TEXT STRUCTURE AND EFL LEARNERS’ CRITICAL THINKING ABILITY IN READING CLASSES

By

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Abstract
When we think critically, we are evaluating the outcomes of our thought processes- how good a decision is or how well a problem has been solved (Halpern, 1997).

In reading, critical thinking is involved in evaluating the text that the reader is reading. As Graney (1990) believes that critical reading needs the reader evaluates the text he is reading.

There is evidence that critical thinking ability can develop through using some strategies. (Bray 2006, Dorn & Soffos, 2005). This paper investigated the role of text structure on the student’s critical thinking ability. In so doing, Meyer’s text structure strategy (2007) and Anderson & Krathwohl’s taxonomy of learning (2007) have been applied. To reach the purpose, the total participants of thirty students who were randomly sampled involved in this study. At the initial stage of the study, the test of English reading proficiency (TOFEL) was administered to the participants. The scores were used to categorize the students into three levels of proficiency in reading skills, good readers, intermediate and low readers. The participants were then divided, into two homogeneous groups, the Experimental and Control groups.

Each group had the same number of readers with different reading proficiency levels. In the pre-test, all participants from both groups (experimental and control) sat for a reading comprehension test.

A post-test was conducted for both groups after the instructions, which conducted in 10 sessions. Finally, the findings provided empirical support for the facilitative effect of text structure strategy training on critical thinking in EFL reading classes.
Critical Thinking and Reading

In reading, critical thinking is involved in evaluating the text that the learner is reading. As Graney (1990) believes that critical reading needs that, reader evaluate the text he is reading. Wallace (1996) is also defining critical thinking in reading as it maps what is demonstrated in the text against our own knowledge and experience. Moreover, the expected outcome of reading is comprehension and researches have shown that in academic studies, deep comprehension capabilities are needed to be enhanced. According to Dorn & Soffos (2005) deep comprehension needs readers to plan, select, direct, and orchestrate the various cognitive structures and processes available to them to obtain a specific goal. In other words, the reader should deliberately choose strategy to understand the meaning of the text in order to comprehend better. This is what some researchers have also labeled it as "Critical Reading".

According to Gray (2006), "Since critical thinking is needed to achieve critical reading performance, strategies that advance critical thinking could support and enhance critical reading pedagogy". Emphasis on problem solving and other active learning pedagogy are implemented to enhance critical thinking (Lauer, 2005).

Dorn & Soffos (2005) have introduced some effective strategies for assessing deep comprehension. Some of them include predicting, inferring, visualizing, connecting, analyzing, summarizing, synthesizing, skimming, critiquing and reflecting. Their suggested strategies are aligned with Bloom (1956) hierarchy levels of thinking (knowledge, comprehension, application, analysis, synthesis, evaluation) which involve critical thinking ability. They also believe that these strategies are aimed toward enabling the reader to construct meaning from a given event.

Critical Thinking Ability and Text Structure

In defining reading comprehension, Nimmo (2008) argues that Reading comprehension much like verbal communication, involves the ability to think critically about the author's message so the exchange of ideas and the creation of the new ideas can continue. In other words, reading is complex task which needs not only reader's knowledge about the vocabulary, grammar of the target language but it also require reader's analyzing, synthesizing and evaluating ability.

Reading according to Meyer et al. (1989, pp 3&4), can be viewed as an interaction among three variables: Reader variable, such as verbal ability and world knowledge, Text variable, such as text structure and Task variable such as telling all you remember from what you read or solving a problem with the information read. They believe that reading cannot be a successful process, just by devoting reading skill to anyone of these variables.
Based on what has been mentioned on critical thinking ability and its effects on reading, the study focused on direct teaching of text structure as an independent variable. The teaching instructions implied evaluating ability as one of the high cognitive levels in readers. The main objective of the study is to enhance critical thinking ability by giving awareness on how the students can make interaction between themselves and the text by or trying to evaluate it.

The present study was conducted to determine whether or not text structure strategy has any impact on critical thinking ability of female Iranian students. In order to reach the objective of this study, the following research questions were considered.

Q1: Does text structure training affect EFL learners' critical thinking ability in reading comprehension performance?
Q2: Does text structure training affect EFL learners' evaluating skill in reading comprehension performance?

