Shahid Rajaee Teacher Training University

Faculty of Humanities

The Relationship between Iranian EFL Students' Reading Comprehension Micro-skills and Critical Thinking Skills

By: Mokhtar Heydari

Supervisor: Farhad Dordinejad, PhD.

Reader: Maryam Meshkat, PhD.

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Abstract

Teaching how to learn instead of teaching content like history or mathematics in recent years has been the main concern in educational systems. Critical Thinking as the main stream of thinking about learning has flourished afterwards. On the other side reading comprehension is the most important skill of language concerning learning and education. This study tried to seek the relationship between reading comprehension micro-skills and Critical Thinking. The study was conducted among the students of English Department of the Faculty of Foreign Languages in Isfahan University. Two tests: one Critical Thinking test and one reading comprehension test, divided into three parts - main idea, inference and specific details – were used. Correlation analysis was conducted between students' reading comprehension and Critical Thinking scores. Also students' reading comprehension micro-skills and Critical Thinking skills with regard to their gender were compared. The results showed that while there was a close relationship between Critical Thinking skills and reading comprehension in general and reading comprehension micro-skills in particular, there was no significant difference between students' reading comprehension micro-skills: main idea, specific details and inference scores regarding their gender. Also, no difference was found between male and female students' Critical Thinking skills with regard to their gender.

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Abbreviations

CCTST: California Critical Thinking Skills Test

CT: Critical Thinking

EFL: English as a Foreign Language

ESL: English as a Second Language

NS: Native Speaker

NNS: Non-native speaker

RC: Reading Comprehension

TEFL: Teaching English as a Foreign Language

TOEFL: Test of English as a Foreign Language

TESL: Teaching English as a Second Language

Chapter One

Introduction

1.1. Introduction

Reasoning is an everyday human activity. We all think about what we should do and why we should do it, and about whether – and for what reason we should believe what other people tell us or write to us.

Reasoning well is a skill which is valuable to anyone who wants to understand and deal with the natural and social worlds. Scientists need to reason well in order to understand the causes of phenomena. Politicians need to reason well in order to be able to adopt the right policies. But we cannot leave reasoning to scientists and politicians, because we all want to know whether what they tell us and what they prescribe for us is right. So reasoning well is an important skill for all of us.

Critical reasoning or thinking is centrally concerned with giving reasons for one's beliefs and actions, analyzing and evaluating one's own and other people's reasoning, devising and constructing better reasoning. Common to these activities are certain distinct skills, for example recognizing reasons and conclusion, recognizing unstated assumptions, drawing conclusions, appraising evidence and evaluating statements, and judging whether conclusions are warranted. Underlying all of these skills is the ability to use language with clarity and discrimination.

Here critical reasoning and thinking comes to a close relationship with the use of language and specially reading comprehension. Maybe it is a big claim to state that language is the basis of thinking and reasoning. We are not going to cling to the strong version of linguistic determinism stated by Sapir and Whorf assuming that "patterns of thought and perceptions of reality are determined by one's native language" (Johnson and

Johnson, 1999 p. 282).But it is obvious that thinking and reasoning is based on language, or at least we need language to state and clarify the reasoning and thinking process.

Coming to language components nobody can deny or refute the importance of reading comprehension on reasoning and thinking and their interconnection. In fact comprehension of reading is based on thinking and reasoning process and reasoning and thinking is based on the lexicon, phrases, clauses, sentences and text in general. It seems that top-down processing which states that "we bring to a text background knowledge which we utilize in the interpretation of its meaning" and bottom-up processing in which "the reader attends to individual words and structures in the text itself, using these to build up and interpretation of the whole" (Johnson and Johnson, 1999 p.353) are contributing to the same notion. Yet the interesting point is that while traditional linguistic analysis has involved bottom-up process, recently the importance of top-down processing has become recognized(Johnson and Johnson,1999) as evidence to the role of background knowledge and thinking and reasoning in our mind.

1.2. Statement of the problem

"The number of crimes reported to the police is rising. The overall crime rate may not be rising. Traditionally, only a quarter of what most people regard as crime has been notified to the police"(Thomson, 1996 p.11).

