbols and language in human life.

From the works of John Dewey, Ludwing, Wittgenstein and Piaget (Sonoma, 1998), who were some of the most prominent scholars in the 20th century, we have increased our sense of the basic human thought: purposes, goals and objectives. We have increased our sense of the importance of concepts and the need to analyze them; the egocentric and socio-centric tendencies of human thought and reasoning within multiple standpoints.

In short, we have learned the power of information and the importance of gathering information with great precision and sensitivity rather than its potential inaccuracy, distortion or misuse. Thinkers are continuously contributing to critical thinking development in every discipline. Most naturally then "the acquisition and use of critical thinking skills by the general population will immediately benefit the individual and will ultimately benefit the society as a whole" (Parker, 1993,p.1).

In the area of education there is a prevailing opinion that the ability to think critically is a desirable humane trait and that for this reason it should be taught in our schools from the beginning. Hence educators are becoming more interested in ways in which students can be stimulated, or encouraged to think critically and urged to incorporate higher order thinking skills instruction in the classroom (Young, 1992). Thus a considerable amount of research has centered round such tasks as the definition of critical thinking, analysis of the thinking process, and attempts at developing instruments to measure such abilities.

So critical thinking is what every person needs to survive in a rapidly changing world. Consequently, this ability is considered to be an important prerequisite for life long education (Kreber, 1998).

Statement of the Problem

It has been argued that the reading and critical thinking abilities are two integrated skills in the process of reading comprehension at all levels and for students whose main need is to gain access to information through language and to make use of material being of general academic interest, works of reference, journals, as much as possible.

The researcher wonders if reading comprehension and critical thinking are well developed in our students. It is worth knowing the Palestinian students stand compared to other students in other foreign countries using these testing measures applied in the study or using any

other measures testing these fields of reading comprehension and critical thinking. Thus this study was aimed to investigate and pinpoint any potential relationship the relationship between these abilities and further to shed some light on those differing reading comprehension and critical thinking skills which enable students to become fluent and thoughtful readers at the university level.

Purpose of the Study

How often and what type of skills students are exposed to and practice in reading comprehension and critical thinking determine the nature of development and acquisition of those basic skills related to either field. Therefore, general reading comprehension ability combined with general critical thinking ability is expected to result in successful language learning. A good critical thinker will apply critical thinking skills when approaching any given text. He or she will not accept a given idea in a book, newspaper, or a magazine without judging or evaluating its truth, applicability, usefulness. These basic skills of judging and evaluating are fundamental in the process of reading and thinking which are parts of the learning process as a whole.

This study; accordingly, aims at investigating the relationship existing between reading comprehension and critical thinking for a sample of seniors in the Palestinian universities, emphasizing those skills that seem to reflect positive results and drawing more attention to those proved to be

neglected skills. In addition, the study investigates the effects of gender, university, reading passage-types and question-types, thinking sub-scales and types of reasoning. Further the effects of taking or not taking courses in English reading comprehension and critical thinking, and believing or not believing in the importance of reading comprehension and critical thinking are other variables to be investigated throughout the study. All these independent variables are investigated in relation to their effect on the dependent variables, the reading comprehension and critical thinking test scores. The study is further expected to:

1. Indicate areas of success and/or failure in these abilities in terms of their implication in the academic field. This will highlight those aspects in need for further attention and improvement and foster those proven to be helpful and influential.
2. Help decision-makers in education and higher education in particular take into account stressing those skills in the curriculum so that these skills are developed progressively and comprehensively.
3. Show those interested in fields like psychology, sociology, education, that foreign language acquisition is not bound to be purely self-dependent. Certain potential relationship exists between fields of science.

