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The effects of cultural knowledge on Iranian EFL students' reading comprehension across male and female learners

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Reading comprehension is the most important skill in the absence of oral communication opportunities in foreign language teaching situation. So, the effect of different factors on reading comprehension has been studied. One of these factors is "cultural familiarity" of a text. Is readers' comprehension influenced by "cultural familiarity" of a text? What is the difference between different gender groups in comprehension of cultural familiar and unfamiliar texts? In order to answer these questions 50 intermediate EFL learners (25 males and 25 females) were asked to take a reading test. Four reading comprehension texts were used as an instrument, two texts were based on cultural familiar topics and the other two were based on cultural unfamiliar topics. Each passage was followed by 4 comprehension questions. The results of statistical analyses showed that learners performed significantly better on cultural familiar texts, but there is no difference between men and women in using cultural schema and familiarity of text.

Key words: Reading comprehension, schema theory, cultural familiarity.

INTRODUCTION

The dearth of oral communication opportunities with native speakers for Iranian EFL learners leads us to consider reading comprehension as the most important skill, especially in academic settings (Dehghan and Sadighi, 2011). Reading ability is the main focus of Iranian high school English books and it is a basic part of every academic field of study. We can see two types of view point toward meaning and reading comprehension: the theory that says "meaning resides in the text itself" and the theory that says "meaning is the product of the reader's interacting with text" (Chastain, 1988, p. 221).

The second definition of reading entails that students need to activate their background knowledge as well as their linguistic knowledge to comprehend a text. Schema theory explains this claim theoretically. Based on this theory, prior knowledge gained a significant role in comprehension. Cultural background and knowledge is a part of content schema which is required to comprehend a passage. Different studies have shown that the role of "cultural familiarity" of a text can be significant on readers' comprehension of reading texts (Abu-Rabia, 1998; Dehghan and Sadighi, 2011; Rashidi and Soureshjani,

2011; Rezaei et al., 2012; Tavakoli et al., 2013).

Is comprehension of a text influenced by "cultural familiarity" of that text? Is there any difference between male and female learners in this matter? Which one uses this top down process more efficiently? It is like these facets of this issue deserve more empirical studies. So, in this study is on the impact of cultural knowledge on Iranian EFL students' reading comprehension and the difference of male and female students in using this knowledge.

REVIEW OF THE LITERATURE

What is reading comprehension? The word "reading" is referred to two distinct processes. In one case it is an activity that students read aloud from a text and the other one is reading to comprehend the author's meaning (Chastain, 1988, p. 216).

Reading comprehension has got different meanings and different purposes during the evolution of foreign language teaching. These changes are recorded in works of researchers like Grabe (1991). For a "brief history" we can say that:

In the mid- to late 1960s, as Silberstein notes, reading was seen as little more than reinforcement for oral language instruction. Under the influence of audio-lingualism, most efforts to "teach" reading were centered on the use of reading to examine grammar and vocabulary, or to practice pronunciation (Silberstein, 1987). This view of reading was challenged by two major changes, one related to changing ESL institutional needs, the other related to the changing views of reading theory (Grabe, 1991, p.376).

This view point to reading is called "bottom up" approach to reading by scholars like Nunan (1999), Hinkle (2006). In this approach "meaning" is embedded in "text" itself and the process of meaning recreation is like building a wall; it starts with discriminating each letter, then relating the written symbols to their oral correspondence and drives meaning from integrating these two (Nunan, 1999, p. 252).

The next phase; 1970s, is a period of change to Goodman and Smith's "psycholinguistic model of reading." In this theory they say reading is not a process of recognition of letters and words one by one but good readers use their background knowledge and prediction so reading would be a "selective process" and it could be different from one reader to the other (Grabe, 1991, p.377).

In this type of view point the determining factor in understanding a text and recreation of meaning is "inside the head factors" (Bernhardt, 1984). Reading comprehension is not seen as a linear process but it starts from more holistic parts of comprehension like activating background knowledge and predicting author's intentions.

