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# Conceptualizing Reading to Learn: Strategy Instruction and EFL Students' Reading Comprehension

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## Abstract

This study examined the effects of explicit reading strategy instruction on the comprehension of Ethiopian EFL students. In total, 123 students at Bahir Dar University, Ethiopia were randomly assigned into two groups. The experimental group was taught with explicit reading strategy instruction while the control group was taught with skill-based teaching for a semester. Pre- and post-reading comprehension tests were used to determine whether explicit reading strategy instruction helped the students in enhancing their reading proficiency. The results of this study showed that the students who received reading strategy instruction made greater gains in reading comprehension than students who were taught with conventional skill-based teaching. The theoretical implications of these findings for higher education reading curriculum design, and future research directions are then presented.

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**Keywords:** *Strategy Instruction, Reading, Skill-based Teaching, Comprehension, Cognition*

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## 1. Introduction

### 1.1. Background of the study

Many countries have used English language as the medium of instruction at high schools, colleges and universities. In Ethiopian public and state universities, almost all educational texts are written in English. Research has consistently revealed that reading proficiency is one of the most essential skills that university students of English as a second language (ESL) and English as a foreign language (EFL) must develop (Gorsuch & Taguchi, 2010; Grab, 2002; Tavakoli, 2014). Thus, the ability to read is pivotal to EFL/ESL students' learning achievement (Ahmadi, Ismail & Abdulla, 2013; Eskey, 2005).

Reading proficiency is a deciding factor that potentially affects students' understanding of complex academic resources. However, a mismatch between Ethiopian university students' reading skills needs and their reading competence has been reported despite the fact that the students studied English for more than 12 years (Eshetie, 2010; Jeylon, 2010; Jha, 2014).

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Many EFL/ESL students often encounter the capacity to comprehend academic texts when they join university education. As a result, academic requirements and expectations have been disfigured by students' poor reading competence (Jha, 2014; Eshetie, 2010; Jeylon, 2010). This research emanates from well documented research evidence (Collins & Gillies, 2010; Durkin, 1978; Kamil, 2004; USAID, 2014) which has shown that reading comprehension instruction remains largely abandoned in the field of English language teaching. Consequently, as Cassidy et al (2011) claimed, adolescent literacy has been and indeed, should continue to be a debatable issue in literacy education for the coming years.

Recent studies showed that inadequate reading strategy use and a lack of meta-cognitive awareness are the two major factors that affect reading proficiency in adolescents (Akkakoson & Setobol, 2009; Cubukcu, 2008; Mokharti & Reichard, 2002; Pressley, 2000; Shokrpour & Fotovatian, 2009). Further, a growing number of recent studies have consistently provided ample evidence of the relationship between the use of these strategies and student academic achievement (Glaser & Brunstein, 2007; Patrick et al., 2007; Torrance et al., 2007).

## **1.2. Review of Related Literature**

### *1.2.1. Reading Theories and the Development of Reading Strategy Instruction*

A plethora of research in cognitive science has helped us in understanding the nature of comprehension processes and the possible reasons for the failure of such processes in various reading contexts and for a variety of readers (Graesser, McNamara, & Louwerse, 2003). Consequentially, many educational researchers have suggested different strategies to improve reading comprehension (Sheorey & Mokhtari, 2001; Winne & Nesbit, 2010).

Flavell's (1976) model of meta-cognition emphasized the development of meta-cognitive awareness and cognitive knowledge of readers. Based on this model, one component of meta-cognition is meta-cognitive knowledge, and the second component that occurs before, during, and after reading is called meta-cognitive experience.

Smith (2004) maintained that the cognitive or psycholinguistic perspective of learning explains that comprehension is a process of constructing meaning in transaction with texts. However, due to its limitation in addressing the influence of the social context of learning, the cognitive psychology received criticism from the newly emerged school of thought called the socially mediated learning theory, which emphasizes the social factors in the process of learning rather than the contribution of an individualistic process. The socio-cultural theory theorizes the mind as a basic structure to develop concepts and acquire language, and assumes that interaction plays a fundamental role in the development of cognition.

Vygotsky (1978) considers learning as a social process that is enhanced by active interaction. As a result, the socio-cultural theory has influenced the second and foreign language pedagogy because, based on the premise of this theory, teachers can transfer higher order meta-cognitive reading strategies to their students by scaffolding, modeling and thinking aloud methods. He explains two different levels of learning. Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals (p.57).

### *1.2.2. Research on reading strategy instruction and reading comprehension*

Research has revealed important findings related to enhancing reading autonomy with explicit modeling strategy instruction (Akkakoson & Setobol, Huang et al., 2009; Tavakoli, 2014). Studies have also emphasized that the significance of reading strategy training for increasing students' reading proficiency (Cubukcu, 2008; Hong-Nam & Leavell, 2015; Mokhtari & Reichard, 2002; Sheorey & Mokhtari, 2001; Tavakoli, 2014). Recent studies indicated that with a great deal of teacher modeling and feedback, explicit reading strategy instruction is a feasible way to help students enhance students' reading comprehension (Dabarera, et al., 2014; Khezrlou, 2012; Nemati, 2009; Pani, 2004; Shokrpour & Fotovatian, 2009).

### *1.3. Rationale for the study*

There is an increased demand for better reading proficiency to understand complex academic texts, but students' comprehension is below academic requirements and expectations. As we continue to ignore the problem, it will be even more problematic to cope with the academic demands. Consequently, there is a tremendous need for designing new and effective instructional methods to meet the demands of these students (Ramirez, & Jones, 2013). There is currently limited research on the effects of reading strategy instruction for EFL university students as most of the local research on the reading strategies of EFL readers (Abiy, 2012; Dawit, 2014; Yohannis, 2012) has been limited to investigating students' reading comprehension at lower levels of education (either at elementary or secondary schools).