Review of the Literature
Related Studies on Text Structure Strategy

It has been for decades that researchers have been focusing on the effects of teaching top-level structures explicitly in reading classes in order to foster readers' comprehension. They have applied different top-level structures in teaching reading to evaluate their effects on learners' comprehension and recall (some of their names that are mentioned in the review of the literature are: Cazden, 1986; Durkin, 1979; Lemari'e et al., 2008; Williams et al., 2007; Montelongo & Hernandez, 2008; Stuart-Smith, 2007; Gaddy et al., 2008; Williams et al., 2004; Sharp, 2004; Linderholm et al., 2000; Wilkins, 2007; Applegate et al., 2006; Ripley, 2007).

One of the most recent studies, which can be mentioned on reading comprehension, has been done by Farrell (2009). He believes pre-reading is an important activity in students' reading comprehension. According to him, if the teacher provides a preview of the type of the text the students are reading (Compare/Contrast, argumentation, Cause/Effect, etc) and explains how the contents of that text are joined together, the readers will be able to recall the context more easily and effectively. He also added that text structure helps the readers in recognizing the main ideas of texts and paragraphs, which leads to better comprehension of the text.

Another reading strategy, which employs direct teaching of text structure in enhancing comprehension, is guided reading. Simpson and Trevor, in 1960s, developed guided reading to help the readers who are reading independently to use and develop comprehension strategy (Guided reading foundation, 2006). The role of the teacher is
facilitator in guided reading strategy. He/She monitors students' comprehension and makes it easier by guiding the readers to find the main ideas as well as important details. In guided reading teaching different types of text structure seems to be very important.

According to McGinley (2008), guided reading takes place where a teacher monitors each reader's comprehension skills, in guided reading strategy; the teacher is working with a small group. The students of each group should be learning the same strategies. Moreover, guided reading is a process that can build the behaviors necessary for each student to understand an expository text. Skills considered in guided reading included finding the important facts and using graphic organizers to highlight the facts. The students practiced these skills in groups of four or five and independently along with completing extra self-regulating activities while not in their guided reading groups.

Related Articles on Critical Thinking and Reading Comprehension

In spite of the fact that reading needs some skills which are necessary in enhancing comprehension such as word recognition, text recognition, grammar knowledge, world knowledge and etc, some researchers believe that reading is a complex process involving a network of cognitive actions that work together to construct meaning (Baker & Brown, 2002; Block & Pressley, 2002; Pearson, 2002; Farstrup & Samuels, 2002; Ruddell et al., 1994).

Dorn & Soffos (2005, pp. 15-17) have included one definition for good readers. They defined good readers as readers who can integrate four types of knowledge to sustain and expand their reading comprehension: generic, text, strategic and reflective. They believed that deep comprehension depends on the dynamic interplay between the four sources of knowledge. They defined generic knowledge as "Cognitive information that the reader activates to construct meaning for a text." They believe that generic knowledge comprise readers' believes and perceptions, and consequently this knowledge influences readers' interpretation of the text. Moreover, they believe that without this knowledge the readers' comprehension will be limited to the surface level. Text knowledge as it is discussed earlier is referring to the knowledge of the readers of different pattern of the texts as well as the vocabulary knowledge.

Dorn & Soffos (2005, pp. 15-17) described strategic knowledge as "The readers' knowledge of specific strategies for problem solving including cognitive strategies for sustaining and expanding the meaning of the text." Strategic knowledge seems to be substantial for deep comprehension and it should be inculcated as an ability in the readers especially novice readers as Dorn & Soffos (2005) elaborated it as "An ability to monitor comprehension and search for meaningful solution, Integrate a range of knowledge sources and make self-corrections."
Integrating reading and critical thinking has always been the area of interest for the reading researchers who believe that reading is a complicated cognitive task which needs to be scrutinized. Gray (2006) conducted an experimental study on improving critical thinking skills and critical reading. The purpose of his study was to determine first, "What style of pedagogy is effective in improving student critical reading and critical thinking skills in a college learning environment?" and second: "What affects will Meta-cognitive teaching and Hands-On/Minds-On methodologies (students generate ideas and are provided with freedom to be physically active in their search of knowledge; Based on Ridgway (1999) have on student learning in a critical reading class?" The study started with 20 students and the duration of the training was for a fourteen (14) weeks. During the training interval, Students worked in groups to solve problems. In this activity the students were expected to create and take some steps, which involved their analysis, synthesis and evaluation behaviors. To measure knowledge of critical reading, critical thinking and relative class based activities; three Pre and Post-tests were administered. Self-questioning strategies were supported while reading, as a means of cognitive and meta-cognitive. The instructor's role in the study was learning facilitator.

