

# The Effects of the 3-2-1 Reading Strategy on EFL Reading Comprehension

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## Abstract

This quasi-experimental study tested the effect of the 3-2-1 strategy on English as a foreign language (EFL) learners' reading comprehension. A sample of Saudi EFL college-level students were randomly selected and divided into two groups: an experimental group (42 students) and a control group (43 students). Students of both groups took a reading comprehension test at the beginning of the 2010 academic year. The researcher used the 3-2-1 strategy when teaching the experimental group for six weeks whereas the students in the control group were not trained on the strategy. Students were matched according to their reading proficiency, taught by the same teacher (the researcher), and were similar in age. After six weeks of instruction, both groups completed the same reading comprehension test again. Measures of the means, standard deviations, and ANCOVA were used to determine the differences between the two groups. The study revealed that at the end of the six-week instruction, there was a significant statistical difference in reading comprehension between the two groups that favored the experimental group. The study concludes with recommendations for training EFL students and teachers on using different comprehension strategies, especially those that have proven to be effective in boosting reading comprehension such as the 3-2-1 strategy.

**Keywords:** ESL/EFL Reading, Reading strategies, Strategies instruction

## 1. Introduction

For foreign language learners, reading is the most important skill to acquire. Reading helps ESL/EFL learners build their vocabulary, leading them to enduring learning and improvement in L2 learning skills (Carrell, 1989). Therefore, ESL reading research has long been interested in various aspects that affect reading comprehension, especially reading strategies. The main focus of the bulk of this research is to determine how reading strategies contribute to effective reading and how teachers can incorporate these strategies into reading instruction.

As part of this research effort, the current study investigated the effectiveness of a modern reading strategy (3-2-1) in improving EFL students' reading comprehension. The 3-2-1 strategy is an active and meaningful method that helps students engage and interact with the text (Zygouris-COE, et. al, 2005). The interactive model is a widely accepted model of reading that is based on cognitive psychology and schema theory. In this model, the reader has an active role in interpreting the text. In other words, the reader is more than a passive participant who receives information, and the active text makes itself and its meanings known to him (Rumellhart, 1994). Therefore, in this cognitive model, the reading process is characterized as a give and take between the reader and text. Accordingly, the more students engage and interact with the text, the higher the probability of comprehension (Rumellhart, 1994).

## 2. Literature Review: The Reading Process

Language theorists and reading specialists have made significant strides in explaining the reading process. Their work has leaned on foundational theories of human learning, psychology and sociology to yield different hypotheses and thus suggest different reading theories and models. There are two types of theoretical processes: bottom-up processes and top-down processes. The former takes in letters and words from the outside world and manages them with little recourse to higher-level knowledge. By comparison, top-down processes are characterized as the intake of information based on the reader's prior knowledge and expectations (Goodman, 1994).

Different cognitive theories of reading place varying degrees of emphasis on the two approaches. Theories that emphasize the bottom-up approach focus on the processes readers use to extract information from the printed text. The proponents of these theories claim that readers manage letters and words in a complete and systematic way (Gough, 1972). In contrast, theories that stress top-down processing claim that readers mainly conduct a type of

hypotheses testing regarding words they will encounter and then take in only enough visual information to test their hypotheses (Goodman, 1967; Smith, 1971).

From another perspective, Dugan (1997) explains reading through a social constructivist view. Effective reading in Dugan's model depends on creating a learning environment in which readers can learn from each other in what Dugan calls Transactional Literature Discussions (TLD). In TLD, teachers and students collaborate to build upon each other's responses and to deepen their understanding of the text. Through group previews and prediction making, reading and thinking aloud, "wondering on paper", group discussions and reflections, free writing, and group reviews, Dugan creates an instructional approach that promotes reading as a complex and on-going process of meaning making, response and reflection.

However, the interactive model appears to be the most promising in explaining the reading process. The model encompasses different types of first-language and second-language reading, incorporates both bottom-up and top-down processes, and recognizes the contribution of both the reader and the text (Grabe, 1991). The interactive model also recognizes reader variables such as background knowledge, prediction, and other global reading processes, which are unaccounted for in bottom-up models but accounted for in all aspects of in top-down reading models.

### *2.1 Reading Strategy Instruction*

Garner (1987) defined a strategy as "generally deliberate activities undertaken by active learners, many times to remedy perceived cognitive failure" (p. 50). Moreover, Paris et al. (1983) defined a strategy as considerable, deliberate actions or skills. Reading research has proven that skilled readers possess a number of flexible and teachable comprehension strategies that they utilize before, during, and after reading (Baker & Brown, 1984). In this regard, Houtveen et al. (2007) reported that strategy use positively affected reading comprehension. They found that teachers who applied superior metacognitive strategy instruction produced students who made greater progress in metacognitive knowledge. Furthermore, Houtveen et al. (2007) found that students who were trained in the use of reading strategies had substantially better reading comprehension results than those who were not trained. The overall conclusion was that teachers can teach their students metacognitive skills and that these skills will in turn lead to better results in reading comprehension (Houtveen et al., 2007).

