

**TEXTUAL AND INTER-TEXTUAL ANALYSES OF  
IRANIAN EFL UNDERGRADUATES' TYPES OF ENGLISH  
READING TOWARDS DEVELOPING A CAREFUL READING  
FRAMEWORK**

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**Abstract**

This study investigated textual and inter-textual reading of a group of Iranian EFL undergraduates' careful English reading types. In this research, Khalifa and Weir's (2009) reading framework was used to propose a more inclusive aspect of a careful reading framework and the reading construct for instructional and assessment goals. The participants of this study were B.A. students of English Translation at Shiraz Payame Noor University. To obtain the required data, a questionnaire and a careful reading test along with reading journals, interviews, and retrospective verbal protocols were used. The findings revealed that careful reading at the sentential and textual levels were seen to be practiced frequently by the participants. However, reading purposes and cognitive processes requiring integrating information from different texts, reading critically to establish and evaluate the authors' position on a particular topic, building links across texts, judging the relatedness of texts, evaluating the writer's ideas and comparing viewpoints were not seen as prevalent emerged reading patterns. The participants performed differently on tasks measuring different types of careful reading at different levels in a descending order of difficulty. In doing the tasks, although no statistically significant difference was found between the performance of males and females, they performed differently

regarding their age and educational level differences. Subsequently, based on the outcomes, in the proposed careful reading framework, some new variables such as educational level, age, documents knowledge, better understanding and careful reading at multiple text level structures were added to Khalifa and Weir's (2009) reading framework.

**Keywords:** careful reading, sentence-level comprehension, text-level comprehension, inter-text level comprehension

### 1. Introduction

In academic programs, a high lofty level of literacy and comprehension of texts is expected from university students where they are provided with a considerable portion of knowledge fused into written documents. So, the skill of processing and comprehending texts efficiently gains significance in students' academic accomplishments. In view of that, there are a large number of research studies in the area of reading comprehension both in the first and second or foreign language. However, to a great extent, in order to understand the nature of the reading comprehension processes, lower level cognitive processes in careful reading such as word recognition, lexical access, syntactic parsing, and sentence comprehension have been analyzed in the related literature (Carver, 1997, 1998; Just & Carpenter, 1992; Perfetti, 1991; Rayner & Poliatsek, 1989; Rumelhart & McClelland, 1986). The studies done on this perspective, in line with the cognitive psychology, envisaged reading as a process of meaning making within the boundaries of a sentence. In those studies, the sentence was considered to be the unit of comprehension, and comprehension of a text entailed comprehension of sentences.

Studies that investigated higher level cognitive processes at the textual level showed that the information in a text is condensed to a base form in accordance with the reader's current goals and the readers resort to their background knowledge of several types, lexical, and syntactic knowledge as well as prior information at higher levels of content and text structure (e.g. Carver, 1998; Coady, 1979; Grabe & Stroller, 2002; Just & Carpenter, 1992; Rayner & Pollatsek, 1989; Rumelhart & McClelland, 1986; Perfetti, 1991). Moreover, discourse models of reading attempted to explain comprehension beyond the sentence level by focusing on the text characteristics such as

genre-related features (development of discourse, organization of information, establishment of coherence throughout a text and lexical choices in specific genres) (e.g. Gernsbacher, 1990; Goldman & Rakestraw, 2000; Meyer, 1999).

However, a number of studies illustrated that careful reading at the sentence and text levels alone are inadequate for undergraduates to accomplish academic reading tasks at the university level. Careful reading at higher levels of reading multiple texts is also important and required of undergraduates to accomplish academic reading purposes. (e.g. Abdi, 2013; Anmarkrud, Braten & Stromso, 2014; Hessamy & Dehghan, 2013; Karimi, 2015; Karimi & Alibakhshi, 2014; Katalayi & Sivasubramaniam, 2013; Krishnan, 2011; Moore, Morton & Price, 2010; Plakans, 2009; Zoghi, Mustapha, NorRizan & Maasum, 2010). Subsequently, it can be figured out that there is still a need in the area of reading comprehension research to establish the theoretical basis for what goes on when readers read at the higher levels of text and multiple-text in order to investigate the different cognitive and contextual features that define the types of reading above the sentence level. In addition, inter-textual reading has not been fully captured in its all possible aspects and an adequate reading model which accounts for it has not been proposed thus far.

In view of these concerns, the present study was an attempt to investigate the textual and inter-textual reading comprehension processes of a group of Iranian EFL undergraduates with a focus on careful reading comprehension to examine cognitive and contextual reading processes at the higher levels of reading. In addition, it attempted to propose a more inclusive careful reading model in order to represent a more comprehensive aspect of the construct of reading for pedagogical and assessment purposes.

