The Effect of Summarization on Intermediate EFL Learners'

Reading Comprehension and their Performance on

Display, Referential and Inferential Questions

Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts (MA) in Teaching English as a Foreign Language (TEFL)

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June 2009

Acknowledgements

This thesis is accomplished by many people's substantial assistance and enormous encouragement. Here, I would like to deliver great appreciation to all of them.

First of all, I would like to express my appreciation to my supervisor, Dr. Zargham Ghapanchi, whose professional guidance, and encouragement are the most important contributions to the accomplishment of this thesis.

Secondly, I am also indebted to my respectable advisor and head of English Department, Dr. Mohammad Ghazanfari, who meticulously read my work and gave helpful comments before, during and after the experiment, much more than could be expected. Had it not been for the dedication and support of my supervisor and advisor, this thesis would never have seen the light of the day.

Thirdly, I am much obliged to Dr. Davoodi and Dr. Elyasi who patiently read the final version of the work and pointed out to its defects.

My indebtedness also goes to Mr Ziayee for his helpful cooperation during the study and also to all my teachers and professors who have always seen their success in mine.

In addition, I would like to thank all my classmates, colleagues and friends for their heartwarming encouragement.

Last but most importantly, I would like to show my unbounded and everlasting gratitude to my beloved family especially my husband for his spiritual support and endless love and constant encouragement; now I wholeheartedly would like to say **"Thank You Very Much!"**

Dedicated to:

My Husband,

and my sons

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Abstract

This study examined the effect of summarization as a generative learning strategy on the readers' performance on reading comprehension in general and reading comprehension display, referential and inferential questions in particular.

The participants in this study were sixty pre-university students. They were assigned to two groups of control and experimental, given the same texts taught by the researcher during ten sessions. In the control group, learners automatically used their own self-preferred strategies. But the experimental group was taught how to apply the strategy of summarization of the paragraphs. Then, all were post-tested on achievement of the instructed texts.

The results revealed that the use of summarization did not have a significant effect on the readers' performance on display and inferential questions. As for the referential questions, however the results demonstrated a significant effect for the use of summarization. Besides, the results showed a significant effect for the strategy on all three kinds of questions combined.

This study could, in fact, talk about the nature of questions and the level of information processing that they need. The study quite indirectly showed that the level processing increase as the readers move from display questions to referential and inferential questions.

Key words: summarization, comprehension, EFL learner, Display Questions, Referential Questions, Inferential Questions

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Chapter One

Introduction

1.1 Overview

Reading supports independent learning and extends lifelong learning options (Ajideh, 2003). Reading comprehension process and the cognitive skills that facilitate it are increasingly important factors in the learning process especially for second/foreign language learners. The importance of this skill to language learning and teaching is to the extent that during a certain period in the history of language learning a specific approach under the rubric of "reading approach" emerged which focused on reading as a tool for language learning (Brown, 1994, p. 44). Reading is an important element in learning a second or foreign language for a variety of reasons. One major advantage, as argued by Chastain (1988) is that language learners can have control over the speed at which they read. They can continue reading at the speed they prefer or suitable to their own level of proficiency. Reading remains a core activity across traditional and flexible educational delivery modes (Owens, 2006). Flexible delivery modes of learning, including traditional print-based distance learning and increasingly popular online learning modes, as Owens (ibid) mentioned, make higher education more accessible and also increase the learner's dependence on processing written text for understanding and learning, that is reading.

In reading, the essential task for a reader is the recovery of meaning (Smith, 1971, cited in Steinberg, p. 197). Though, we must help learners understand that the teaching of reading can not stop once they can read individual words. We all know that teaching to read words is the easy part compared to teaching comprehension (Metacognitive strategies, n.d. in Boulware, Carreker, Thornhill, & Malatesha, 2007).