Research Questions

The study attempts to answer the following questions:-

1. To what extent do reading comprehension (RC) test scores correlate with critical thinking (CT) test scores?
2. To what extent are the students' reading comprehension (RC) test scores and/or critical thinking (CT) test scores affected by:
 - a. gender for both (RC)&(CT)
 - b. university for both (RC)&(CT)
 - c. question-type only for (RC)
 - d. passage-type only for (RC)
 - e. sub-scales only for (CT)
 - f. type of reasoning only for (CT)
 - g. taking or not taking courses in (RC) & (CT)
 - h. believing or not believing in the importance of (RC) & (CT)

Significance of the Study

Since reading comprehension and critical thinking abilities are two integrated abilities for successful language learning and acquisition in the academic process (Farley & Elmore,1992; Thorndike & Ruggiero,1917), this study is conducted to investigate the potential relationship between these major abilities and to reflect upon those areas that lead to academic success. However the importance of the topics is not limited to academic purpose. It indicates successful living in a world in transition, continuous progress and mass of knowledge.

To the best of the researcher's knowledge, the present study is the first one conducted in Palestine that investigates these two dimensions the reading comprehension and critical thinking abilities together.

Limitations of the Study

The study is limited to investigating the relationship between reading comprehension and critical thinking in a foreign language for a sample of English language seniors in five Palestinian universities during the academic year 1999-2000.

The universities participated are:

1. Al-Najah National University;
2. Al-Quds University;
3. BeirZeit University;
4. Bethlehem University; and
5. Hebron University

All seniors contributing in the study and whose scores were calculated follow these conditions:

1. Students should be only English Language and Literature majors.
2. Students are taught English as a foreign language
3. Students are expected to have taken courses in developing basic reading and thinking skills.
4. Students should sit for both tests; otherwise, their results would be excluded.

The result of the study are based on the students' achievement scores in the reading comprehension (TOEFL,1999) and critical thinking (CCTST,1998) tests. The allotted time for the reading test is 35 minutes, whilst it is 50 minutes for the critical thinking test. Only four passages (literary and science) and by thirty questions attacking these different skills of reading are used to measure the students' achievement in reading comprehension. The critical thinking test consists of thirty-four questions which follow twenty-nine passages.

Definition of Terms

Reading Comprehension (RC)

It is the process of extracting and constructing meaning from written material and entails an active process of relating new or incoming information with previously acquired knowledge; i.e. it involves the activation of relevant knowledge and related language skills (Bernhardt, 1993).

In this study, the students' reading comprehension ability is the sum score of the different skills derived from the students' correct answers to these question-types and passage-types in the test used.

TOEFL:

Test of English as a Foreign Language.

Question Type

There are different types of questions. A skillful question emphasizes certain reading skill. The following are definitions of different question-types as used in Rogers' (1999).

1. **Main idea / topic / purpose questions:** These questions ask the student to identify an answer that correctly summarizes the author's main idea, the subject of the whole passage or the author's reason for writing the passage.
2. **Factual questions:** These questions ask the student to locate and identify answers to questions about specific information and detail in the passage.
3. **Negative questions:** These questions ask the student which of the answers is not discussed in the passage.
4. **Scanning questions:** These questions ask the student to find the place in the passage where some topic is mentioned.
5. **Inference questions:** These questions ask the student to draw conclusions based on information in the passage.
6. **Vocabulary-in-context questions:** These questions ask the student to identify the meaning of a word or a phrase as used in the passage.
7. **Reference questions:** These questions ask the student to identify the noun to which a pronoun or other expression refers.

Passage type

There are five types of passages in TOEFL reading comprehension test papers (Rogers, 1999) covering a wide range of topics:

1. Science and technology including astronomy, geology, chemistry, physics, medicine, and so on.
2. History, geography, culture, government.
3. Art including literature, painting, drama, and so on.
4. Social science including anthropology, economics, psychology, sociology, and so on.
5. Biography.

However, some passages may be classified in more than one way. For example, a biography might be about the life of a historical figure, an artist, or a scientist (Rogers, 1999, p. 268).