## **2. Relevant Literature**

### **2.1 Careful reading types at the local and global levels**

There is usually a divide in the taxonomies between the types of reading that require quick and strategic reading for the purpose of searching for information as opposed to slower, more detailed reading that involves incremental processing of a text almost for the purpose of learning from the

text. Urquhart and Weir (1998) referred to the former as expeditious reading, and to the latter as careful reading. Careful reading at the local level is operationalized through identification of lexis, understanding syntax, seeking accurate comprehension of the explicit meaning (Khalifa & Weir, 2009; Weir & Khalifa, 2008). Careful reading at the global level refers to different operations through which the reader attempts to extract complete meaning within or beyond sentences right up to the level of the entire text so as to construct the text macrostructure (Khalifa & Weir, 2009; Weir & Khalifa, 2008).

## **2.2 Careful reading cognitive processes at the sentence, text and inter-textual levels**

The earlier studies on careful reading cognitive processing at the sentence level explained the processes of constructing representations of sentences, storage and retrieval of lexical items, and syntactic and semantic information attached to them (See, e.g., Carver, 1997, 1998; Coady, 1979; Grabe & Stroller, 2002; Just & Carpenter, 1992; Perfetti, 1991; Rayner & Pollatsek, 1989; Rumelhart & McClelland, 1986). It was believed that reading comprehension was slightly affected by general world knowledge, contextual information or higher order processing strategies. Text characteristics such as genre-related features (development of discourse, organization of information, establishment of coherence throughout a text, and lexical choice in specific genres) were not mentioned in the reading comprehension processes at the lower levels of cognitive processing. Besides, the importance of knowledge based processes and the reader's existing background knowledge were not paid due attention. What they missed to represent was that the most efficient reading was a bidirectional combination of text-based and knowledge-based processes.

Following these studies, there were studies at the textual level which emphasized the importance of accurate processing of hierarchical relations of elements of a text, i.e., relations of sentential elements, relations between sentences, as well as relations between groups of sentences. For the comprehension of a text, it was suggested that the readers resort to their background knowledge of several types, lexical, and syntactic knowledge as

well as prior information at higher levels on content and text structure. (See, e.g., Bernhardt, 1991; Carrell, 1989; Gernsbacher, 1990; Goldman & Rakestraw, 2000; Kintsch, 1988; Kintsch & van Dijk, 1983; van Dijk & Kintsch, 1983). In these studies, comprehension of a text was the ultimate level of analysis. However, what goes on beyond text comprehension when readers read multiple texts were not dealt with in the studies at the textual level of reading comprehension.

Subsequently, there were studies probing careful reading comprehension at the inter-textual level (See, e.g., Britt & Sommer, 2004; Braten & Stromso, 2010; Braten, Stromso & Brit, 2009; Goldman, 2004; Goldman & Bloome, 2004; Rouet, 2006; Rosenfield, Leung & Oltman, 2001; Perfetti, 1997; Perfetti, Rout & Brit, 1999; van Dijk & Kintsch, 1983; Wineburg, 1991). In these studies, it was advocated that in addition to the search for relevant information, multiple-text processing involves other important skills such as note-taking, organizing and coordinating information, detecting inconsistencies, and redundancies across sources or else integrating and evaluating information. Moreover, reading multiple documents helped the growth of the internal consistency of the students' mental models, and the students' knowledge of the relationships among concepts.

### **2.3 Careful reading types in reading models /frameworks**

In the related literature, there are reading models and frameworks that have included careful reading types (See, e.g., Enright, Grabe, Koda, Mosenthal, Mulcahy & Schedl 2000; Khalifa & Weir 2009; Urquhart & Weir 1998; Weir 1993). Urquhart and Weir's (1998) reading model dealt with reading comprehension at the careful and expeditious types and also divided them into local and global levels. In Enright et al.'s (2000) reading model, the level of processing multiple texts was added. What Khalifa and Weir (2009) put forward in terms of careful reading were careful reading processes at the local and global levels explicitly accounted for but careful reading at inter-textual level was not dealt with in detail. In these reading models/frameworks, reading at the levels of sentence and text was the main focus and inter-textual level of reading was not thoroughly accounted for.

#### **2.4 Careful reading comprehension in textual and inter-textual analyses**

In the study of Hessamy and Dehghan (2013), the construct validity of a reading comprehension test measuring expeditious and careful reading types was investigated. The test was administered to 200 junior and senior students of English majors. The obtained data were analyzed using paired-samples t-test and factor analysis. The results showed a significant difference in the performance of subjects on expeditious vs. careful reading items.