Maybe you agree that the above passage regardless of its simple structure and lexicon is still somehow ambiguous and confusing. What is the main point of the above passage? Maybe it has also happened to you that regardless of knowing the meaning of all the words and structure of all the sentences, yet you have some problems in understanding the intention of the writer of the text. What is beyond lexicon, syntax and semantics that cause such a problem? What should the language learner or the reader know beyond lexicon,

syntax and semantics to get the main point of a text? Returning back to the above excerpt, what exactly is the writer is trying to tell us? Does he try to convince us that the number of crimes reported to the police is rising? Does he try to convince us that traditionally, only a quarter of what most people regard as crime has been notified to the police? Does he offer evidence for the claim that the overall crime rate may not be rising? We can add a great number of questions to the above list that needs a lot of care and attention to be answered. So what does the reader –beyond language – need to understand what the writer tries to say? We believe that component beyond language is a tinge of logic, what has become known as Critical Thinking nowadays. It seems that everybody should be familiar with some kind of reasoning skills to have a better understanding of the author's intention and what is between the lines.

The major goal of the present study is to look more closely at the issue of reading comprehension and its micro-skills to see whether there is any relationship between critical thinking and reasoning and reading comprehension micro-skills such as main idea, inference and specific details, and in this way may finally help students improve their reading comprehension micro-skills. Because logic and Critical Thinking and reasoning are concerned with issues like arguments, assumptions, offering evidence, identifying reasons and conclusions it seems that there must be a relationship between students' Critical Thinking skills and reading comprehension micro-skills such as main idea, specific details and especially inference.

1.3. Significance of the Study

Reading comprehension is probably the most important skill in first and second language learning field, especially in educational and academic settings. Even the smallest improvement in this skill can have tremendous and dramatic changes in the whole

language learning process. Hopefully by finding and discovering a relationship between reading comprehension micro-skills and logic and Critical Thinking and reasoning ability, people involved in language teaching and learning process may pay much more attention to the role of Critical Thinking and reasoning and logic in reading comprehension and language learning and hopefully in all phases and stages from policy making to the activities and exercises in classroom see a place for logic and Critical Thinking and reasoning.

1.4. Research Questions and Hypotheses

The research questions of this study are as follows:

1. Is there any relationship between Iranian students' Critical Thinking skills and their reading comprehension ability in general?
2. Is there any relationship between Iranian students' Critical Thinking skills and reading comprehension micro-skills – main idea, specific details and inference scores?
3. Is there any difference between Iranian male and female students' reading comprehension micro-skills - main idea, specific details and inference?
4. Is there any difference between Iranian male and female students' Critical Thinking skills?

Therefore the hypotheses of this study would be:

HO_1. There is no relationship between Iranian students' Critical Thinking skills and their reading comprehension ability in general.

HO_2. There is no relationship between Iranian students' Critical Thinking skills and reading comprehension micro-skills – main idea, specific details and inference.

H_{O3} . There is no difference between Iranian male and female students' reading comprehension micro-skills - main idea, specific details and inference?

HO_4. There is no difference between Iranian male and female students' Critical Thinking skills.

1.5. Definition of Key Terms

Critical Thinking skills: Critical Thinking is the reasonable, reflective thinking that is focused on deciding what to believe or do (Norris & Ennis 1989), but in this study Critical Thinking skills is the relative ability to answer the California Critical Thinking Skills Test (CCTST) items correctly.

Reading comprehension: the understanding that results from reading – perceiving a written text in order to understand its contents – is called reading comprehension (Richard & Schmidt,2002), again in this study reading comprehension skill is the ability to answer the reading comprehension test items correctly.

Macro-skills: are the general skills in language learning process like reading, listening, speaking and writing (Richard & Schmidt, 2002).

Micro-skills: are the individual and more specific processes and abilities which are used in carrying out a complex activity. According to Richard & Schmidt (2002) reading comprehension micro-skills include: discerning main ideas, understanding sequence, noticing specific details, making inferences, making comparisons, making predictions. In present study just three micro-skills: finding out main idea, making inference, and discerning the specific details are dealt with.

Main idea: the central thought or topic which text is about it.

Inference: the formation of an opinion that something is probably true because of information that you have (Richard & Schmidt, 2002).

Specific details: specific information in a passage including proper nouns, dates, places and also sequence of information (Richard & Schmidt, 2002).

1.6. Limitations of the Study

First the population of present study is defined as all the university students studying EFL in Iran, but as will come in the participants section, we had to limit our sample to the students of the University of Isfahan, and because Isfahan is one of the more developed provinces in our country, this may be an intervening factors in this research, though as mentioned in the participants section, there are students from different parts of the country studying EFL in the University of Isfahan. Second, an authorized Persian translation of the California Critical Thinking Skills Test (CCTST) was not available and we had to use the English version. It seems that Persian version of California Critical Thinking Skills Test (CCTST) could result in better understanding and consequently higher Critical Thinking scores as well.