Now to enhance the other part- comprehension that is itself a reason to reading, the active role of the learner in this process must be considered and utilized. Active learners need opportunities to construct their own knowledge and reflect on their newly generated perspectives (Osborne & Wittrock, 1985, cited in Mcgriff, n. d.). Effective instructional materials that support active learning engage the learner's cognitive processes used for meaningful learning and thereby enable them to read with understanding, or in other words, construct meanings for the text (Wittrock, 1990). A result of acquiring information that is made meaningful by the learner is improved comprehension, which subsequently results in improved retention and recall. The conditions of meaningful learning require an instructional method that must elicit cognitive processes in the learner. Elaboration or generative activities, such as written summaries, are an instructional strategy that are a way to this purpose and have been shown to have a positive effect on reading comprehension (Wittrock & Alesandrini, 1990).

A summary is a brief statement or set of statements used to show how a reader has condensed information to get to the central message of a larger chunk of information. Sometimes this central message is called the gist of the text. A summarization strategy is a set of steps that a student follows to determine the gist of the chunk of information that is being summarized.

> Summarizing taught either alone or as one of several strategies has been shown to improve comprehension and memory of what was read. Summarizing is a complex activity that involves paraphrasing and reorganizing text information (Rice, 2006).

The empirical evidences for summarization, summary types, the operational procedures involved and the strategy's benefits are some relevant subjects that will be explained in detail in chapter two.

The present research aims at exploring that area of research focusing on the effect of summarization on reading comprehension and EFL Learners' performance on reading comprehension questions. Since different comprehension questions require different levels of cognitive processing, the aim of this study can be rephrased into exploring the effect of summarization as a generative strategy (that will be elaborated in great detail in part 2.3.4.) on Iranian readers' level of text processing. Such a depth of text processing is defined in terms of comprehension at the level of sentences, inter-sentential relationships and inference in relation to world knowledge of course based on the definition written by Farhady (1998) for three types of questions - that is factual, referential and inferential questions.

1.2 Conceptual and Theoretical Frameworks

Since the present study intends to investigate the impact of applying the strategy of summarization on reading comprehension within the framework of the model of generative learning, first of all, it's better to define generative learning.

1.2.1 Generative Learning Theory

In generative learning, to comprehend instruction, learners invent new models of information and explanations or revise old models in order to organize new information

into coherent wholes that make sense to them and are coherent with their experience and knowledge (Wittrock, 1991). The learners actively construct their own interpretation of information and draw inferences from them (Wittrock, n.d., cited in Generative Learning, n.d.)

Now, since the model of Generative learning was introduced and elaborated by Wittrock, it would be appropriate to present an overview of his theory of learning. Wittrock (1974) initially conceived of the model of generative learning that integrated several areas of cognitive psychology, including cognitive development, human learning, human abilities, information processing, and aptitude treatment interactions. His work stems from an attempt to explain and prescribe teaching strategies to maximize reading comprehension as will be mentioned in parts 2.3.3 and 2.3.4. While most of the original research deals specifically with reading comprehension, in theory there is much transferability to learning for understanding in general, regardless of the medium or form of the external stimuli (Grabowski, n.d.). Here Grabowski explains about the core meaning of Wittrock's model of learning - that is, there are many happenings in a learner's brain to transfer concepts learned previously that are the learner's existing schemata to something comprehended completely as an integrated new idea.

Wittrock's model of generative learning (Wittrock, 1974, 1990) involves generative brain functions studied in neural research and generative cognitive functions studied in knowledge-acquisition research. In this model of generative learning, the brain is a model builder. It does not transform input into output. Instead, it actively controls the processes of generating meaning and plans of action that make sense of experience and that respond

to perceived realities. Within this framework, teaching becomes the process of leading learners to use their generative processes to construct meanings and plans of action (Wittrock, 1992). It is clear that Wittrock was the first person attending to the biological functions of brain in prescribing a model of learning. Schaverien (2000) writes:

> A new biologically based theory of learning was being distilled. It first emerged from the recognition that learning is a generative act.

Generative learning activities must provide the students with an opportunity to mentally "play with" information to create a personal understanding of the subject to be learned (Generative learning, n. d.). An activity must involve meaning making in order to qualify as generative in which the learner simply selects sentences that someone else has already composed; otherwise, it cannot be considered as a generative activity. The generated main idea relates all or some of the ideas presented in the passage together (Grabowski, n. d.).