Abdi (2013) investigated the effectiveness of using multiple-text reading on reading comprehension ability of learners as compared to the normally written materials. A total of 49 Iranian EFL learners were randomly assigned to two experimental and control groups. The homogeneity of the group was confirmed based on their scores on a proficiency test. The experimental group worked with multiple-text materials, while the control group was provided with and taught through normally written materials for four weeks. The TOEFL reading comprehension test was given to both groups as the post-test. The findings indicated that participants in the experimental group assumed more gain in reading comprehension ability as a result of multiple-text reading as compared to the control group working with the normally written materials.

Karimi and Alibakhshi (2014) examined the reading strategies L2 readers used as they read multiple texts across two reading tasks: single text comprehension vs. multiple-text integration. Twenty-two advanced EFL learners participated in the study. They were randomly assigned to one of the two reading tasks mentioned above. The two groups were required to read three texts. While the single text comprehension reading task required the participants to read the texts and provide answers to intra-textual post-reading questions, readers in the multiple text integration tasks were required to develop an essay by integrating the content across the multiple texts. As they read the texts, the two groups were involved in reporting their thought processes. The thought reports of the two groups were then analyzed and compared. The comparisons revealed significant differences in the strategic processing of the texts by the readers across the two reading tasks. Specifically, the results showed that the multiple-text integration reading

task gave rise to a higher number of meta-cognitive reading strategies than the single text comprehension reading task.

Capellini, Pinto and Cunha (2015) conducted a study on a reading comprehension intervention program for university students. They found that linguistic factors, such as the ability of decoding, vocabulary and syntactic knowledge, cognitive factors such as working memory, monitoring, and the ability to establish inferences, social factors, involving the circumstances under which the reading occurred (social contexts, objectives, motivations and expectations of the readers), the previous knowledge of the readers and the social and cultural experiences were the factors influencing comprehension of texts. These factors contributed to the comprehension of texts, all of which were necessary, but insufficient in isolation to determine the reading comprehension processes at different levels of text and multiple-text.

Overall, the empirical research results revealed that reading comprehension at the text and inter-text levels does not develop once word decoding and meaning association are acquired, but that it is dependent on different skills. In view of these concerns, the present study aimed at looking into the textual and inter-textual careful reading activities of a group of Iranian EFL undergraduates in an attempt to probe the contextual and cognitive parameters involved in academic reading activities in order to lead to a more comprehensive careful reading construct for more effective strategic reading instruction and for the better assessment of it in educational contexts.

Accordingly, these research questions were formulated in order to achieve the objectives of the present study:

1. What different careful reading types at the text and inter-textual levels for academic purposes are utilized by Iranian EFL undergraduates?
2. Do Iranian EFL undergraduates perform differently on tasks measuring different types of careful reading at the sentence, text and multiple-text levels?

3. Do Iranian EFL female and male undergraduates perform differently on tasks measuring different types of careful reading at the sentence, text and multiple-text levels?
4. Do Iranian EFL senior and junior undergraduates perform differently on tasks measuring different types of careful reading at sentence, text and multiple-text levels?
5. Do Iranian EFL undergraduates' age differences have a role in their performances on tasks measuring different types of careful reading at the sentence, text and multiple-text levels?
6. Do Iranian EFL undergraduates process cognitively various types of careful reading at the text and inter-textual levels in different ways?

### 3. Method

The study was in the form of a mixed method research, combining qualitative and quantitative approaches in different phases of the study.

#### 3.1 Participants

The participants were all juniors and seniors majoring in B.A. English Translation at Payame-Noor University, Shiraz. The total number of the participants were 87 (female = 52; male = 35). There were 48 juniors and 39 seniors. Their ages ranged from 15 to 35 years. Also, they were divided into two age groups (being  $> 25$  or  $\leq 25$ ). Forty were  $\leq 25$  years old and Forty-seven were  $> 25$  years old. The purposive sampling procedure was used to select the participants of the study.

#### 3.2 Instruments

To address the first research question a questionnaire obtained from Weir, Hawkey, Green, Devi, and Unaldi (2009) was used to determine the academic reading activities of the participants of the study. The questionnaire which had 45 items was intended to elicit information on the respondents' reading purposes, processes and difficulties to determine their academic reading activities and contextual parameters shaping academic reading at the university level. The face and content validity of the questionnaire was checked by two content specialists. In addition, the



internal consistency of the questionnaire was approved by Cronbach alpha (Coefficient alpha) estimated as: 0.76, in a pilot study.