Critical Thinking (CT)

Based on the Delphy Conceptualization of critical thinking, the term critical thinking is used in the California Critical Thinking Skills Test (CCTST) to mean:

“A purposeful self-regulated judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of evidential, conceptual, methodological, criteria-logical or contextual considerations upon which that judgment is based,” (Facione & Facione, 1998, p.7).



In this study, the students' sum scores of the sub-scales of analysis, evaluation and inference represent the students' overall ability in critical thinking.

Analysis

In the CCTST it has dual meaning:

“To comprehend and express the meaning or significance of a wide variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures or criteria,” (Facione & Facione, 1998,p.5).

Sub-skills included: categorization, decoding, significance, and clarifying meaning.

“To identify the intended and actual inferential relationship among statements, questions, concepts, descriptions or other forms of representations intended to express beliefs, judgments, experiences, reasons, information or opinions,”(Facione & Facione, 1998,p.5).

Sub-skills included: Examining ideas, detecting arguments and analyzing them into their component elements.

Evaluation

It has also dual meaning:

“To assess the credibility of statements or other representations which are accounts or descriptions of a person's perceptions, experience, situation, judgment, belief or opinion; and to assess the logical strength of the actual or intended inferential relationships among statements,

descriptions, questions or other forms of representations,” (Facione & Facione, 1998,p.5)

Sub-skills included: assessing claims and assessing arguments.

“To state the results of one’s reasoning; to justify that reasoning in terms of the evidential, conceptual, methodological, criteriological and conceptual considerations upon which one’s results were based; and to present one’s reasoning in the form of cogent arguments,” (Facione & Facione, 1998,p.5)

Sub-skills included: stating results, justifying procedures and presenting arguments.

Inference

“To justify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses; to consider relevant information and to deduce the consequences following from data, statements principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representations,” (Facione & Facione, 1998,p.5-6).

Sub-skills included: querying evidence, conjecturing alternatives and drawing conclusions.

Deductive reasoning

“The assumed truth of the premises purportedly necessitates the truth of conclusion,” (Facione & Facione, 1998,p.6).

Inductive reasoning

“An argument’s conclusion is purportedly warranted, but not necessitated by the assumed truth of its premises.” (Facione & Facione, 1998,p.6).

Construct Validity

This refers to the extent a test measures precisely what it purports to measure (Facione & Facione, 1998,p. 18).

Content validity

This refers to how well the specific items on a test represent the universe of possible test items within a specified domain. Identification of the pertinent domain and obtaining agreement on it are of primary importance to content validation (Facione & Facione, 1998,p.18).

Summary

This chapter introduced a historical background on reading comprehension and critical thinking. It also shed some light on the research problem, purpose of study, research questions, the significance of the study and its limitation. Finally the meaning of terms/concepts were offered.

Chapter Five

Discussion, Conclusions and Recommendations

In this research, the researcher aimed at highlighting the relationship between reading comprehension and critical thinking test scores among senior university students in some of the Palestinian Universities. The study also investigated some skills and that were expected to reveal some areas of strength or weakness within or related to each ability.

In this chapter, the researcher is going to highlight these results and to discuss them. Recommendations derived from the results of the study and other relevant studies will be presented too.

Discussion

Hypothesis (1): There is a correlation between the students' test scores in reading comprehension and critical thinking.

Pearson Correlation Coefficient (0.35) at the (0.001) level of significance shows that there is correlation between the students scores the two tests.

Although correlation coefficient is not high, it still indicates a relationship between the reading comprehension and critical thinking test scores.

Reading comprehension and critical thinking are demanding cognitive skills. Both skills demand high order rationale from the students.

Good thinking is developed by good reading and vice-versa (O'Hara,1998; Bernhardt,1993; Niles,1972; Robinson,1966).

This result agrees with the findings of Walpole,1999; Kipling & Kreber,1998; O'Hara,1998; Farley & Elmore ,1992; Young,1992; Philips & Norris,1987; Friedman & Rowls,1980; Melink & Merritte,1972; and Robinson,1972.