This "top down" approach to reading comprehension is based on one's background knowledge,

[…] one begins with a set of hypotheses or predictions about the meaning of the text one is about to read, and then selectively samples the text to determine whether or not one's predictions are correct. Reading is a process of reconstructing meaning rather than decoding form, and the reader only resorts to decoding if other means fail (Nunan, 1999, p.253).

But bottom up approaches proved to be useful especially for "lower level reading skills" like "word recognition fluency, and the recognition of morphophonemic structure of words and phrases (Hinkle, 2006, p. 121). These discussions lead us to an "interactive approach to reading". This interaction could be between reader and text or between many component skills of reading comprehension (Grabe, 1991). Based on Grabe (1991) in current versions of interactive approach to reading the bulk of attention is to bottom up approaches. Researches on "eye movements in reading" is a suitable evidence to show that bottom up skills leads to automaticity and fluency in reading comprehension (Rayner and Pollatsek, 1989).

Schema theory

After all, we can define reading as "an interactive process between the reader or the text in that the reader is required to fit the clues provided in the text to his or her own background knowledge" (Nunan, 1999, p. 257). Theoretical support for the process of comprehension guided by "background knowledge" is known as "schema theory" (Barlett, 1932; Rumelhart and Ortony, 1977).

The first psychologist who used this term was Bartlett. He defined "schema" as "an active organization of past reactions, or past experience" (Barlett, 1932, p. 201). From this introduction "schema theory" has got different definitions in the realm of foreign language teaching. For example, Nunan (1999, p.201) believes that "Schema theory is based on the notion that past experience leads to the creation of mental frameworks that help us make sense of new experience".

Widdowson (1983) defines "schema" as cognitive device to organize information in our long term memory and Rumelhart (1980) describes it as "the building blocks of cognition". For a comprehensive definition we go to Carrel and Eisterhold (1983):

[…] according to schema theory, a text only provides directions for listeners or readers as to how they should retrieve or construct meaning from their own, previously acquired knowledge. This previously acquired knowledge is called the reader's *background knowledge,* and the previously acquired knowledge structures are called *schemata* (Carrel and Eisterhold, 1983, P. 556).

Researchers divide schema into three categories: formal, content and cultural or abstract schema. "Formal schema is the knowledge of the language that is necessary for understanding the writer's message. Content schema relates to the background knowledge that readers have about the topic or content of the text" (Dehghan and Sadighi, 2011, p. 98). Cultural schema is defined as a device to reconstruct the meaning of a text through making a reference to the related cultural scripts (Oller, 1995).

After years of researching, different aspects of this theory have been studied. For example, Johnson (1981) studied 46 Iranian students in ESL situation and concluded that "the cultural origin of the story had more effect on the comprehension of the ESL students than the level of syntactic and semantic complexity, adapted vs. un-adapted".

Carrel (1987) tried to investigate the effects of content schema and formal schema and the relationship between them. In the mentioned research two groups of participants read two passages with culturally familiar and unfamiliar content. In each group, fifty percent of the participants read the passages in a normal rhetorical format; the other group read them in a deformed and ill-formed rhetorical format. He found that familiarity of the content and prose result in good reading comprehension and unfamiliar content and rhetoric yield poor reading comprehension. The results from mixed conditions indicated that "content schemata affected reading comprehension to a greater extent than formal schemata".

Keshavarz et al. (2007) scrutinized the impact of "linguistic simplification" and "content schemata" on the comprehension and recall of texts. They used two kinds of texts: content familiar and content unfamiliar. But they simplified the original text syntactically, lexically and both. They find that the content of a text and readers proficiency have a significant impact on reading comprehension but linguistic simplification does not have any significant effect on comprehension and recall of a text.

Alptekin (2006) explored the roll of culture schema on inferential and literal comprehension in L2 reading. The participants read two texts one of them was based on American culture and the other one was 'nativazed' version of the first text. His study shows that EFL readers' "inferential understanding" improves significantly but not their "literal understanding". As such, "the results point to a non-interface between inferential comprehension and literal understanding, contrary to the commonly held assumption that an interface exists".