Reading journals for a closer look into the reading activities of university students were written. Follow-up interviews were conducted with participants who completed reading journals to investigate the details of cognitive processes and strategies that the readers explored when they were reading for their assignments. The interview was a semi-structured one. It provided an opportunity to follow up the issues that had been emerged from the reading journals to provide an occasion in which participants could comment on the processes of their reading. The credibility (truth value) of the obtained results was obtained by consensus, using a peer review and by referential or interpretive adequacy, using low-inference descriptors, verbatim or direct quotations from the participants, and thick, rich description. The dependability (consistency) of the analyzed data was obtained by coding agreement, using inter-and intra-coder agreement estimates. The intra-coder reliability was found to be 0.84. The inter-coder agreement estimate was found to be 0.81 which was a high index of reliability.

The investigation of the second research question required the development of a reading test measuring different levels of careful reading. In this study, in order to construct the test, Khalifa and Weir's (2009) reading framework was used to develop test specifications and test tasks. In a pilot study, using Cronbach alpha, the reliability of the test was estimated as 0.77, a high index of reliability. The finalized test version had three sub-tests measuring careful reading types at three levels of sentence, text and inter-textual levels.

The investigation of the third research question entailed obtaining the test takers' retrospective verbal protocols for the study of the cognitive processes which they employed to take the test.

### **3.3 Data collection procedures**

To answer the first research question, first, all the mentioned participants answered the questionnaire items. Then, a number of juniors and seniors voluntarily took part in writing reading journals and interviews until no new

information was forthcoming (data saturation). Subsequently, there were 13 juniors and 12 seniors who took part. For the second research question to be answered, a reading test measuring careful reading types at the sentence, text and inter-text levels was given to all participants of the study. To provide an answer for the third research question, retrospective verbal protocols were employed. In this stage, the participants took part in the study of their own accord. When the data collection was complete, it came to be known that the total participants at this stage were seven juniors and seven seniors.

### **3.4 Data analysis**

The data obtained from the questionnaire were analyzed according to the scoring of the Likert type questionnaire items. The data gathered through the reading journals and interviews were analyzed according to the analysis of qualitative data. Main stages in data analysis were familiarizing, organizing, coding, reducing, interpreting and representing. The analysis of the data obtained from the test involved descriptive statistics, Pearson product moment correlation coefficient to indicate both the direction and the magnitude of the relationship among the participants' performance and analysis of variance (ANOVA) to test the difference between two or more means. The data obtained from the verbal protocols were analyzed based on the analysis of qualitative data. It was based on the qualitative analysis procedures. The main stages of data analysis were familiarizing and organizing, coding and reducing and interpreting and representing. Also, Structural Equation Modeling (SEM) was used to combine confirmatory factor analysis and path analysis to test both a measurement model and a structural model for the proposed careful reading framework in the study.

## **4. Results**

### **4.1 Careful reading types at the text and inter-textual levels**

The participants processed texts in a variety of ways including search reading, careful reading at the local level of comprehension to understand just the main idea(s) in a text, comprehending a text as a whole and reading more than one text to integrate information. Although in the questionnaire items which were in Likert-type, the percentages of agreement in reading

multiple texts to integrate information were lower than the other mentioned reading purposes and strategies, it seemed that seniors showed an increased strength of agreement compared with what the juniors indicated.

## 4.2 Careful reading types found in reading journals and interviews

### 4.2.1 Reading purposes

**1. Global expeditious reading (Search reading):** Many students (68.4%) mentioned that in order to prepare their assignments, they tried to search the text or texts to find specific information to answer a question.

*“I located the important paragraphs and then I read only those sections of the text that were relevant.”*

*“I looked at the text quickly. I marked only the paragraphs that were important.”*

**2. Careful reading at the local level:** Several students (65.6%) stated that when reading for their assignments, they read to establish the basic meaning(s).

*“I pay attention to the vocabularies and grammar to get what is said generally.”*

*“I read the passage just to get the major points.”*

**3. Careful reading at the global level:** In order to accurately comprehend the explicit and implicit meanings of the text, the participants (60%) read the text fully from the beginning to the end. They processed the text in order to form the text macro-structure.

*“Reading the text from the beginning to the end... I can get the idea of what is said.”*

*“I read this text from the beginning to the end because there were some important points.”*

### 4.2.2 Reading strategies

**1. To look for key-words or words with similar meanings:** A majority of the students (75%) stated that in order to prepare their assignments, they tried to find specific words, phrases or figures and this strategy helped them to do the required task.