The purpose of this study was to contribute to current literature by examining a research-based practice of reading strategy instruction and enhance EFL students' reading achievement. The results of this study, therefore, could help EFL curriculum designers and instructors to conceptualize, plan and implement reading strategies in reading classrooms. In light of all the empirical evidence reported and the literature reviewed; henceforth, the researcher proposed that there is a dire need for an intervention to improve the students' reading comprehension, and this experimental research was designed to respond to this need.

#### ***Research Questions***

1. What effects does explicit reading strategy instruction have on the reading comprehension of EFL university level students?
2. Is there any significant difference between the pre-test and post-test results of the experimental students regarding reading comprehension?
3. Is there any significant difference between the experimental and control group of students on their reading comprehension?

## **2. Method**

### ***2.1. Research Design and Participants***

This research was a pretest posttest quasi-experimental design, for which two classes of first year accounting students were purposefully selected at Bahir Dar University, Ethiopia. There were two sections in the 2016/17 academic year. To equate one group with the other to the greatest possible extent, the researcher randomly assigned intact classes to

each condition (experimental and control). A quasi-experimental design was selected for its relative merit in classroom contexts where “properly designed and executed quasi-experimental studies yield scientifically credible results” (Dörnyei, 2007, 118).

## **2.2. Research Instruments**

### *2.2.1. Reading Comprehension Tests*

To determine the effects of reading strategy instruction on the reading comprehension of students and examine any significant differences, the pretest and posttest mean scores of students in the experimental group were compared to the scores of the control group using the independent t-test. The researcher developed the reading tests that consist of two passages followed by multiple-choice comprehension questions. This is because standardized tests that could measure reading comprehension of university level students in Ethiopia were not currently available. Moreover, standardized tests that were not designed specifically for the Ethiopian context were less suitable for the purpose of this study.

To illustrate, this reading intervention focuses on training EFL students with a particular reading strategy instruction to see the possible effects on the reading comprehension of EFL students. Therefore, the possibility of using standardized tests was opted out as standardized tests are general in nature, and hence were not compatible with the major purpose of this study. Preferring instead to help understand the strategy use of the four reading strategies emphasized in this study and determine the reading proficiency of students before and after the intervention, the researcher developed 30 items that ask participants to employ their specific knowledge of meta-cognitive reading strategies when reading a text.

The total items in the pre and posttests were initially 60. However, all the True False items in both tests were excluded from the analysis, for Multiple Choice question items had higher criterion-related validity for an independent external rating of competence than Multiple True False questions (Downing, Grosso, & Norcini, 1994). Accordingly, items number 9, 10, 11 in the pretest (see appendix A) and items number 10, 11, 12, 13, 14 in the posttest (see appendix B) were excluded. All the remaining 52 items comprehension scores of the students were entered in Microsoft Excel sheet and it was arranged in descending order. Overall, a total of the 52 items were utilized in the item analysis process using the following formulae:  $p = R/T$ , where

$p$  = item difficulty index

$R$  = the number of correct responses to the test item

$T$  = the total number of responses comprises both correct and incorrect responses

Eventually, 20 items out of 60 (33.3%) were rejected either due to test type validity (eight True or False items) or level of difficulty, which seven items were omitted after item difficulty analysis to mitigate their influence in the pretest. Regarding item difficulty in the posttest, all the items in the posttest were valid; however, five items were excluded based on their optimal position (either too high or too low level of difficulty) to keep both pre and posttest items equal. The items levels of difficulty between 20% - 80% were accepted in the test for this study (See appendix C).

An item analysis was also conducted to examine the level of difficulty of both tests. Based on the item analysis, the pretest items had item difficulty level=mean .6010 and standard deviation, .14553 for 20 items (n=109), and posttest items had item difficulty=mean .6130

and standard deviation, .12942 for 20 items (n=109), which means that the pretest and posttest were comparable in terms of level of difficulty.

To check the internal consistency of the tests, Cronbach's alpha coefficient was computed through SPSS version 20. A reliability analysis of the 30 items indicated that the pretest reading comprehension test had a coefficient of  $\alpha=.72$  (n=55), and the posttest had a coefficient of  $\alpha=.73$  (n=55), which ensured the reliability of the tests as Muijs (2004) states, a correlation coefficient above 0.7 is usually considered to offer reasonable reliability for research purposes. A team of test administrators and data collectors in the field who planned and administered the tests were recruited for the project to ensure complete testing and quality control over the test administration. Further, a paired t-test was used to determine whether there was a significant difference between the experimental group of students' reading comprehension before and after the intervention.

So as to help determine which of the questions in the pre-and post-test items were more difficult than others and hence examine the difficulty of questions in relation to the types of individual reading strategies the questions ask students, the following individual strategy items were incorporated in the pre-and post-test items. Questions numbers 1, 13 and 14 ask students to "Determine the main ideas of the passage". Questions numbers 2, 7,8,12, 6, 18, 19, 21, 23,24,25,28 and 30 ask students' reading proficiency in terms of the effects of "Guessing meanings" strategy to comprehend a text. Similarly, questions numbers 3, 5, 9, 10, 11,17,22,27 and 29 were designed to help understand effects of teaching "Drawing inferences" on students' reading comprehension after intervention. The last individual reading strategy "Previewing" helps readers predict or make some educated guesses about what is in the text. Regarding this, therefore, questions numbers 4, 6, 15, 20 and 26 were constructed to explore the students' reading comprehension after they were taught this strategy.

### **2.3. The Intervention Procedure**

Prior to the reading strategy instruction, the researcher discussed with the participants in the experimental group about strategic reading, the reading strategies training and the rationale for the intervention. The week before the study begins; the researcher oriented all the students so that they could be familiar with the meta-cognitive reading strategies. The students received direct instruction of meta-cognitive reading comprehension strategies with a total of four reading texts. The researcher modeled the strategies and provided adequate time for participants to practice the strategies through guided practice and independent work. Before and after the treatment sessions, students took reading tests.