Chapter Two

Review of literature

2.1. Introduction

We, as human beings, can do almost everything critically or uncritically. From eating a piece of cake to reading an academic article, or from watching a football match to listening to a piece of music, one can use his /her senses like sight, hearing ,touch and specially mind and thought to judge its quality and value. When it comes to abstract matters like science and knowledge, what counts is a good sense of thinking. Critical Thinking, in general, refers to higher-order thinking that questions assumptions. It is a way of deciding whether a claim is true, false, or sometimes true and sometimes false, or partly true and partly false. This is also the idea behind logic. Let us consider logic and Critical Thinking respectively in more detail.

2.2. Logic

Logic (from the Greek λογικήlogikē) is the formal systematic study of the principles of valid inference and correct reasoning (West, 2007). Logic is used in most intellectual activities, but is studied primarily in the disciplines of philosophy, mathematics, semantics, and computer science. Logic examines general forms which arguments may take, which forms are valid, and which are fallacies. In philosophy, the study of logic figures in most major areas: epistemology, ethics, metaphysics. In mathematics, it is the study of valid inferences within some formal language. Logic is also studied in argumentation theory. Logic (Greek logos, “word,” “speech,” “reason”), is the science dealing with the principles of valid reasoning and argument (Hodges, 2001). The study of logic is the effort to determine the conditions under which one is justified in passing from given statements, called premises, to a conclusion that is claimed to follow from them. Logical validity is a

relationship between the premises and the conclusion such that if the premises are true then the conclusion is true.

The validity of an argument should be distinguished from the truth of the conclusion. If one or more of the premises is false, the conclusion of a valid argument may be false (Hodges, 2001). For example, "all mammals are four-footed animals; all people are mammals; therefore, all people are four-footed animals" is a valid argument with a false conclusion. On the other hand, an invalid argument may by chance have a true conclusion. "Some animals are two-footed; all people are animals; therefore, all people are two-footed" happens to have a true conclusion, but the argument is not valid. Logical validity depends on the form of the argument, not on its content. If the argument were valid, some other term could be substituted for all occurrences of any one of those used and validity would not be affected. By substituting "four-footed" for "two-footed," it can be seen that the premises could both be true and the conclusion false. Thus the argument is invalid, even though it has a true conclusion.

2.2.1. Aristotelian logic

What is now known as classical or traditional logic was first formulated by Aristotle, who developed rules for correct syllogistic reasoning. A syllogism is an argument made up of statements in one of four forms: "All A's are B's" (universal affirmative), "No A's are B's" (universal negative), "Some A's are B's" (particular affirmative), or "Some A's are not B's" (particular negative). The letters stand for common nouns, such as "dog" "four-footed animal," "living thing," which are called the terms of the syllogism (Hodges, 2001). A well-formed syllogism consists of two premises and a conclusion, each premise having one term in common with the conclusion and one in common with the other premise. In

classical logic, rules are formulated by which all well-formed syllogisms are identified as valid or invalid forms of argument.(West, 2007)

2.2.2. Modern logic

In the middle of the 19th century, the British mathematicians George Boole and Augustus De Morgan opened a new field of logic, now known as symbolic or modern logic, which was further developed by the German mathematician Gottlob Frege and especially by the British mathematicians Bertrand Russell and Alfred North Whitehead in Principia Mathematica (3 volumes, 1910-13). The logical system of Russell and Whitehead covers a far greater range of possible arguments than those that can be cast into syllogistic form. (Kneale & Kneale, 1962) It introduces symbols for complete sentences and for the conjunctions that connect them, such as "or," "and," and "If . . . then. . . ." It has different symbols for the logical subject and the logical predicate of a sentence; and it has symbols for classes, for members of classes, and for the relationships of class membership and class inclusion. It also differs from classical logic in its assumptions as to the existence of the things referred to in its universal statements. The statement "All A's are B's" is rendered in modern logic to mean, "If anything is an A, then it is a B," which, unlike classical logic, does not assume that any A's exist (West, 2007).

Both classical logic and modern logic are systems of deductive logic. In a sense, the premises of a valid argument contain the conclusion, and the truth of the conclusion follows from the truth of the premises with certainty (Kneale&Kneale,1962). Efforts have also been made to develop systems of inductive logic, such that the premises are evidence for the conclusion, but the truth of the conclusion follows from the truth of the evidence only with a certain probability. The most notable contribution to inductive logic is that of the British philosopher John Stuart Mill, who in his System of Logic (1843) formulated the