Rezaei et al. (2012) studied the impact of familiarity of the content and test format on Iranian EFL readers' comprehension. They gave two reading texts to participants (content familiar an unfamiliar). Each text was accompanied by diverse formats of test items. They found that the students' performance was significantly better in content familiar tests. Besides, they found that the participants did a better job in multiple choice items than true/false, and fill in the blanks questions.

Dehghan and Sadighi (2011) studied the impact of cultural schema on the comprehension of texts with local and global questions. They used ten texts (five cultural familiar and five cultural unfamiliar texts). Each text has both bottom up and top down multiple choice items. They reported that participants in both familiar and un-familiar texts comprehend local items better than global ones and their overall performance was affected by cultural familiarity of texts.

In these studies diverse facets of the relation between schema theory and reading comprehension have been investigated. But there is a neglected side which is the difference between male and female students in using culture schema. So in this study we will try to answer these questions:

1-   Does cultural familiarity of a text have any significant impact on the comprehension of Iranian EFL students'?
2-   Does gender make any significant difference in students' comprehension of cultural un-familiar texts?
1-   Does gender make any significant difference in students' comprehension of cultural familiar texts?

METHOD

Participants

50 EFL learners (25 males and 25 females) studying at Danesh – Avaran institute in Sari, Mazandaran participated in this research. The participants were at the intermediate classes based on the criteria of the institute and also their scores of the language proficiency test (OPT) do not show any significant difference. The students' age range was from 20 to 30 and they had been studying English from 1 to 3 years. This study was carried out in one session and the students were supposed to answer multiple choice questions of 4 texts.

Instrument

The most important instrument used in this study was four reading comprehension texts. From the 4 passages, two texts were based on culturally familiar topics (Norooz and Menar-jonban) and the other two were based on culturally unfamiliar topics (Eiffel tower and thanks giving day). In other words, the cultural knowledge of the students was the basis for choosing the familiar texts' topic. Each passage was followed by 4 multiple choice questions. Questions were both global, top down (like inferring or finding the main idea) and local, bottom up one (like finding stated details). These texts were equal using a Fog index of readability (Farhadi et al., 1994, p.282). Also, three PhD holders in EFL evaluate the content validity of the instrument and report it as a valid instrument.

Procedure

We divided our participants into 2 groups based on their gender. Male and female groups were linguistically homogeneous. The number of participants in each group was 25. The students read the passages and answer the multiple choice questions in about 30 min. In order to nullify the "order effect", the researcher represented the texts in 4 combinations. In this procedure we have 4 versions of the same instrument.

Table 1. Descriptive statistics of total participants in culture familiar and un-familiar texts

		N	Mean	Std. Deviation	Std. Error Mean
Total	familiar	50	6.4400	1.34255	.18987
	unfamiliar	50	5.1400	1.69043	.23906

Table 2. Independent samples t test of total participants in culture familiar and un-familiar texts.

		Levene's test for equality of variances		t-test for equality of means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
									Lower	Upper
Total	Equal variances assumed	3.426	.067	4.258	98	.000	1.30000	.30529	.69417	1.90583
	Equal variances not assumed			4.258	93.221	.000	1.30000	.30529	.69378	1.90622

Table 3. Descriptive statistics of culture un-familiar texts between male and female.

	sex	N	Mean	Std. Deviation	Std. Error Mean
Un-familiar	female	25	5.2000	1.44338	.28868
	male	25	5.0800	1.93477	.38695

RESULTS AND DISCUSSION

Table 1 and 2 are offered to answer the first research question.

1. Does cultural familiarity of a text have any significant impact on the comprehension of Iranian EFL students'?

As you can see in the descriptive part of these tables, the mean of cultural familiar texts' score (6.44) is larger than the mean of cultural unfamiliar texts' score (5.14). To investigate the significance of this we have carried out an independent-sample t-test. The difference of scores obtained from cultural familiar texts was significant (M= 6.44, SD= 1.34) $p < .05$ and also for cultural unfamiliar texts (M= 5.14, SD= 1.69), t (- 4.26), sig= 0.000, $p < .05$.

So, observed difference in the mean of two sets of scores is significant and it shows that the answer to our first research question is "YES": participants' comprehension of cultural familiar texts was significantly better than their comprehension of cultural un-familiar texts.