The explicit reading strategy instruction Model for reading comprehension, which was adapted from Vogt & Echevarria (2008), was utilized as a training guide for the reading intervention, for this model incorporates essential teaching procedures that can be applicable in the Ethiopian EFL context. It is manageable for Ethiopian EFL teachers as it requires no sophisticated materials and it can be easily utilized with training teachers in a limited time. This framework for teaching procedures also considers possible factors that can affect the result of the intervention and has a lot of clear guidelines based on the results of decades of research. The control group was taught with the conventional skill based reading approach while the experimental group received CSR (comprehension strategy instruction) for 12 weeks.

In order to ensure consistency in instruction, only the researcher taught both the experimental and the control group for three periods (150 minutes per week) period using

four reading passages for in-class tasks. He allocated the same time, tasks and materials for the experimental and control groups, but employed a different pedagogical approach. In the face of the reality, Lee (2012) maintains that a true control condition without any instructional input or learning opportunity is rare in the field of education research.

The major purpose of the intervention was to understand if explicit reading strategy instruction improves reading comprehension of EFL students. Therefore, the experimental group was trained with explicit reading strategy instruction, which includes guided practice, direct modeling, and explicit instruction. The researcher also facilitated opportunities for the students to practice each strategy until he transferred the target reading strategy to the students so that they could read the passage by themselves. On the other hand, no reading strategy training was provided for the control group. Instead, the researcher organized the whole reading class, asked students to read texts, which were accompanied by class works of comprehension questions and assignments. Finally, he corrected responses and gave a brief description on the topic with the conventional skill-based teaching for the entire semester. Consequentially, this study takes advantage of using quasi-experimental design in increasing external validity as the researcher (their ordinary English teacher) had already experienced a particular treatment of interest in the students' ordinary situations.

Schmidt (1994) stated that the intervention of a researcher's interest (usually an innovative one) could be something that participants are not likely to encounter in their real life classrooms (as cited in Lee, 2012), and this could have an inadvertent effect on their learning consequences. In comparison to other researchers who would conduct a study on the participants of this study, therefore, the researcher (as he was also their classroom teacher) could "get access to participants who have already experienced a particular treatment of interest (rather than providing such a treatment after a sampling procedure), and give a test measuring the dependent variable on which they aim to estimate the effect of a treatment" (Lee, 2012, p. 12).

A plethora of research has identified the types of reading strategies that yield best instructional practices that are effective in helping students to improve reading comprehension. One of the strategies that received top attention by researchers is activating students' prior knowledge for effective reading. It is only after the schemata is activated that one is able to see or hear, because it fits into patterns that s/he already knows (Harmer, 2001). Pausing and predicting what will come next is another individual reading strategy that received attention by recent studies. In this reading activity, the students are asked to stop for a while and guess what will come next based on the story. The third reading strategy instruction focused on summarizing and writing main ideas.

Research has indicated that an individual reading strategy can be executed using other individual reading strategies. For example, Rahmawati (2012) maintained that an individual strategy "guessing meanings" was often carried out by executing a wide range of other strategies such as *rereading*, *making use of contextual use*, *asking (oneself) question* or even *paying closer attention to reading*. Consequently, two main themes emerged when selecting reading strategies for this study. First, in teaching *drawing inference strategy*, various reading strategies like making predictions, clarifying, activating prior knowledge, asking questions, paraphrasing and visualizing on what he/she read could be incorporated. Second, under the strategy "guessing meanings," *rereading*, *making use of contextual use*, *asking (oneself) question* or even *paying closer attention to reading* from the three major reading strategies (Global, Problem solving and Support reading strategies) could be included.

The selection and inclusion of meta-cognitive reading strategies for the training was grounded in the belief that interlinking individual strategies need to be taken together to understand the potential effects of using individual reading strategies on the readers' reading comprehension. In fact, teaching several meta-cognitive reading strategies at the same time for the same groups of students in a limited time may not be feasible. Hence, to help the researcher teach fairly adequate reading strategies throughout the semester, and thereby diminishing learner anxiety, this study selected a few strands of strategies that could be taught, modeled and practiced together.

Despite individual instruction of each strategy, Anderson (2005) stated that there were relations among them as strategies are not utilized in isolation; instead, in relation to each other (as cited in Razi, 2014). Sequentially, the present study incorporated four individual reading strategies, namely predicting, inferring, summarizing and questioning strategies, and a total of 12 stranded meta-cognitive reading strategies. The individual strategies that are included in this study are, therefore, summarizing, generating questions, previewing a book before reading, using prior knowledge, making predictions, drawing inferences, *rereading*, setting purpose for reading, determining what to read closely, predicting or guessing text meaning, trying to stay focused on reading and adjusting reading rate.

#### *2.4. The Skill-based Teaching for Reading Comprehension*

The control group was taught reading using the conventional skill-based approach. In this approach, students were taught the three phases of skill-based teaching, namely the pre-reading stage, the while-reading stage, and the post-reading stage. The ultimate goal of the study was to compare the two approaches and examine the effects of reading strategy instruction on the students' strategy use and reading comprehension. In light of the literature, the researcher was cognizant of the importance of designating procedures for skill-based teaching and strategies training for effective instructional intervention.

Afflerbach, Pearson and Paris (2008) stated that the dual emphasis on explicit teaching of skills and strategies is evident for comprehension. They further asserted that "When we are teaching strategically, we help students to analyze tasks, to consider various approaches to performing the task, and to choose among alternative actions to reach the goal. The teaching skills involves practice and feedback to improve speed and efficiency, which taken together amount to what we call fluency" (p.372). Therefore, the participants in the control group were also taught the following skills necessary for enhancing their reading proficiency: drawing inferences from the given details and facts identifying the topic, or the main idea, providing the meaning of new words, explaining grammar points and sentence structures.