Hypothesis (2): There are no significant differences between the student's test scores in reading comprehension due to gender.

No statistically significant differences were found. First this may be the result of using TOFEL questions which are not gender-biased, Rogers (1999). Secondly, the participants are most likely to be taught under the same conditions, by the same teachers using the same material in classes which include both males and females. However, Pomplun and Sundbye (1999) found significant gender differences. The only explanation could be offered here is that these differences are due to the differences in population and means of testing, i.e. different formats require different skills and tasks . Other studies that show differences are Langer, et.al,1995; Oleka & Sudlow,1992;; Pomplun, Wright Oleka & Sudlow,1992; Breland & Grisworld,1982. All these studies are cited in Pomplun & Sundbye (1999).

Hypothesis (3): There are no significant differences between the students' reading comprehension test scores and the university they belong to.

Significant differences were found which were in favor of AL-Najah University. Students claimed that they take up to 9 credit hours intensive courses in reading comprehension.

To the knowledge of the researcher no study has ever investigated the variable "university" in relation to reading comprehension.

Hypothesis (4): There are no significant differences in the students' critical thinking test scores due to gender.

Differences also were not significant. The CCTST by itself is not gender-biased, i.e. it does not differentiate unfairly among males or females, (Facione & Facione 1998). Al-Atari (1999) found the differences to be not significant when measuring the students' overall ability in the translated form of the CCTST. Further studies that confirm this result are: Sarhan (2000); Afaneh,1998; AL-Hamouri & AL-Weher,1998; AL-Khatib(1993).

Thinking is a process that is conducted by both males and females who are nearly from the same educational and social backgrounds. AL-Hifnawi (1997) found significant differences due to gender in favor of the females. Hamadneh (1995) found differences between 10th grade males and females in favor of the later in their overall ability in the Waston-Glazer test. The differences between this study result and these mentioned above are due to different populations and type of measurement.

Hypothesis (5): there are no significant differences in the students' critical thinking test scores due to university.

ANOVA analysis showed that there was no significant effect of the students' universities on their critical thinking scores. The explanation to this result is that students are all introduced to nearly the same subject areas with a minor interest in developing critical thinking capacity through these content areas.

Learning strategies, teaching methodologies and means of assessment are almost the same taking into account that critical thinking abilities are de emphasized and/or neglected in most academic settings.

AL-Atari (1999) found significant effect of the university on the students' overall thinking ability but no explanation is offered. Jackson (1965) in McMillan (1987) suggested overall college effect. Bekman (1956) found gains in critical thinking when colleges were compared. Jackson and Dressel & Mayhew (1945) in McMillan(1987) seemed to support that college experiences as a whole might have a significant positive effect on critical thinking. Jackson (1965) in McMillan (1987) suggested overall college effect.

Hypothesis (6): There are no significant differences in the students reading comprehension test scores due to question-type.

Differences were not significant except for one type of questions which was finding main ideas, topics, subject in given paragraphs.

This case of having no significance differences in general can be explained by the fact that all questions are treated equally. Also the exception could be due to the inability of the students to judge among different ideas which are given in a series of well-selected alternatives, like the main idea and inferential questions. Students showed inability to summarize ideas or reach conclusions. This tendency has a further explanation which is that students tend to talk or to think without necessarily being able to focus on one idea and be able to discuss or elaborate it systematically.

In contrast, students were able to choose between simply correct or not correct choices. Negative and vocabulary questions were related examples.

As far as the researcher knows no study has also examined the effect of question-type on reading comprehension achievement. However, various studies like Rogers (1999) and Abdul Ghani (1995) have emphasized using a variety of questions about a content when assessing comprehension. This variety takes into account the different cognitive levels to allow for intellectual involvement on the part of the readers.

Besides, most students deal with vocabulary questions which constitute a sizable and important part of any reading comprehension material .26% of the total mark in the reading comprehension section in TOFEL exams is given to vocabulary questions.