*“First, I read the task, then I look back and I search for the words or phrases that are related to the topic of the task.”*

*“...Looking quickly for the words relating to the topic of the assignment...”*

**2. To read slowly only those sections of a text marked as relevant:** The participants (73%) often read the texts quickly in order to find which parts of the text were related to their assignment.

*“...Then, I read the text again but I focused on important parts”.*

*“...I underlined these parts. I read them again later.”*

**3. To look back at previous parts of a text to check meaning:** Some participants (63%) reread a specific part of the text to see whether they had understood it correctly.

*“...I need to read some parts again...”*

*“In order to answer the reading comprehension questions, I read the related parts once more. In this way, I can answer the question confidently.”*

**4. To use topic-knowledge to understand the text(s):** Many participants (57%) referred to the fact that they resorted to what they got from the topic of the text for better understanding.

*“The text is difficult for me, something that helps me is the topic which I generally know about it.”*

*“...I look at the other contents ... the title of the text and... to continue reading.”*

**5. To use background knowledge (general knowledge) to understand the text:** Among the participants' comments (54%), there were references to situations in which the participants' background knowledge, general knowledge, world knowledge or what they had learned before helped them to proceed reading the text(s).

*“What I can get from the passage is due to an article I read before ...which was related to the topic of this text. It could help me ... I can read more quickly it is not necessary to look up every word.”*

*“I can comprehend this text better. I know about what it is trying to say.”*

**6. To form a summary of the ideas when reading the text(s):** When they were reading for their assignments (52%), they tried to form a summary of the ideas.

*“I tried to connect information from different sentences in the text to form a summary of what was said.”*

*“As I read, I tried to write some statements related to what I was reading.”*

### 4.3 The participants' performance on tasks measuring different types of careful reading

Table 1 represents the correlation coefficient matrices of the participants' performance in taking careful reading test.

Table 1. The participants' performance on tasks measuring careful reading at different levels correlations

		sentence	Text	Inter-text
sentence	Pearson Correlation	1	.731**	.817**
	Sig. (2-tailed)		.000	.000
	N	87	87	87
Text	Pearson Correlation	.731**	1	.618**
	Sig. (2-tailed)	.000		.000
	N	87	87	87
Inter-text	Pearson Correlation	.817**	.618**	1
	Sig. (2-tailed)	.000	.000	
	N	87	87	87

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

The participants performed differently on the tasks measuring sentence, text and inter-text levels in a descending order of difficulty.

Table 2 illustrates the outcomes of data based on the analysis of variance (ANOVA) in order to compare the means of the responses of the participants to the items of the test and the role of gender.

Table 2. The effect of gender on performing tasks measuring careful reading at different levels ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
sentence	Between Groups	.001	1	.001	.006	.941
	Within Groups	16.436	85	.193		
	Total	16.437	86			
Text	Between Groups	.517	1	.517	2.102	.151
	Within Groups	20.886	85	.246		
	Total	21.402	86			
Inter-text	Between Groups	.042	1	.042	.203	.653
	Within Groups	17.774	85	.209		
	Total	17.816	86			

The differences among the means of the responses of the participants to the items of the test were not attributable to the gender variable. So, the variable of gender did not have any significant effect on the participants' performance taking the test.

Table 3 represents the outcomes of the effect of age differences on performing tasks Among the participants of the study who were eighty-seven, forty were  $\leq 25$  years old and forty-seven  $> 25$ .

Table 3. The effects of age differences on performing tasks measuring careful reading at different levels ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
sentence	Between Groups	.385	1	.385	2.040	.042
	Within Groups	16.052	85	.189		
	Total	16.437	86			
Inter-text	Between Groups	.105	1	.105	.504	.049
	Within Groups	17.711	85	.208		
	Total	17.816	86			
Text	Between Groups	.006	1	.006	.026	.045
	Within Groups	20.706	85	.244		
	Total	20.713	86			

It can be seen that the difference among the means of the responses of the participants to the items of the test can be significantly attributable to the age differences.

Table 4 shows the outcomes of the effect of educational level differences on performing tasks. Forty-eight were juniors and thirty-nine seniors.

Table 4. The effect of educational level differences on performing tasks measuring different types of careful reading at different levels ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
sentence1	Between Groups	1.597	1	1.597	9.148	.003
	Within Groups	14.840	85	.175		
	Total	16.437	86			
Text-1	Between Groups	3.000	1	3.000	13.857	.000
	Within Groups	18.402	85	.216		
	Total	21.402	86			
Inter-text-1	Between Groups	1.560	1	1.560	8.155	.0049
	Within Groups	16.256	85	.191		
	Total	17.816	86			

The variable of educational level differences (being senior or junior) had a significant effect on the participants' performance taking the test. The analyses of the test results showed that there were significant differences in the scores the test takers achieved in the tests with regard to their educational level differences.