Before students begin reading the text, the researcher highlighted the background information related to the text. At this stage, the researcher also explained the new grammar and words written in bold in each reading passage. During the reading stage, the researcher told the students to read the text on their own. Then, students were directed to identify the main idea, draw inferences from the information given, which was simultaneously supported by the researcher. As a teacher scaffolding technique, ambiguous concepts and more complex concepts were explained. In the final post-reading stage, with extensive guidance, the researcher directed the students to practice exercises and answer the questions given in the materials.

### **2.5. Instructional Procedure for the Experimental Group**

In the present study, the experimental group of 62 students received reading strategy instruction that consisted of engaging participants in the use of comprehension strategies, such as activating schemata before reading, and pausing and predicting what will come next while reading, questioning and summarizing what they have read in short. A reading strategy training manual was prepared before each lesson began. The procedure for training students of the experimental group was carried out in the following ways. First, the researcher provided a detailed description on how each strategy use can be applied in reading a text using the thinking aloud technique. The researcher explained to the students about the most appropriate context which students can effectively use each strategy when they read a text. Second, the researcher modeled each strategy briefly using various examples. Third, the students, began using each strategy in action with the researcher scaffolding. Then the students gradually employed the strategies independently.

Different reading strategy instruction tasks which are appropriate to practice activating schemata were selected and used. The researcher's intervention began by teaching explicitly how students could use their schemata before reading a text. To help students understand how this strategy works and encourage them how they can activate their background knowledge, the researcher asked them to brainstorm pre-reading activities that were related to the concept of the reading text. The reading strategy instruction also focused on modeling and guiding students to *pause and guess* strategy. Then, the students were asked to practice predictions trainings based on the model predicting strategy use the researcher had shown. To encourage the students to check their prediction and manage the task, the researcher wrote their predictions on the whiteboard. Finally, the researcher asked the students to read the text and check their predictions. The third reading strategy instruction focused on summarizing and writing main ideas. In this instructional phase, students were asked to read texts and summarize the main idea of each text.

### **2.6. Data analysis**

The data were analyzed using statistical methods. The pre and posttest results of the participants in both groups were corrected by two raters out of 20 and the scores were converted into percentiles to determine if there was any difference in reading comprehension achievement between the experimental and the control groups. An independent samples t- test was conducted to determine if there was any pre-existing difference in the reading comprehension of the two groups. A paired t-test was also calculated to examine whether the students in the experimental group exhibited a significant difference on reading comprehension in their posttest performance in comparison to their own pretest performance.



### 3. Results and Discussion

#### 3.1. Results

##### 3.1.1. Comprehension Results for the experimental group

Table 1: The Pre and posttest Comprehension Scores of the Experimental Group

Pre-test Results			Post-test Results		
Score	Frequency	Percent	Score	Frequency	Percent
45	8	14.5	45	1	1.8
55	16	29.1	50	6	10.9
60	15	27.3	55	3	5.5
65	12	21.8	60	14	25.5
70	3	5.5	65	16	29.1
75	1	1.8	70	13	23.6
			75	2	3.6
Total	55	100	Total	55	100

Table 1 shows that 1 participant (1.8%) in the experimental group got 75% , whereas 2 participants (3.6%) scored 75% on the posttest. 3 participants (5.5%) got 70% on the pretest, whereas 13 participants (23.6%) scored 70%. on the posttest. Before the intervention, 8 participants (14.5%) scored below an average point (50%), whereas only 1 participant (1.8%) got below an average point (50%) after the reading strategy instruction.

##### 3.1.2. A Pre and post Intervention Results of Comprehension of the Participants

Table 2: Comprehension Mean, Standard Deviations, t and p-value of the Experimental Group

	Mean	Number	Sta. Deviation	t	p-value
Pre-test	58.27	55	7.279	-220	.311
Post-test	62.73	55	6.993	1.401	.000

p<0.05

To examine whether the reading comprehension proficiency of participants in the experimental group improved after receiving reading strategy instruction, and hence to determine the presence of a significant difference after the intervention, a paired samples t-test was used based on the participants' mean scores of the pre and post-test scores. Evidently, as the above table shows, the post-test means scores of the participants instructed with the reading strategy instruction was significantly different from their pre-test mean score at a significant level of 0.05, indicating that the reading strategy instruction helped in enhancing students' reading comprehension.

### 3.1.3. A Pre and post Intervention Results of Comprehension of the Control group

Table 3: Comprehension Mean, Standard Deviations, t and p-value of the Control group

	Mean	Number	Sta. Deviation	t value	p –
Pre-test	58.61	54	8.710	-1.705	.094
Post-test	60.56	54	7.811		

p<0.05

To examine whether the reading comprehension proficiency of the control group improved after receiving skill based reading instruction, and hence to determine the presence of a significant difference after the intervention, a paired t-test was used based on the students' mean scores of the pre and posttest scores. Evidently, as the above table shows, the posttest means scores of the participants instructed with the skill based reading instruction did not show any significant difference from their pretest mean score at a .094 level, indicating that the skill based reading instruction did not help in enhancing students' reading comprehension in the control group.

### 3.1.4. A Pre-and Post test comprehension results of the experimental and control group

Percentages of the pretest and posttest results were calculated to examine if the participants in the experimental group improved their reading comprehension after receiving explicit reading strategy instruction. Table 1 shows that 1 participant (1.8%) got 75% on the pretest, whereas two participants (3.6%) scored 75% on the posttest. three participants (5.5%) got 70% on the pretest, whereas 13 participants (23.6%) scored 70%. on the posttest. Before the intervention, eight participants (14.5%) scored below an average point (50%). The number of the students who scored below average point (50%) dropped to 1 (1.8%) after the reading strategy instruction.