Hypothesis (7): There are no significant differences in the students' reading comprehension scores due to passage-type.

Significant differences were obtained and these were in favor of the scientific passages not the literary ones. The explanation provided is that scientific passages tend to be more specific or content centered, i.e. they are organized and built up around a small set of topics which are usually dealt with directly with all necessary explanations, exemplars that aid comprehension. A scientific text is an example of expository texts which are generally described in terms of their hierarchical structure or levels of information which as a result allowed the participants to encode and retrieve information in a planned manner, Yekovich & Thorndyke (1987); Lorch & Lorch (1985); Cirilo & Foss (1980). Abdu Ghani (1995) also added that scientific texts in general are organized quite systematically. Cohen, et al, (1979) found technical texts to produce higher comprehension.

Wixon & Peters (1987), Olson (1985), Berkowitz & Taylor (1981) found some evidence that learners mainly children comprehend literary texts which are a type of narrative texts more easily than do with expository texts.

Hypothesis (8): There are no significant differences in the students critical thinking test scores due to the cognitive skills of analysis, inference and evaluation.

No statistically significant differences were obtained. The researcher believes that in spite of such a result, the inferential process which is a desirable outcome of the academic study seems to be de-emphasized in the educational field. Sarhan (2000) and Al-Atary (1999) reached the same result, too.

Afaneh (1998) found significant differences regarding critical thinking skills at $\alpha=0.01$ due to gender, study and field of specialization. The results were in favor of the males and of the first, second and third levels in the scientific streams not the fourth. Afaneh claimed that females were less apt to discuss, to criticize or to express ideas. These females needed to be encouraged to do so that they would be able to conduct fruitful discussions. In terms of level of study, students tend as the years pass by to generally disregard skills taught at the beginning levels and focus on teaching procedures and methods. The scientific stream students out performed their counterparts in the literary stream because of the nature of courses they are introduced to. These courses emphasize more rational approaches; students discuss and examine more problems.

Hypothesis (9): There are no significant differences in the students' critical thinking test scores due to type of reasoning.

No significant differences were found in the students' inductive and deductive thinking. This result might shed some light that both type of reasoning are emphasized fairly equally the teaching or/and learning

processes. Afaneh (1998) found that although test score means showed that the students' level in induction skills was below the accepted norm (0.5), it was (0.31). Differences were not significant in the subjects' deductive and inductive skills due to level of study and gender. However, when examining the effect of the field of specialization, significant differences were maintained and were in favor of the science colleges in their inductive skills.

Sarhan (2000) found no significant differences in the students reasoning skills due to gender, but significant differences were found between students diverse universities in deduction and induction skills in favor of the former.

Al-Atari (1999) found statistically significant differences between the variables gender, university type and deduction reasoning and academic major and deduction and induction skills. The results were in favor of the females and scientific fields of major in deductive reasoning. No significant effect found due to academic level.

Hypothesis (10): There are no significant differences between the students' reading comprehension test scores and having taken courses or programs in reading comprehension.

While (72.2%) of the subjects reported having taken courses in reading comprehension, (27.8%) reported that that they had not. However no significant effect was found. This could be due to the number of reading

courses allotted for reading comprehension which was little (6 hours) during a four-year study. Moreover, the type of texts used and the way they are approached seem to be not sufficient nor highly effective to develop critical reading comprehension in all subject or content areas. Students learn various information in reading comprehension, practice skills in the classrooms, but they do not seem to transfer this knowledge to testing situations where standardized tests or unfamiliar texts are used (Bernhardt,1993; Alderson,1984). Having good knowledge of text-attack skills, which are provided in any given reading comprehension course, facilitates comprehension of words, word combination structures, ideas, etc if they are carefully practiced (Bernhardt,1993;Nunan,1985Cohen, etal,1979).

Hypothesis (11): There are no significant between student's critical thinking test scores and having courses or programs in critical thinking.