This finding is in line with a massive balk of research (Carrell, 1987; Chihara et al, 1989; Dehghan and Sadighi, 2011; Johnson, 1981; 1982; Keshavarz et al., 2007; Rezaei, 2012). In all the stated papers we can see the effect of schema theory in explanation of this effect.

Carrell and Eisterhold (1983, p. 553) believe that "Reading comprehension involves one's knowledge of the world, which may be culturally based and biased".

Tables 3, 4, 5 and 6 are presented to answer our second and third questions representatively:

2. Does gender make any significant difference in students' comprehension of cultural un-familiar texts?
3. Does gender make any significant difference in students' comprehension of cultural familiar texts?

The outcome of this t-test between the scores of male and female participants in cultural un-familiar texts shows that there is no significant difference between the results of male (M= 5.08, SD= 1.9) and female (M=5.2, SD= 1.4) participants, t= -0.249, sig= -0.8, $p > .05$.

So; as the results of t-test show, the answer to our second question would be "NO": gender does not make any significant difference in EFL learners' comprehension of cultural un-familiar texts.

In this part we can see a difference in the mean score of female (M=6.7) and male (m=6.1) participants. In other words, female participants' performance was better than our male participants' performance based on the results of descriptive statistics. In order to investigate the significance of this difference we run another independent

Table 4. Independent samples T test of culture un-familiar texts between male and female.

		Levene's test for equality of variances		t-test for equality of means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
									Lower	Upper
Un-familiar	Equal variances assumed	2.396	.128	.249	48	.805	.12000	.48277	-.85067	1.09067
	Equal variances not assumed			.249	44.396	.805	.12000	.48277	-.85271	1.09271

Table 5. Descriptive statistics of cultural familiar texts between male and female.

	sex	N	Mean	Std. deviation	Std. error mean
familiar	female	25	6.7600	1.20000	.24000
	Male	25	6.1200	1.42361	.28472

Table 6. Independent Samples T test of cultural familiar texts between male and female.

		Levene's test for equality of variances		t-test for equality of means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
									Lower	Upper
familiar	Equal variances assumed	.817	.371	1.719	48	.092	.64000	.37238	-.10872	1.38872
	Equal variances not assumed			1.719	46.664	.092	.64000	.37238	-.10927	1.38927

sample t-test and there was not any significant difference in results for female (M=6.7, SD 1.2) and female (M=6.1, SD= 1.4), t= -1.72, sig= - 0.09, p> 0.05.

Therefore we can conclude that although there is a difference between men and women in comprehending cultural familiar texts (women are superior), this difference is not significant. Then the answer to our third question would be" NO": there is not any significant difference in EFL learners' comprehension of cultural familiar texts across different gender groups.

CONCLUSION AND IMPLICATIONS

The findings of this research demonstrate that cultural background is an important factor in comprehension of texts in second language. But there is not any difference between men and women in using this knowledge. If we look through the view point of "schema theory", comprehension of a text would be interaction between text and students' activation of related schema. Even failure in comprehension of a text could be explained by creating a mismatch between latent schemata of the text and those activated in the mind of the students (Carrell, 1984).

This is the role of teachers to activate background knowledge before teaching texts or check for existence of a correct schema in learners' background knowledge. From the findings of this study we can say that there is no significant difference between students of different genders in using schema theory, so teachers should pay attention to both genders equally. The results of this study and the previous ones should be considered by material developers; it is important to judiciously use

content familiar materials in introducing new language. Teachers also need to be aware of the fact that correct schema can have a significant effect in comprehension of new forms; therefore, they should try to activate the correct schemata before introducing new forms. Besides, it is better to be aware that there is no difference in using this knowledge across different genders.

Studies about schema theory, reading comprehension, culture and gender should be followed. There are some issues that have not been uncovered yet. For example, what is the effect of different parts of the culture (monuments, rituals and figures) on comprehension? Or how can we use this theory in developing a coherent curriculum and material for teaching English in Iran's public schools? These questions and many other questions should be answered in future.

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