Table 4: Descriptive statistics for the Pre and posttest Comprehension Scores of the Control Group

Pre-test			Post-test Results			
Results	Score	Frequency	Percent	Score	Frequency	Percent
	35	2	3.7	45	3	5.6
	40	1	1.9	50	5	9.3
	45	3	5.6	55	9	16.7
	50	2	3.7	60	13	24.1
	55	16	29.6	65	15	27.8
	60	11	20.4	70	6	11.2
	65	11	20.4	75	3	5.6
	70	7	13.0			
	75	1	1.9			
Total		54	100	Total	54	100

Table 4 shows that one participant (1.9%) got 75% on the pre-test, whereas three participants (5.6%) scored 75 on the posttest. 7 participants (13.0%) got 70% on the pretest, whereas six participants (11.2%) scored 70% on the posttest. The data also showed that six participants (11.2%) scored below average (50%) on the pretest, whereas three participants (5.6 %) scored below average (50%) on the posttest. Overall, the students' comprehension scores of the two groups obtained from the pretest results exhibited a similar pattern of results, indicating that the students had almost similar reading proficiencies before the intervention.

Table 5: The Pre and posttest comprehension mean and standard deviation of the experimental and control group

	Group	No.	Mean	S.D	df	t	<i>p-value</i>
Pre-test	Experimental	55	58.27	7.279	107	-220	
	Control	54	58.61	8.710			
Post-test	Experimental	55	62.73	6.993	107	1.401	
	Control	54	60.56	7.811			.695

*\*p<0.05*

The pre-test and post-test mean scores of the reading comprehension tests of the experimental and the control groups were used to examine whether the students in the experimental group showed greater reading achievement after receiving the reading strategies instruction than those who were taught with the skills based teaching. The results depicted that the students in the reading strategy instruction group (the experimental group) achieved a higher mean score (62.73) than those in the control group (60.56). The comparison results of the post-test scores of the experimental and the control groups of students favored for the experimental group.

To illustrate, nine participants in the control group scored 70, whereas 15 participants in the experimental group scored 70 and above. Further, three participants (5.6%) the control group scored below average (50%) on the post-test, whereas only 1 participant (1.8 %) of the experimental group scored below average (50%) on the posttest. Overall, the comparison scores of the two groups indicate that the number of students who failed the reading examination after the intervention was greater in the control group than the experimental group of students in this study. However, as it was indicated, the difference between the mean scores of the two groups after the strategy instruction was not statistically significant.

### 3.2. Discussions and Conclusion

#### 3.2.1. Experimental Group's Reading Comprehension before and after the Instruction

One of the major purposes of this study was to understand the effects of explicit reading strategy instruction on students' reading proficiency. Pertaining to this, the results of this study revealed several major findings that could be summarized as follows. After the students were taught in explicit reading strategy instruction for a semester, the participants exhibited significant progress in their reading achievement. This observation is reminiscent of numerous researchers who revealed that students' reading comprehension improves when teachers model strategies and provides an opportunity for students to practice the strategies (Akkakoson & Setobol, 2009; Cubukcu, 2008; Hong-Nam & Leavell, 2015; Mokhtari & Reichard, 2002; Sheorey & Mokhtari, 2001; Tavakoli, 2014).

The findings of the study showed that systematic direct instruction in meta-cognitive language learning strategies could develop reading comprehension. From the outset, it was hypothesized that the instruction has a certain effect on students' reading comprehension when the teacher explicitly demonstrates key reading strategies, models them and explains the reason and context for using them. However, this research was cautiously aimed at examining to what extent the instructional strategies impact the students' reading achievement, which will be discussed in detail in the next section.

### *3.2.2. A pre and post intervention comprehension comparison of the experimental group*

A paired t-test results of this study showed that the students in the experimental group exhibited a significant difference on reading comprehension in their posttest performance in comparison to their own pretest performance at a significant level of  $p < 0.05$ . The findings of this study revealed that reading strategy instruction had a significantly positive effect on the English reading comprehension of university students. Similarly, a plethora of research has revealed a strong positive correlation between reported meta-cognitive awareness of reading strategies and reading comprehension achievement of university level EFL students (Karbalaee, 2010; Tavakoli, 2014).

Based on the results of the independent t-test, therefore, it was, therefore, possible to claim that the intervention had the benefits for the treatment group in getting practical techniques necessary for improving their English reading proficiency. Recent research that has investigated on reading strategies suggested that teachers need to assist EFL/ESL students to improve reading comprehension by integrating meta-cognitive reading strategy tasks in their regular English reading courses (Cubukcu, 2008; Huang & Newbern, 2012; & Wang et al, 2009).

There is a tremendous need for designing new and effective instructional methods to meet the demands of these students (Ramirez, & Jones, 2013). Research indicated that with a great deal of teacher modeling and feedback, explicit reading strategy instruction is an effective way to help students enhance their reading comprehension (Cubukcu, 2008; Khezrlou, 2012; Nemati, 2009; Pani, 2004; Shokrpour & Fotovatian, 2009).

The results of the studies conducted in the area of reading comprehension asserted that meta-cognitive reading strategy instruction had a significant contribution for the development of students' reading comprehension (Akkakoson & Setobol, 2009; Cantrell & Carter, 2009; Huang et al, 2009; Pressly, 2000). In a nutshell, the researcher posited that reading intervention research like this will help address the needs of EFL students who have little exposure to the English language.