No significant differences were found between the subjects who indicated having taken courses (58.9%) and these who have not (41.1%) and their critical thinking test scores. This result can be explained by referring to critical thinking instruction during school and college education.

Although critical thinking instruction is highly advocated by many educationalists and researchers (Sarhan,2000; Al-Atari,1999; AL-Hammouri & AL-Wiher,1998; AL-Hamouli,1997; Baumfield and

Higgins,1997; Strong, Silver & Hudson,1985), they believe that it is still a neglected skill in our schools. It is true that some courses have been introduced to enhance students thinking; yet, these will not guarantee the transfer thinking skills to content areas and daily life contexts unless they are put into action and conceptualized fully.

Most of the students investigated indicated that almost a 3- hour instruction in critical thinking is provided of the subject indicated. It seems important that this instruction is expected to produce any great degree of improvement (Lyle, 1958). McMillan's (1987) result failed to support use of specific instructional or course conditions to enhance critical thinking. Also it was found that non- native English speakers, provided that they had completed a college level course in critical thinking had shown a mean score that only reached (13.75), and differences between pre- and posttest scores showed no improvement (Facione & Facione, 1998).

Hypothesis (12): There are no significant differences between the students' reading comprehension test scores and their beliefs in the importance reading comprehension.

No significant effect of this variable on the reading comprehension test scores was computed though it is undeniable as accepted by many theorists, psychologists and researchers like Cooper, 1984 and Kasdon, 1958 that strong beliefs have certain effects on human's behaviors.

The challenge now is not only in believing in the importance of a skill but also in working hard towards it. Skill manipulation is to be achieved in as many different ways as one can count.

Reading is not anymore a passive activity or should it be a burden on the part of the learner. On the contrary, it is an active process that requires an ongoing active search for truth and development to lead transition in all aspects of life. Reading realistically and artistically should never be a barrier in the reading comprehension process. The researcher believes to engage learners in reading is just as important as to arouse their interests and attitudes to the functional and practical benefit of reading comprehension. Reading by all means is comprehension.

Students' attitudes and beliefs may have a limited role in the reading process but they may be seen as interfering with comprehension (Spire & Donley, 1998) since reading comprehension involves a dynamic interaction among the reader, the text, and the context of reading situation. The reader builds up meaning from print not only from his experiences, knowledge, skills, presentation of material but also from his motivation and interest in what is being read (Wixson & Peters, 1987; Baldwin, et.al. 1985; Kasdon, 1958).

Engaged readers who believe in the importance of reading comprehension are in a continual process of activating and extending their conceptual understanding (Guthrie, et.al, 1998). Readers tend to use prior

knowledge, pose questions, search, examine and extract critical details and integrate information. These learning strategies are strongly associated with motivational attributes of attention, effort and desire to understand (Dajani, 1999; Pintrich & Schrauben, 1992). Strong interest in reading and comprehension is a powerful motivational factor for superior reading development (Spires & Donley 1998; Fransson, 1984; Kasdon, 1958).

Thus it is the responsibility of the individuals, families, schools, educators, media to ease the process and to spontaneously activate reading that is potentially available.

Hypothesis (13): There are no significant differences between the students' critical thinking test scores and their beliefs in the importance of critical thinking and being logical in deciding what to do or what to believe.

Differences were not significant. This could be due to the nature of critical thinking. Although critical thinking encourages one's personal contributions, for example, personal knowledge, this must be based on some standards like objectivity, utility, credibility, clarity, accuracy, relevance, and logic. These all demand a highly cognitive structure in the mind of the person. A structure like that does not only concern with other motivational factors but with standardized norms that are somehow challenging and decisive in terms of choosing the most appropriate alternative or choice from many others.