Generative learning is the active process of constructing links between new and old knowledge, or a personal understanding how new ideas fit into an individual's web of known concepts (Wittrock, n.d., cited in Generative learning, n. d.). The essence of the generative learning model is that "the mind, or the brain, is not a passive consumer of information. Instead, it actively constructs its own interpretations of information and draws inferences from them" (ibid.). Learning involves mental activity-thinking. For example, with respect to reading a textbook or paper, without active construction of relations between parts of a text, or between the text and personal knowledge, the student will pass over the words and wonder what has been read. How many times have we each finished reading a paper, page or paragraph and wondered what it was that we had read?

As stated in *generative learning theory,* for reading comprehension to occur, readers must actively construct relationships between the information in the text and their background knowledge. This means that teachers can advance a student's comprehension by providing learning experiences that cause readers to actively make connections between their background knowledge and the text information (Doctorow, Wittrock, & Marks, 1978).

Over a lengthy series of studies, Merlin Wittrock and his colleagues have studied "generative learning." The major notion of generative learning is that the reader must work not only to make a connection between the content being read and his or her prior knowledge, but the reader must also reorganize that prior knowledge by taking into account the information gained from reading. Wittrock (1991) states that "the generative model is a model of the teaching of comprehension and the learning of the types of relations that learners must construct between stored knowledge, memories of experience, and new information for comprehension to occur" (p. 170).

The benefits of generative learning and many factors involved as well as generative teaching and its strategies are the titles which will be explained in much greater detail in chapter two.

1.2.2 Schema Theory

One of the key issues in an interactive model of reading is the role of background knowledge of the reader during the process of comprehension. The relationship between background knowledge and text comprehension in processing and recalling information has been called "schema theory" (Bartlett, 1932; Rumelhart & Ortony, 1977). According

to schema theory, a text only provides directions for listeners or readers as to how they should retrieve or construct meaning from their previously acquired knowledge. This previously acquired knowledge is called the readers' background knowledge and the previously acquired knowledge structures are called "schemata" (Bartlett, 1932; Adamz & Collins, 1979).

Widdoson (1983) defines schemata as "cognitive constructs" which allow for the organization of information in the long-term memory and provide a basis for prediction. Rumelhart (1980; Rumelhart & Ortony, 1977) asserts that a "schema" is an abstract representation of a generic concept for an object, event or situation. He says that internal schemata consist of a network of interrelationships among the major constituents of the situation represented by the schemata.

Schemata theory specially focuses on the issue of how the readers' schemata of knowledge already stored in memory function in the process of interpreting new information. According to this theory, the process of interpretation is guided by the principle that every input is mapped against some existing schemata, and that all aspects of those schemata must be compatible with the input information (Carrell, 1988).

The reading process can best be described within the framework of the schemata theory. According to Chastain (1988), the readers' task during the reading process is to make use of their knowledge of the world and the linguistic knowledge in order to recreate the writers' intended meaning. The term "comprehension" is the result of the interaction of the new knowledge and the old knowledge. Anderson and Pearson (1984) argue that when we say one has understood a text, we mean that he has found a mental home for the information in the text. Or he has modified an existing mental home to

accommodate that old information. According to Carrell (1984), schema theory predicts that as readers read they are able to go beyond the word or sentence level to the overall organization and discourse level because their background knowledge enable them to predict the way in which the writer has organized the material. With regard to comprehension, this theory says that comprehension is affected by the degree to which the experiential world of a given oral or written text is represented in the minds of the readers (Rumelhart, 1980). Carrell (1984) also considers the reading breakdown because of not having organizational, formal knowledge.

James (1987) propounds three basic areas of schemata that contribute to the act of reading, the third of which is formal schemata that refers to the readers' knowledge about the rhetorical organization of a certain type of text.

In this experiment, the learners are to get more aware of the rhetorical organization of texts by writing summaries as a post-reading activity and then be commented on their writings by the researcher as their reading comprehension teacher.

The inferential type of questions as a dependent variable is more affected by the schema that is the readers' background knowledge (Bartlett, 1932).

1.3 Relevant Views of Reading

In order to understand the complex activity of reading, different views expressed so far in relation to the reading process and in relation to this study will be presented and discussed here.