### *3.2.3. Reading comprehension of the experimental and control group after the instruction*

The finding of this study addresses the research question that seeks to understand the statistical significance of the effects of reading strategy instruction on the reading achievement of both groups (experimental and control). The results of the study showed that the students in the experimental group achieved a higher mean score and than those in the control group. While the paired t-test results of the pre- and posttest scores of the experimental group of students showed that reading strategy instruction had a statistically significant effect on the reading comprehension of students at  $p < .005$ , but the paired t-test results of the control group did not show any significant difference between the pre-and post-test results of reading comprehension after they were taught skill based teaching for a semester, indicating the positive effect of strategy instruction on the improvement of

students' reading comprehension. The independent t-test results of this study revealed a non-significant trend indicating no statistically significant difference between the post-test mean scores of the experimental group and the control group at .695 level (Significant <0.05). Taken together, the finding of this study indicated that reading strategy instruction helped students in the treatment group in enhancing their English reading proficiency more than skill-based conventional method did. As experiments rely on analytical generalization to theory (Robert & John, 2003), the results of this study in this regard may provide corroborative evidence for the theory of meta-cognition, which clearly stresses that meta-cognition is critical to effective reading in ESL/EFL settings.

The reading comprehension questions employed for the pretest and post test consist of the basic components of reading comprehension, such as vocabulary, literal and inferential understanding of reading texts. Based on the results of the students' answers for the tests, a paired t-test was used to determine whether the experimental groups of students showed a significant difference on their reading comprehension in each item after the intervention. It was found that both groups of students made significant progress on each item, especially on questions number 1, 3, 5 except question number 2. Question number 1 asks students to determine the main idea of the text, whereas questions number 3 and 5 ask the students to draw inferences and question 2 asks students to guess meaning of words in the reading text.

The finding of this study in this regard is in line with previous studies of Salataci and Akyel (2002), and Fan (2010) who revealed that reading strategy instruction had a positive effect on the university learners' reading comprehension particularly in relation to the comprehension questions on getting the main idea and finding the supporting details, and students use more top-down strategies, like finding the main ideas and summarizing after strategy instruction training. Interestingly, even after the participants were asked to find out the meaning of a word in the passage (please refer to question number 2 of this study), they could not do so even after the instruction. Wong (2010) also reported that although the students did well in answering almost all the questions, they encountered real difficulty in guessing the meanings of words correctly in the pre-and post-tests.

Given the students' significant improvement on the posttest scores, the results of this study may have implications for EFL university teachers, and curriculum designers to fully understand, develop and apply reading strategy instruction to help students improve their reading comprehension. Taken together, this study revealed the importance of meta-cognition for regulating and supporting student learning by assisting students with teacher scaffolding in developing their proficiency to monitor and regulate their cognition. However, the present research aimed at examining the effects of reading strategy instruction on the reading comprehension of EFL students under a specific term of training, so long term follow-up treatment is needed to determine if the effects could stay longer.

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## Appendix A: Pretest Reading comprehension Questions

Name \_\_\_\_\_ Gender \_\_\_ Department \_\_\_\_\_ Year of study \_\_\_\_\_

### I. Read the following passage and answer the questions that follow.

“Pole, pole, dada,” goes my new Swahili mantra. My oxygen-starved body is capable of moving any other than “slowly, slowly”. The sister reference at the end is a nice touch, though, strangely comforting coming from the guides and porters who leap up and down Mount Kilimanjaro like mountain goats. Back home in Britain, I have already conquered Scotland’s Ben Nevis and Mount Snowdon in Wales- both of which seem like *molehills* compared to *this* majestic rock.

The distance from the starting point at Londorossi Gate at the summit is a deceptively manageable 49 kilometers on the Lemosho route. Kilimanjaro is not an overly technical climb-making it a draw for enthusiastic amateurs like myself. And as the number of adventure tourists continuous to escalate, so too has the number of tour operators to meet the rising demand- including the African Walking Company, with whom I climbed.

Founded in 1999, the company has emerged as one of most well respected outfits, noted for its workers and sustainability for the environment and ensuring the safe movement of thousands of visitors each year. The porters and guides are not only paid above the recommended minimum *wage*, but they are also offered training courses, including first aid, guiding skills and English language lessons. For *me*, though, the real secret of the AWC’s success is the confidence they *instill* in even the most tremulous climber faced with the mammoth task ahead. The support team of 56 porters, guides and cooks assigned to our group of 14 is organized with military precision.

The route up Kilimanjaro is winding and diverse, passing through jungle and scree fields before rising above the tree line, where the mountain features only snow and rock. The Senecio Forest lies along the Machame route, just below where *it* combines with the Lemosho. By summit day, my flesh and bone have become lead- I am disoriented, altitude-addled lump. There are no calls to “pole, pole” at *this* stage- I find I am incapable of doing anything else. Not too exhausted, however,



to notice that the promised lunar eclipse has failed to **materialize**. Nothing could have prepared me for what would turn out to be the most physically and mentally grueling experience of my life.

1. The best title for the reading text above can be:
  - A. The Kilimanjaro Challenge
  - B. The traveler's memory
  - C. Tourism
  - D. The clever guide
2. In paragraph 1 the writer tells us that....my oxygen-starved body is.... What does she mean when she says that her body was **oxygen-starved**?
  - A. She was exhausted due to the long journey
  - B. The air grew thinner and thinner as she was at the highest peak of the mountain
  - C. Her body was dehydrated as she spent ascending and descending along the way
  - D. She carried little oxygen before climbing.
3. Why did the writer describe the porters and guides of the African Walks Company as mountain goats? It was probably because :
  - A. They were able to leap up and down Mount Kilimanjaro like mountain goats
  - B. They were capable of jumping throughout their journey
  - C. They could manage 49 kilometers on the Lemosho route
  - D. They were as short as goats
4. Based on the writer's opinion, the real secret of AWC's success is because:
  - A. the porters and guides are highly paid
  - B. they are also offered training courses
  - C. of the confidence they instilled in
  - D. they were not paid at a minimum wage
5. According to the passage, \_\_\_\_\_ % of the support team was travelling with the writer.
  - A. 25
  - B. 50
  - C. 75
  - D. 35
6. According to the passage, which of the following was not part of the joint team of the support team?
  - A. Cooks
  - B. Porters
  - C. Doctors
  - D. Guides
7. "**this**" paragraph 1 line 5 refers to
  - A. Kilimanjaro
  - B. Tanzania
  - C. Ben Nevis
  - D. Snowdon
8. For me, ...'**me**' paragraph 3 line 5 refers to:
  - A. The writer
  - B. The guide
  - C. The porter
  - D. The cook
9. According to the passage the writer is a Scottish professional in mountain climbing.
  - A. True
  - B. False
10. The writer believes that the African Walking Company has emerged as one of most well respected outfits, for its workers and sustainability for the environment.