Methodology

Participants

A total number of thirty (30) female students in an English language institute took part in this study. The subjects were studying English at high-intermediate level in reading and listening comprehension classes. They were all native speakers of Persian who had 7 years of English instruction prior to their admission in the high-intermediate level. Their ages ranged from 17-25. The study was conducted for 10 sessions in two hours by the researcher. The subjects were screened into three proficiency levels based on their performance on TOFEL test. Those who scored (> 60) were considered as good readers and those who scored (>= 40= <59) were considered as intermediate readers and finally the ones who scored (= <39) were considered as low readers. Then the students were divided into two groups of 15 students. Each group consists of equal number of different levels of reading proficiency.

Instrumentation

To measure student's reading proficiency the searcher used TOFEL's English Reading test and based on the results of the TOFEL test, students were divided into three categories, low, intermediate and good readers. The researcher also used a pre-test and a post-test instruments and both tests were psychological tests with the same level of difficulty measured by flesh readability soft were (2007).
In order to investigate the probable effect of text-structure training on critical thinking of Iranian EFL learners, at first, the subjects were divided into two group's named experimental and control with The same number of students at three levels of language proficiency, low, intermediate and good readers based on their scores on the TOFEL test. It has to be mentioned that TOFEL’s English reading test was piloted with a group of ten students and the obtained reliability through (KR-21) 0.78 showed a relatively high consistency.

The study was run into four phases. All subjects in two groups were given a piloted multiple choice of test of reading comprehension as the reading proficiency test to recognize the subject's proficiency level. Then all the subjects in both groups sat for a reading pre-test which asked them two questions to find the main idea and to guess the outcome of the passage.

They were given twenty minutes to read the text and return it and answer the questions. This was to test the subject's evaluating skill. That is considered as one of the three high levels of cognitive ability that can have an overall effect on critical thinking. The questions in both pre and post-tests were developed based on Bloom's view on how to test student’s evaluating ability.

The researcher found the readability of the text to be included in the test through flesh readability formula. It was done with the word 2007 software and the obtained score 25.10 for pre-test reading passage and 26.50 for post test reading passage showed that both text could be understood by high-intermediate students and also both tests included the same level of difficulty. The students in experimental group were given training in text structure through Hierarchal Summaries suggested by Farrell (2009) to help the students to recognize different types of structures.

The researcher incorporated the text-structure ability with critical thinking ability in the reading classes. The researcher emphasized more on students' evaluating skill rather than others. After the treatment interval that lasted 10 sessions of two hours, both groups took a post test. To ensure pre test and post test passages' equivalency, the teacher controlled certain text elements such as text readability, topic familiarity and passage length. A passage with the same level of difficulty as the pre test measured by flesh readability software and similar subject was provided. By comparing the results of post-test and pre-test of two groups the researcher accessed some of the research questions. It has to be mentioned that since the questions in both pre and post-test were subjective, inter rater reliability was obtained on experimental group's pre-test and post-tests to show an overall high consistency. The difference in mean was less than 1 (0.20 for pre-test and 60 for post test).
Findings and Discussions

In order to fulfill the purpose of the study, three tests were administered. The first one was TOFEL, the results of which were used to screen the subject into two groups including the same number of students with different proficiency level in each group. 43.75% of entire populations were readers with a low ability and an equal percentage of students were of intermediate level and only 12.5% of the populations were readers with good level of reading ability. This showed that more then half of the students had low or intermediate level of reading skill. The next two tests were reading comprehension tests with two questions that tested students' evaluating ability and finally their critical thinking skill.