The reasons that might also be behind this research result are:

1. It does not follow that if you believe in something you will succeed in achieving it. Your beliefs are one step towards working hard and exerting more efforts to achieve a certain goal. To succeed in working for your goals you have to be equipped with skills, tactics, training, encouraging environment and atmosphere. You need enough enthusiasm for taking an ongoing search for truth, accuracy and logic. To indicate satisfaction, norms are to be taken into consideration.
2. (41.1%) of the subjects claimed that they did not have taken courses in critical thinking. Having taken functional critical thinking courses that introduce the learners to what critical thinking is and how it can be approached could have enlightened the students and aroused their efforts to work harder.
3. A test such as the "CCTST" is a highly mentally demanding measurement. Generally our students have ever been exposed to a test of the kind in a foreign language. Moreover, students' motivation to put full effort into a test like this will become increasingly difficult to achieve.
4. Since the original form of the CCTST, which is English, has been used in this study inadequate verbal ability could have affected the students' overall achievement. However a pilot study was conducted to assure the suitability of lexical and syntactic structures used in the test.

As far as the researcher knows no study has investigated this dimension in relation to its effect on critical thinking test score. Only Facione & Facione, (1998) pointed that a lengthened version of the CCTST would make it more demanding for test-takers' motivation and would affect students' achievement if other factors like time duration were not taken into account. Kuhn (1996) noted that opinions and attitudes have an important and strong effect on thinking skills.

was than a compound of reading comprehension and critical thinking.

This study was conducted on the basis that there exists a relationship between the reading comprehension and critical thinking skill test scores as was stated earlier. The researcher indicated. As far as the researcher knows, no previous study has ever investigated this relationship.

On the basis of the study results, the researcher reached the following conclusions:

First, There is a relationship between the students' reading comprehension and critical thinking test scores. Pearson correlation coefficient was (0.35) at the (0.001) level of significance. Both reading comprehension and critical thinking abilities are cognitive skills that require high order thinking capacities which this research indicated that they are not fully developed among students.

Second, There are no significant differences in the students' total reading comprehension scores due to gender. This is because students within each

Conclusions

It is worth pointing that the results of this study are based on the achievement in reading comprehension and critical thinking of the fourth year English majors in the Palestinian University in the West Bank during academic year 1999/2000. None of the participants is a native speaker of English. The students whose scores were calculated were only those who sat for both tests in their original language "English". The scores attained were then a compound of reading comprehension and critical thinking.

The study was conducted on the basis that there exists a relationship between the reading comprehension and critical thinking skill test scores as some related foreign studies indicated. As far as the researcher knows, no Palestinian study has ever investigated this relationship.

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Second. There are no significant differences in the students' total reading comprehension scores due to gender. That is because students wither males

or females are taught under the same learning conditions. The nature of the test used does not make any preferences as to either gender.

Third. There are no significant differences in the students' total critical thinking scores due to gender. The CCTST used does not differentiate unfairly between males and females. Differences between genders in general are interpreted in terms of other factors like expectations, motivation, instruction and so on.

Fourth. There are significant differences in the students' total reading comprehension scores due to university. Students noted that in these universities they take more courses than those in other universities.

Fifth. There are no significant differences in the students' total critical thinking scores due to university. Students expressed not having taken enough courses in critical thinking that would enhance this ability. The researcher believes that critical thinking is a habit in the mind of its carrier. It has been cultivated and developed during a long time of learning and acquiring information. Claims should not only be passed on university instruction but on students overall academic study.

Sixth. There are no significant differences in the students' total comprehension score and question-type except that of finding main ideas, topics or subject in given passages. The test included very related and carefully prepared and tested alternatives (distracters). In addition all questions tested were treated equally i.e. they were of equal value.

Seventh. There are significant differences in the students' total reading comprehension scores due to passage-type. Literary passages revealed these differences among students. Usually scientific text are more organized and focus -countered. Scientific passages are often supported with clarifying details. Literary passages; however are built or set with many ideas which could be confusing for the test-takers. These same passages are not often supported by details or evidence that might shed light on the central focus of a passage or an idea.