Moreover, Wilhelm and Li (2008) state that "Effective readers appear to employ: i) bottom-up processes, ii) top-down processes, iii) use of schema, and iv) reader-text interaction" (p. 97). Therefore, when teaching reading, EFL teachers should help students acquire a global understanding of the text before tackling the text at lower levels, i.e., the sentence level and paragraph level. Additionally, reading strategy instruction helps students learn how effective they are in their use of reading strategies (Wilhelm & Li, 2008).

Therefore, "For most second language learners who are already literate in a previous language, reading comprehension is primarily a matter of developing appropriate and efficient comprehension strategies" (Wilhelm & Li, 2008, p. 291). Brown (2001) suggests that EFL teachers should emphasize using both bottom-up and top-down strategies according to students' needs and levels. Through this method, reading instruction helps students understand that reading is an interaction between the reader and writer (Vacca & Vacca, 2005). The reader draws upon background knowledge and language skills to process the ideas of others.

Many researchers have attempted to foster improved metacognition and comprehension through the direct instruction of strategies. Studies conducted on reading instruction and reading strategies indicated that non-proficient L1 and L2 readers either do not possess knowledge about strategies or mainly engage in bottom-up strategies. Other studies such as that by Alsamadani (2009) indicate that the quality of reading strategies is vital, whereas the quantity of reading strategies used while reading does not guarantee greater reading comprehension. All of these studies suggest that reading teachers can teach their students to use quality strategies not only to improve their reading comprehension, but also to increase awareness of their own performance as they read.

Research findings also support the teaching of specific strategies to improve reading comprehension (Anderson & Roit, 1993; Block, 1993; Deshler & Schumaker, 1993). Brown (2001) and Mikulechy (1990) have listed some of these strategies including, but not limited to, automatic decoding, identifying genre, questioning, skimming, and finding the topic sentence and the main idea. EFL teachers should not only teach how to use strategies, but also when and why strategies are used in a certain context. Garner (1990) emphasized the importance of teaching metacognitive skills (conditional knowledge) in strategic reading behavior. A reader's metacognitive knowledge about reading includes an awareness of a variety of reading strategies (Sheorey & Mokhtari, 2001). Sheorey and Mokhtari (2001) state that "It is the combination of conscious awareness of the strategic reading processes and the actual utilization of reading strategies that distinguishes the skilled from the unskilled readers" (p. 433).

Therefore, it is argued that learners' failure or success in using strategies depends on the setting in which these strategies are learned. Without knowing when and why to apply a specific strategy, reading cannot be flexible and adaptive (Paris et al., 1991). Strategic readers are not characterized by how many tactics they use, but rather by the quality and selection of reading strategies that fit the text, the purpose of reading, and the time and place of reading (Paris et al., 1991; Alsamadani, 2009).

The goal of the current study was to add to this body of research. The 3-2-1 strategy is a multi-strategy because it involves more than one strategy. It entails creating what Dugan (1997) calls "Transformational Literature Discussion", in which students learn from each other. The strategy also includes monitoring comprehension strategies, in which students summarize the main ideas of the text, find the two most important ideas, and share these ideas with their classmates. Finally, the 3-2-1 reading strategy involves training students on recalling what was read by summarizing the three most important points in the text. Additional information regarding the steps of the 3-2-1 strategy is presented in the following section.

### *2.2 Steps of 3-2-1 Reading Strategy*

Among the interactive reading strategies, the 3-2-1 strategy helps students participate by summarizing ideas from the text, encourages them to think independently and invites them to become personally engaged in the text. Students can use the 3-2-1 strategy either while or after reading a textbook, a novel, an article, or other instructional text. The 3-2-1 strategy consists of the following three stages.

First, the student must discover three ( 3 ) items in the text that he/she read. This is an effective way for reading teachers to tackle the problem of passive participation from students. During this first step, students summarize and cite three different major points or details they found while reading the passage (Bergman, 1992). In doing so, students are encouraged to pay particular attention to what they read by identifying key facts and sharing their understandings of the text by writing and explaining meaning in their own words.

Second, students are asked to share two of the three interesting items that they have identified. The possibilities for items of interest in the texts are endless (Zygouris-COE, et al., 2005). However, this step sets the limit at two items to teach and train students how to summarize and then pick the most interesting things that they found in the text.

Finally, students write one question about the text. Students can ask factual questions, clarify their understanding of the sequence of events, and verify their general understanding of the reading. Here, students practice active questioning by becoming engaged in class discussion, which serves to build mutual knowledge of the text (Beck & McKeown, 2002).

## **3. Purpose of the Study**

It is widely known among reading instructors that the ultimate goal of reading is comprehension. Therefore, it is the job of reading instructors to identify strategies that help their students achieve this goal. As part of this effort, the current study aimed at validating the use of 3-2-1 strategies in EFL reading instruction. More specifically, this study aimed to test the effect that training Saudi EFL students in using the 3-2-1 strategy, while reading English texts, has on their reading comprehension. By evaluating the effectiveness of this strategy on reading comprehension, it is hoped that more students will be trained to use it to facilitate and improve their comprehension. Hence, the present study is of vital importance to EFL/ESL instructors in many ways. First, the results of this study will aid in planning, implementing and evaluating reading strategy instruction. Second, the results will aid in training EFL teachers in different reading strategies.