Based on Bloom (1956), the two questions developed in pre-test and post-test could test the students' evaluating ability that is one of those three high levels of critical thinking taxonomy propose by Anderson and Krathwhol (2001).

Based on the research questions and null hypotheses in this study several statistical analyses were conducted. At first participants were divided into two groups based on the score in TOFEL reading proficiency that was piloted among 10 similar students. The result is shown in table 1. Then the descriptive analysis of the date is shown in table 2. Table 3 showed an improvement in evaluating skill of the students in each question in Pre-test comparing each question in pre-test. In table 3, the analysis of findings for questions number, 1 and 2 revealed dramatic improvement in students' ability in the evaluating skill.

Conclusion and Pedagogical Implications

This study strived to scrutinize the effects of text structure awareness on students' critical thinking ability among Iranian high-intermediate female students and at the same time it attempted to demonstrate the enhancement of the students' critical thinking ability in an English reading class.

The review in the literature revealed the necessity of thinking critically in a modern world. It has to be outlined that there have been moments in our lives when we wished to be better critics, we may wish to decide better and acted faster. In other words, we had a need for the presence of a critical thinking ability that would have been beneficial if it had been nurtured.

There are many researches that have been done on the effect of text structure instruction on students' reading comprehension and some of them are asserted in the "Review of the Literature". Most of the researches done, scrutinized the effects of different kinds of text structures on readers' comprehension and they used different strategies to achieve their objectives. However, most of them agreed to the consensus on the positive effect of text structure awareness on students' comprehension of expository texts.
Regarding developing critical thinking skills or higher order thinking skills, there are also numerous studies that have been done on increasing critical thinking skills. However, most of these studies are done on developing critical thinking skills in all discipline of studies or in classes where the students were using English as their first language. There were few studies based on the review of the literature that focused on enhancing critical thinking skills in ESL or EFL reading classes. Moreover, very few studies have considered text structure as a factor in enhancing students' critical thinking ability. In fact the current studies on critical thinking skills are limited to the concept of teaching critical thinking skills without a deep exploration of incorporating them with teaching approaches to any specific subjects in the curriculum either in schools or higher levels of education.

Although many strategies or techniques have been elaborated to facilitate growth in critical thinking skills, the strategy advocated in this research provides a framework on which critical thinking skills in reading classes activity can be built to allow students to go beyond devoting whole reading hours finding the meaning of the new words or to understand the mechanics of the unknown grammar. This study has employed existing studies on critical thinking but with a focus on English reading classes.

Applying evaluating skill in reading expository texts in this study helped the students to find meaningful connection between the sentences of the text and the messages that the author intended to convey to the readers. By mastering the evaluating, the students found that some sentences of the passage indicated the key value in conveying the author's message, which should be considered; while some others were just details and could be ignored. It helped the students in their reading ability. The study achieved its' objectives that teaching students how to evaluate the texts improved their critical thinking skills in English reading classes. It is also believed that in the long run, it would help students to improve their overall achievement in all courses, as these skills would not be merely devoted in English reading classes.

**Table (1) Piloting TOEFL Test**

<table>
<thead>
<tr>
<th>Test items</th>
<th>Mean</th>
<th>Variance</th>
<th>N</th>
<th>reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>29.56</td>
<td>31</td>
<td>10</td>
<td>0.78</td>
</tr>
</tbody>
</table>
Table (2) Pre and Post-test Results

<table>
<thead>
<tr>
<th>Test</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>Post-test</td>
<td>15</td>
<td>30.11</td>
</tr>
<tr>
<td>Pre-test</td>
<td>15</td>
<td>57.50</td>
</tr>
</tbody>
</table>

Experimental and Control Group)  
[M: Mean: SD: Standard Deviation.

Results of Qualitative Data

Table (3) Critical Thinking Questions Analysis

<table>
<thead>
<tr>
<th>Question measuring skills</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Sd</td>
</tr>
<tr>
<td>Q1 : testing the evaluating skill</td>
<td>0.69</td>
<td>0.75</td>
</tr>
<tr>
<td>Q2: testing the evaluating skill</td>
<td>1.74</td>
<td>0.88</td>
</tr>
</tbody>
</table>

M: Mean: SD: Standard Deviation]

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