- A. True B. False
11. Based on the information from the passage, mountains in Scotland and Wales are higher than other mountains in Africa including Mount Kilimanjaro. A. True B. False
12. 'wage' paragraph 3 line 4 means  
A. payment B. labor C. title D. respect
13. The main purpose of paragraph 4 is to:  
A. describe the panoramic view of Mount Kilimanjaro  
B. introduce the challenging route of Mount Kilimanjaro as you climb up  
C. provide evidence why the AWC has emerged as one of most well respected outfits  
D. show that the number of tourists has increased dramatically.
12. In paragraph 4, it is stated that:  
A. Lemoshio route is located in the Senecio Forest  
B. the Senecio Forest lies along Lemoshio route  
C. Lemoshio route lies along the the Senecio Forest  
D. the Senecio Forest lies along the Machame route
13. Based on the passage, the highest topography of Mount Kilimanjaro is  
A. scree fields B. snow and rock C. forest D. bushy field
14. *instill* paragraph 3 line 6 means  
A. develop B. avoid C. escape D. live
15. The attitude of the writer to the guides and porters of the AWC seems to be:  
A. Positive B. Negative C. Unknown D. bad
16. In paragraph 4, the writer states that ...I find incapable of doing anything else. This was because  
A. she was exhausted  
B. she noticed that the promised lunar eclipse has failed to materialize  
C. No one calls to "pole, pole" at this stage  
D. she was disoriented
17. paragraph 4 line 6 *materialize* means  
A. happen B. enter C. construct D. rise
18. The most physically and mentally grueling experience of writer's life is her:  
A. book entitled: "Kilimanjaro" C. journey to Scotland  
B. climbing at Mount Kilimanjaro D. mountains in Wales
19. This piece of writing may be written to:  
A. educate students C. conduct investigation  
B. entertain people D. urge people
20. ..., guides and cooks assigned to our group of 14 is organized with military precision. Paragraph 3 line 7. What does the writer mean when she states "**organized with military precision?**"

- A. The guides and porters showed genuine time management  
 B. The guides and porters were reluctant to share secrets  
 C. They were cooperative only when danger encountered the travelers  
 D. There were some military personnel with them.
21. **'it'** paragraph 4 line 3 refers to  
 A. Mount Kilimanjaro  
 B. Lemosho  
 C. Senecio Forest  
 D. Machame route
22. **'this'** paragraph 4 line 4 refers to  
 A. The rock  
 B. The summit day  
 C. The jungle  
 D. The field
23. In the passage, it is stated that the number of adventure tourists continues to  
 A. increase  
 B. decrease  
 C. fall  
 D. remain the same
24. The starting point of the summit at Kilimanjaro is  
 A. Lemosho route  
 B. Londorossi Gate  
 C. The Senecio Forest  
 D. Machame
25. The writer describes Scotland's Ben Nevis and Mount Snowdon in Wales as **molehills** in comparison to Mount Kilimanjaro to mean that  
 A. Kilimanjaro is shorter  
 B. The bases of both mountains are Molehills  
 C. They are similar in topography  
 D. Kilimanjaro is the highest
26. Inferring from the passage, 'pole' that was used by the writer can be a new word from  
 A. Zulu  
 B. Swahili  
 C. Arabic  
 D. English
27. **'They'** paragraph 3 line 3 refers to  
 A. Tourists  
 B. The porters and guides  
 C. Cooks assigned to the group  
 D. Soldiers
28. Which of the following benefit was not provided to AWC porters and guides?  
 A. Scholarship  
 B. first aid training  
 C. training on guiding skills  
 D. English language lesson

## Appendix B: Posttest Reading comprehension Questions

Name\_\_\_\_\_ Gender\_\_\_ Department\_\_\_\_\_ Year of study\_\_\_\_\_

### I. Read the following passage and answer the questions that follow.

#### Family physicians – an endangered species?

Many Canadians are aware that problems with the nation's health care system have resulted in a lack of hospital beds and medical equipment, overcrowded emergency rooms, long surgical and diagnostic waiting lists, and not enough long term care homes. But with 3.6 million Canadians unable to find a family doctor, a particularly **insidious** and growing problem is making **itself** evident.

The family doctor is the cornerstone of the nation's health care system. The vast majority of Canadians have said many times over that they want their family doctor to be **their** first point of contact in the health care system. Nevertheless, family doctors are becoming a dying breed. With **diminishing** access to that first point of contact, many Canadians in need of medical help are finding **it** increasingly difficult to receive timely and appropriate care. In my province of British Columbia, the **conservative** estimate is that 200,000 British Columbians looking for a family doctor cannot find one.

There are many reasons for this **predicament**. Over the last 10 years, the number of medical students choosing family practice as **their** lifelong career has been dropping at a startling rate. It used to be that 50% of students chose family practice as their first choice. As of 1997, that proportion had fallen to 35%; in 2004, it has declined further to 24%. At a time when the population is living longer and increasing in size, these are alarming statistics.

When asked why they lack interest in family medicine, students cite a **daunting** student debt load (often more than \$100,000 upon graduation) and the long hours required of a doctor **who** is managing a family practice. As in other kinds of work, young doctors today want a balance between their professional and personal lives.