#### 4.4 Cognitive processes in careful reading

##### 4.4.1 Cognitive processes at the sentence level

**1. Careful Reading at the Local Level:** The participants' comments (78%) related to the first section of the test were as identification of lexis, understanding syntax, seeking accurate comprehension of the explicit meaning.

*"...I had to focus on the first sentence of each paragraph... reading word for word..."*

*“I needed to know the exact meaning of the sentence...in doing so; I needed to read slowly... to think about everything... vocabularies and meaning...”*

**2. Careful reading at the global level:** The participants (75.4%) mentioned that to answer the items in the first part of the test which measured careful reading at the sentence level, they needed to accurately comprehend the explicit meaning and to make inferences in order to match the sentences with the titles.

*“I should understand the sentence in a way to match it with one of the headings... reading and thinking about the main meaning.”*

*“... I had to conclude which heading was related to the meaning of the first sentence...a kind of matching the message of the first sentence with one of the options.”*

#### **4.4.2 Cognitive processes at the text level**

**1. Skimming:** One of the themes which were identified in the participants' comments (74.5%) relating to how they answered the items of the second section of the test was skimming the whole text and the provided summary statements.

*“I read the whole text to comprehend the general meaning.”*

*“First, I read and understood the text...to generally understand it”*

**2. Careful reading at the global level:** Another theme that was mentioned by the participants (71.5%) was careful reading at the global level: the reader sought accurate comprehension of explicit and implicit meaning of the text in order to be able to make inferences to find correct summary statements to match different parts of the text.

*“Then, I read the whole text once more in order to match different parts of the text with the (summary) statements. So I read the (summary) sentences too... I wanted to find a similar point between different parts of the text and the options.”*

*“I had to read each part once more paying attention to the exact meaning of the text to choose the answers ...based on the relevance.”*

#### **4.4.3 Cognitive processes at the inter-textual level**

**1. Skimming:** To accomplish this part of the test which measured careful reading at the inter-textual level, the participants (76%) needed to read the text as a whole to obtain the general idea of the text. Also, they read the



mini-texts in this way as well. It was clear that skimming was the first cognitive process in this part of the test, too.

*“I had to have an idea of the original article and the other texts ... In this way, I read the main text and I read the mini-texts too.”*

*“Once I read the main text, it was easier to understand the mini-texts.”*

**2. Careful reading at the global level:** In order to do the third section of the test measuring careful reading at the inter-textual level, the participants (73%) mentioned that after skimming the test, they read each section of the original text again trying to form the text macrostructure and then they read the mini-texts to match the meaning of each part of the original text to the mini-texts.

*“For the second time that I read the texts, I tried to form a summary of each part of the text. Then, based on what I had got from the text, I tried to find the answer.”*

*“I underlined the important points in the mini texts. After that, I tried to read each section and to find the relevant sections of the main points that I had underlined.”*

#### **4.4 The proposed careful reading framework based on structural equation modeling (SEM)**

For modeling effective variables on the careful reading construct and their effects on each other, structural equation modeling (SEM) was used. The process of modeling was confirmatory and exploratory as some variables of the model were based on Khalifa and Weir's (2009) reading framework. Also, based on the findings of the present study, some new variables such as educational level, age and documents knowledge, knowledge about relationships between texts, as the observed variables were added. In addition, based on the findings of the study, better understanding and careful reading at multiple text level structure as the latent variables were also added to Khalifa and Weir's (2009) reading framework. The proposed hypotheses relating to the variables on the careful reading construct and the results are shown in table 5.

Table 5 illustrates the path coefficients shown in the model which were obtained based on the correlation matrices of the relations among the