1.3.1 Bottom-up View of Reading

Reading in early studies was viewed as a process of matching sounds and letters (Bloomfield & Clarence, 1961) in which the reader tried to match any sound with a letter. This bottom-up model describes reading as a process of exact identification of letters, words, and ultimately sentences by moving the eyes from left to right across the page while building comprehension from letters to words, to phrases and to sentences. The emphasis is almost exclusively on the language to be comprehended and not on the comprehender. From this perspective, each word, each sentence and each text is believed to have a meaning. Meaning is often considered to be contained within an utterance or a text, and to have an independent existence apart from both the reader and the writer (Rivers, 1968). In this view, problems of foreign language reading are always attributed to decoding problems or language specific deficits (Carrell, 1988). In summary, the primary emphasis in a bottom-up view of reading is on textual decoding (Carrell, 1991; Grabe, 1991).

This approach , as Eskey (1988) says, shows the reader down to the point that the information cannot be held in the short term memory long enough to enable the reader to make sense of a whole sentence or a large piece of discourse. He further claims that the decoding model is inadequate as a mode of reading process because it underestimates the contribution of the reader; it fails to recognize that students utilize their expectation about the text and their knowledge of the world and how it works.

In this study, one type of reading comprehension questions called display questions as a dependent variable is more affected by bottom-up view of reading rather than the other two types of questions.

1.3.2 Top-down View of Reading

Reading specialists, then, offered a competing model that became known as "psycholinguistic theory about reading" (Goodsman, 1973). According to this new model, the role of readers was considered to be quite active. Goodsman has described reading as a "psycholinguistic guessing game" in which the reader reconstructs, as best as he can, the message which has been encoded by the writer. Goodman views this act of reconstruction of meaning as an ongoing cyclical process of sampling from the text, predicting, testing and confirming or revising those predictions, and sampling further (Goodsman, 1973, cited in Carrell, 1988).

Reading in this view is conceived as a process in which the reader picks and chooses from the available information only enough to predict a language structure which is decodable (Goodsman, 1973). This psycholinguistic model of reading has been characterized as a concept-driven (top-down) pattern in which the primary importance is attached to what readers know about reading and about the world in general. Thus, in top-down model of reading, we predict about the text based on our background knowledge, and we check the text for confirmation or refutation of these predictions (Carrell, 1988).

In this study, one type of reading comprehension questions called inferential questions as a dependent variable is more affected by top-down model of reading rather than the other two types of questions.

One of the problems with top-down models is that for many texts the reader has very little knowledge of the topic and cannot generate predictions; furthermore, it may be easier for a skilled reader to simply recognize words in a text than to generate predictions (Samuel & Kamil, 1984). Thus, while top-down models may be able to explain beginning

reading with slow rates of word recognition, it does not accurately describe skilled reading behavior.

1.3.3 Interactive Model of Reading

The introduction of an interactive model of reading was an attempt to compensate for the deficiencies of over-reliance on text-based or context-bound processes (Carrell, 1988). Widdowson (1979) considers interactive reading as a process of combining textual information with the information a reader brings to a text. Such a model emphasizes the interrelation between the text, various levels of linguistic knowledge, and various cognitive abilities (Weber, 1984). Eskey (1988), giving a similar definition for the term "interactive" states that combination of bottom-up and top-down processes will vary from reader to reader and even from text to text. Reading is viewed as a kind of dialogue between the reader and the text (Grabe, n.d., in Carrell, 1988). Stanovich (1980) has proposed an interactive model of reading called "interactive compensatory model". He states that a deficit in any knowledge results in a heavier reliance on other knowledge sources, regardless of their levels in the processing hierarchy. Thus, if there is a deficiency at an early print analysis, higher order knowledge structure will attempt to compensate, for example in the case of a poor reader. On the other hand, any breakdown in higher order knowledge structure can be compensated by the ability in early print analysis. Therefore, contrary to the linear models of bottom-up and top-down processes in which the flow of information is unidirectional, an interactive model of reading emphasizes flexible processing and multiple information sources. Based on this view, constructing a text representation is an active process in which a reader integrates the