Eighth. There are no significant differences in the students' critical thinking scores due to the three sub-scales: inference evaluation and analysis.

Social and instructional values misused and misunderstood do not help differentiate between different behaviors. Students; consequently, are not able to identify conclusions, reasons; recognizing irrelevant material; showing similarities or differences; asking for clarifying details; lacking the ability to judge validity and conclusions, even not being able to predict probable consequences.

Ninth. There are no significant differences in the students' total critical thinking scores due to the type of reasoning either being deductive or inductive. Both type of reasoning are treated fairly equally in the instructional settings.

Tenth. There are no significant differences in the students' reading comprehension scores due to not having taken courses or programs for

enhancing their reading comprehension ability. Collective education that is based on using the same instructional material students from divergent backgrounds would not encourage varying differences specially that it is focused on measuring separable skills rather than on integration of skills that is the core of reading comprehension. Leading instruction in this way does not probably encourage varying contents, multiple meanings or interpretation of a text; it dose not activate that dynamic interaction or negotiation between the writer, the text and the reader whose active combination builds up an interactive view of reading.

Eleventh. There are no significant differences between the students' critical thinking scores and having courses or programs that develop critical thinking skills. These courses would be functional unless they are activated in all content areas taking into account various thinking skills that developed step by during instruction. These skills must be approached as a whole not as separate entities.

Twelfth. Believing and not believing in the importance of reading comprehension have no significant effect on the students' reading comprehension scores. Reading comprehension should be a rewarding activity in the sense that it initiates goals that are satisfied through hardworking. Having set goals, all means need to be fruitfully invested, motivated and cultivated to achieve these desirable outcomes.

Thirteenth. There was also no significant effect of beliefs on the students' critical thinking scores. Beliefs are not the only way to achieve goals. However certain training programs, education, and encouraging atmosphere do help in better achievement. That is because they would help students recognize the nature of critical thinking "what it is" and how it can be beneficial to achieve goals at both the individual and national levels.

Recommendations

The results of this study revealed the relationship between reading comprehension and critical thinking and the effect of other independent variables on these two dependent variables for a sample of seniors in some of the Palestinian Universities. Based on these result and those of relevant literature, the researcher would like to recommend the following suggestions for instructional assistance and development:

1. Both reading comprehension and critical thinking must be emphasized, fostered and well-instructed in the curricula and educational settings. A change that is offered is emphasizing learning over teaching. Thus, learners, teachers, and material designers are all accountable before and during the application or practice phases, i.e. during the planning, the preparation, and the evaluation processes. They are all still held accountable for all consequences. Actually, creating evaluation programs that are designed to help students learn to learn and not merely addressing factual content are highly recommended. To meet this goal, students must be able to evaluate the arbitrariness of factual content. This can be achieved by activating appropriate knowledge and by being able to evaluate their own attempts to match those desired objectives.

2. Students need to be encouraged to practice the TOEFL and the CCTST test papers or whatever parallel. Local norms may be introduced. Students further need to understand the nature of critical thinking procedures involved and tackling tactics. A new of view reading comprehension is to be developed. Reading comprehension is an interactive, constructive process that is approached from a holistic perspective. Language proficiency, both lexical and syntactic, must be fostered in the classrooms. The structure, for example, need to address the constructive processing demands of the text and the consideration of specific disciplines of knowledge represented by the text.
3. Various strategic efficiency (Garner,1987) when approaching different materials should be highly stressed and practiced. Skills integration is a desirable goal; separate/single skills may be introduced in the beginning depending on the students' levels. Students need instruction in how to make sense of content features and strategy use. They need training programs and workshops that help create better critical thinkers. Teachers as well as students need to master follow-up to an explanation. Bu selecting and overusing one strategy over another, teachers might emphasize one style of attacking skills which in turn is reflected in the students' tendency to overuse it. This way of instruction, in a way or another, has to be carefully addressed and approached.