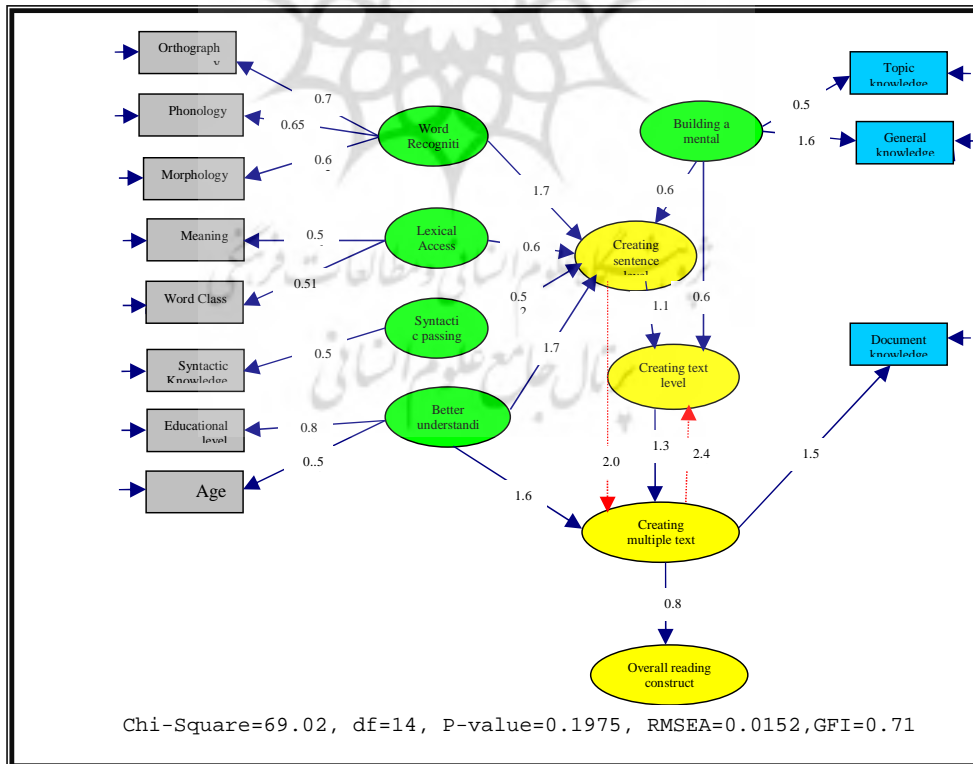
variables leading to careful reading construct obtained by the outcomes of the study.

Table 5. The proposed hypotheses about the variables on the careful reading construct and the results

NO	Hypotheses	Path Coefficients	T Value	Hypotheses Results
H1	The variables of orthography, phonology, and morphology have a significant positive impact on word recognition	0.77	2.15	Accept
		0.65	2.13	Accept
		0.62	2.09	Accept
H2	The variables of meaning and word class have a significant positive impact on lexical access.	0.56	2.67	Accept
		0.52	2.81	Accept
H3	The variable of syntactic knowledge has a significant positive impact on syntactic parsing.	0.51	1.93	Accept
H4	The variable of educational level differences has a significant positive impact on better understanding.	0.81	2.1	Accept
		0.51	2.93	Accept
H5	The variable of age differences has a significant positive impact on better understanding.	0.52	2.92	Accept
H6	The variables of word recognition, lexical access, syntactic parsing and better understanding have a significant positive impact on careful reading at the sentence level structure.	1.78	2.11	Accept
		0.66	2.24	Accept
		0.52	2.88	Accept
		1.79	2.09	Accept
H7	The variables of topic knowledge and general knowledge have a significant positive impact on building a mental model, integrating new information and enriching the proposition.	0.59	2.76	Accept
		1.64	2.13	Accept
H8	The variable of creating sentence level structure has a significant positive impact on creating multiple text level structure.	2.02	1.17	Reject
H9	The variable of building a mental model has a significant positive impact on careful reading at the sentence level structure.	0.62	2.23	Accept
H10	The variables of building a mental model and careful reading at the sentence level structure have a significant positive impact on careful reading at the text level structure.	0.63	2.19	Accept
H11	The variables of careful reading at the sentence level structure and careful reading	1.31	1.99	Accept

NO	Hypotheses	Path Coefficients	T Value	Hypotheses Results
	at the text level structure have a significant positive impact on careful reading at multiple text level structure.			
H12	The variables of creating multiple text level structure has a significant positive impact on creating text level structure.	2.41	1.43	Reject
H13	The variable of document knowledge has a significant positive impact on careful reading at multiple text level structure.	1.56	2.32	Accept
H14	The variable of better understanding has a significant positive impact on careful reading at multiple text level structure.	1.69	2.11	Accept
H15	The variables of careful reading at the sentence level structure, careful reading at the text level structure and careful reading at multiple text level structure have a significant positive impact on the overall careful reading construct.	0.86	2.33	Accept

In Figure 4.1 the proposed careful reading framework is illustrated.



**Figure 4.1: The proposed careful reading framework**

If path coefficients are less than 1.96 ( $z = 0.95$ ) and the RMSEA of the model is less than .05, it signifies that the defined paths are significant. So, related hypotheses are accepted. If not, they are rejected. Goodness of Fit index is calculated as 0.71. It shows that the Goodness of model is appropriate. Accordingly, it can be concluded that creating sentence, text and multiple-text level structure lead to the overall reading construct.