1. What does the title suggest about family doctors?

- |                                |  |
|--------------------------------|--|
| A. They are no longer needed.  | C. They will soon become extinct.        |
| B. They are too few in number. | D. They are rapidly leaving the province |

2. Over the last 10 years, the number of medical students choosing family practice as their lifelong career has been dropping at a **startling** rate. It means that students choice on family practice has been

- |                                   |                       |
|-----------------------------------|-----------------------|
| A. increasing dramatically        | C. growing gradually  |
| B. decreasing at a startling rate | D. remaining the same |

3. The writer mentions 200,000 British Columbians to show that Canadians
  - A. have adequate health care
  - B. cannot find health officers
  - C. have diminishing access to public health
  - D. cannot find a family doctor
4. According to the article, which step does not need to be taken to remedy?
  - A. Encourage a healthy lifestyle
  - B. Family practice
  - C. Reduce student debt load
  - D. Restructure expectations of young doctors
5. What is the primary purpose of the article?
  - A. to inspire young people to consider a career as a family doctor
  - B. to inform readers about the day to day stresses placed on a family doctor
  - C. to make readers feel sympathy for the difficulties experienced by family doctors
  - D. to convince readers that the declining number of family doctors must be addressed
6. Based on the information in the passage, the most important of the Canadian health care system is
  - A. Family planning
  - B. The family doctor
  - C. . Malaria
  - D. Contagious diseases
7. In 2004, the number of students who chose family practice declined to
  - A. 35%
  - B. 50%
  - C. 12%
  - D. 24
8. Which of the following was not a factor for the declining of family doctor in Canada?
  - A. population is living longer
  - B. population is increasing in size
  - C. economic instability
  - D. students' choice
9. The cost share for a medical doctor graduate can be the primary cause for the lack of
  - A. students' interest in family medicine
  - B. death of people in malaria affected areas
  - C. poor quality education
  - D. low economic progress
10. Canadians have never been aware of the cause of the health care system
  - A. True
  - B. False
11. Canadians need to get British family doctors
  - A. True
  - B. False
12. The number of students who want to be a family doctor is increasing alarmingly
  - A. True
  - B. False
13. Young doctors today want a balance between their professional and personal lives in terms of being a family doctor.
  - A. True
  - B. False
14. According to the passage, the writer lives in British Columbia
  - A. True
  - B. False
15. Which of the following problems is not stated as the Canadian health care system?
  - A. low quality of medicines
  - B. lack of hospital beds
  - C. lack of medical equipment
  - D. overcrowded emergency rooms

16. It is stated in the passage that the number of Canadians that are unable to find a family doctor is  
 A. 200, 000                      B. 500,000                      C. 3.6 million                      D. 1.2 million
17. According to medical students, what is responsible for their reluctance to become family physicians?  
 A. student debt and long working hours                      C. limited number of places in medical school  
 B. high malpractice insurance premiums                      D. an increasing number of patients
18. **Insidious** paragraph 1 line 4 means  
 A. causing serious harm                      C. known  
 B. helping to improve                      D. stagnant
19. **Diminishing** paragraph 2 line 4 means  
 A. becoming large                      C. equalizing  
 B. becoming small                      D. increasing
20. **startling** paragraph 3 line 2 means  
 A. common                      B. surprising                      C. slow                      D. gradual
21. **dying breed** paragraph 2 line 3 means  
 A. decreasing                      B. increasing                      C. fast                      D. slow
22. **predicament** paragraph 3 line 1 means  
 A. comfort                      B. difficulty                      C. Safety                      D. Solution
23. **daunting** paragraph 4 line 1 means  
 A. making less confident                      C. supporting  
 B. encouraging                      D. revising
24. **conservative** paragraph 2 line 6 means  
 A. lower than the given                      C. Accurate  
 B. higher than the given                      D. Imagination
25. **they** paragraph 2 line 2 refers to  
 A. Canadians                      B. British                      C. doctors                      D. students
26. **who** paragraph 4 line 2 refers to  
 A. a teacher                      B. a student                      C. a doctor                      D. a merchant
27. **their** paragraph 2 line 2 refers to  
 A. Doctors'                      B. Canadians                      C. Farmers                      D. Patients
28. **it** paragraph 2 line 4 refers to  
 A. education                      B. medical help                      C. sport                      D. tax
29. **itself** paragraph 1 line 4 refers to  
 A. finding a doctor                      B. hospital                      C. equipment                      D. nation

30. **their** paragraph 3 line 2 refers to

- A. Nurses
- B. medical students
- C. Farmers
- D. Doctor

### Appendix C: Item Difficulty of Pre and Posttest Reading comprehension questions

#### Pretest Reading Comprehension Questions Items with Item Difficulty

Item	Item difficulty	Item	Item difficulty
1.	0.61	16.	0.51
2.	0.19	17.	0.77
3.	0.61	18.	0.38
4.	0.42	19.	0.17
5.	0.50	20.	0.59
6.	0.18	21.	0.79
7.	0.90	22.	0.16
8.	0.57	23.	0.54
9.	0.54	24.	0.75
10.	0.77	25.	0.45
11.	0.36	26.	0.77
12.	0.81	27.	0.91
13.	0.44	28.	0.62
14.	0.55	29.	0.16
15.	0.42	30.	0.75

#### Posttest Reading Comprehension Questions Items with Item Difficulty

Item	Item difficulty	Item	Item difficulty
1.	0.75	16.	0.81
2.	0.27	17.	0.75
3.	0.77	18.	0.27
4.	0.51	19.	0.36
5.	0.78	20.	0.50
6.	0.44	21.	0.57
7.	0.62	22.	0.66
8.	0.79	23.	0.55
9.	0.77	24.	0.62
10.	0.81	25.	0.45



11.	0.51	26.	0.77
12.	0.81	27.	0.29
13.	0.61	28.	0.75
14.	0.54	29.	0.57
15.	0.54	30.	0.45

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