**5. Discussion**

The results of the present study indicated that readers' text processing strategies vary as a function of differences in reading task conditions. So, in reading strategy instruction, teaching lower level strategies does not imply mastery in using higher-level reading strategies and they should be separately dealt with. This finding is in line with the ones which support the assumption that readers' text processing strategies vary according to the type of reading task or purpose for which readers read (See, e.g., Braten & Samuelstuen, 2004; Linderholm & van den Broek, 2002; Mason, Scirica & Salvi, 2006; Narvaez, van den Broek, & Ruiz 1999; van den Broek, Lorch, Linderholm & Gustafson 2001). Furthermore, careful English reading types at the sentential and textual levels were seen to be utilized over the inter-textual level among the participants. It can be due to lack of necessary reading strategies of inter-textual reading which should be paid attention in reading strategy instructional goals. For example, Plakans (2009) found various reading task conditions which readers engage to induce different levels of strategic processing. Moreover, it was suggested that when the task requires integrating a coherent representation of the content across multiple documents, readers engage in more strategic text processing than when engaged in a task which requires providing responses to intra-textual questions. This difference in the strategic processing of reading is, most likely, due to the more demanding nature of inter-textual reading required in multiple-documents comprehension which calls for a more sophisticated processing of the texts (Braten & Stromso, 2010; Kobayashi, 2010). When involved in single-text reading, readers often engage in constructing a multi-level representation of the content of a single text (Britt & Sommer, 2004).

The studies of van Steensel, Ootsdam and van Gelderen (2013) which assessed reading comprehension in adolescent low achievers, Carson (2001) who conducted a task analysis of reading and writing in academic contexts, and Moore et al. (2010) who investigated the importance of multiple texts reading from the perception of students are also complementary to the findings of the present study that the importance of integrating information across texts from students' point of view increased in relation to academic experience of the students. They demonstrated that students at different ages and educational levels put different emphasis on the adoption of performance approach goals. In addition, Anderman and Midgley (1997) and Shim, Ryan and Anderson (2008) indicated that when students went to the upper level of education, they were more performance goal oriented. Similarly, Harackiewicz, Pintrich, Barron, Elliot and Thrash (2002) in their study supported the positive effect of performance approach goals on the college students' outcomes with respect to their educational level differences. Accordingly, it can be suggested that implementing necessary reading strategy instruction can lead to efficient reading in subsequent years of education.

In conclusion, based on the findings of the present study, reading theories should account for inter-textual reading. Coping with inter-textual reading with the use of lower level careful reading cognitive processes at the sentential and textual levels does not imply mastery in inter-textual careful reading. Following this, it can be proposed that Khalifa and Weir's (2009) reading framework used in this study should include a more elaborative component of a document model which will reflect the important processes of inter-textual reading. The knowledge base component in the framework should also include documents knowledge as a part of background knowledge a reader should bring into reading at multiple texts levels. Therefore, it can be suggested that an inter-text model in which the processes of inter-textual proposition formation describing the rhetorical relations built between the texts and the evaluation of source characteristics might be considered in the model. Also, the factor of age and educational level differences may possibly be taken into account. Overall, these components more fully explain the construction of an organized

representation of the careful reading construct especially at the text and inter-textual levels that can have pedagogical and assessment benefits in reading comprehension instruction and evaluation.

### 6. Conclusion

The findings of this study showed that careful reading at the local and textual levels were seen to be practiced frequently by the participants when they were reading for their assignments. However, reading purposes and cognitive processes requiring integrating information from different texts, reading critically to establish and evaluate the author's position on a particular topic, building links across texts, judging the relatedness of texts, evaluating the writer's ideas and comparing viewpoints were not seen as prevalent emerged reading patterns among the participants. The participants performed differently on tasks measuring different types of careful reading at the sentence, text and inter-textual levels in a descending order of difficulty. Also, females and males' performance was not different on doing the careful reading task at different levels. By increasing the educational level of the students, their performance improved. Age differences (being  $> 25$  or  $\leq 25$ ) were significant in a way that  $\leq 25$  year-olds had a better performance in taking the test at different levels. Also, based on the finding of the present study, in the proposed careful reading framework, some new variables as educational level, age, documents knowledge, better understanding and careful reading at multiple text level structures were added to Khalifa and Weir's (2009) reading framework. The outcomes of the current study entail the implementation of careful reading types at the sentence, text and inter-textual levels in reading strategy instruction and testing. Also, the offered careful reading framework can be regarded as a pedagogical and assessment guide-line in educational contexts.

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