Finally, most studies that have investigated the effectiveness of reading strategies on comprehension recommended a variety of strategies; however, no previous studies have examined the effectiveness of the 3-2-1 reading strategy. The current study is the first that aims to test the effectiveness of the 3-2-1 strategy in improving EFL reading comprehension.

## **4. Methodology**

### *4.1 Research Question & Hypothesis*

The research question of this study was as follows: What is the effect of training Saudi EFL students in the 3-2-1 strategy on their EFL reading comprehension? In other words: Will learners in the experimental (3-2-1) group achieve significantly higher scores on a test of reading comprehension than those in the control group?

Based on the findings of previous research on the effectiveness of reading strategies in improving comprehension, the current study tested the following hypothesis:

There is a significant statistical difference in reading comprehension scores between the mean scores of students who are trained on using the 3-2-1 strategy and the mean scores of students who are not trained.

#### 4.2 Participants

Participants in the current study were all enrolled at King Abdul-Aziz University (KAU). The total number of participants was 85, and they ranged between 18 and 23 years of age. Students were matched based on their scores on the proficiency test administered by the English Language Institute at KAU. They were classified as low-intermediate level. The sample was divided into four classes: two experimental, with a total of 42 students, and two control, with a total of 43 students. These four classes were assigned to the researcher, who taught them English using “North Star” series level 2. Experimental and control groups were randomly assigned by the researcher at the beginning of the semester.

#### 4.3 Instruments

The instruments used for data collection in this study were pre- and post-reading comprehension tests. The test, which was slightly beyond the students’ comprehension level, was composed of two reading passages followed by 10 comprehension questions. The questions asked for main ideas (2), specific details (factual questions) (6), and a summary of the passages (2).

Reading comprehension is typically defined as constructing a mental representation (meaning) of textual information and its interpretation (Van Den Broek & Kremer, 2000). Aarnoutse and Van Leeuwe (2000) defined it as extracting meaning from written words, sentences, and texts. However, in the current study, the test measured students’ comprehension level through measuring their ability to:

- Find the main idea of the passage correctly;
- Answer factual questions about the passage correctly;
- Recall and summarize the passages. The recall/summary question was given to students after they completed all of the previous questions and the teacher had collected their answers.

#### 4.4 Reliability of the test

The reliability of the reading test was measured by using the test-retest procedure. In the first week of the semester, the test was administered to a group of low-intermediate students who were enrolled in the same program but were not included in the study sample. Two weeks later, the same test was re-administered to the same group and proved to be highly reliable: Cronbach alpha = .84.

#### 4.5 Procedures

The research took place in the period from January through March 2010. Pre-test data were collected at the beginning of the semester prior to the initiation of the intervention. Post-test data collection was conducted at the end of the six weeks, i.e., after the completion of the experimental intervention. The researcher first modeled the 3-2-1 strategy to the experimental group and ensured that each student understood how to use it effectively. There are three fundamental components of the 3-2-1 strategy. First, students summarize important points from text. Second, they share insights regarding the parts of the passages that are most interesting to them. Finally, students are given opportunities to ask questions about the text and discuss them with their peers.

These steps were fully explained and modeled to students in the experimental group until the researcher was confident that the students learned how to use them. Then, at the beginning of each regular reading class (typically 100 minutes in duration), students used the 3-2-1 strategy before approaching the book exercises. The class began with the teacher previewing the topic and then allowing the students to practice the 3-2-1 strategy. The students individually read, summarized, shared, and discussed the reading for 30 minutes and then completed the book exercises in small groups. With the control group, the researcher followed the directions in the teacher’s manual. The control group class began with previewing the topic and new vocabulary. Then, students read silently. Finally, they completed the exercises in small groups.

### 5. Results and Discussion

Before performing the main statistical test to answer the research question, descriptive results were obtained to achieve a general understanding of the differences between the means of the two groups. Table 1 shows that the control group’s mean pre-test score was 9.2 and the post-test score was 11.5. On the other hand, the experimental group’s mean pre-test score was 9.8 and post-test score was 15.3.

These statistics indicate that there was a difference between the mean scores of the two groups. To determine the significance of this difference and to answer the research question (will learners in the experimental (3-2-1) group achieve significantly higher scores on a test of reading comprehension than those in the control group?), a one-way between-groups analysis of covariance was conducted to measure the effectiveness of the 3-2-1 reading strategy on

students' reading comprehension. The independent variable was the 3-2-1- strategy, and the dependent variable consisted of students' scores on a reading comprehension test given to them after they were trained on how to use the strategy. Participants' scores on the pre-test were used as the covariate in this analysis.

The results of the ANCOVA (as shown in table 2) show that there was a significant difference between the mean scores of the two groups on post-reading test scores,  $F(1, 82) = 130.4, p = .000$ , partial eta squared = .61. The partial eta squared value indicates that 61% of the variance in students' comprehension scores is explained by the use of the 3-2-1 strategy (independent variable).

To gain additional knowledge regarding the effect of using the 3-2-1 strategy on each aspect (type) of the reading comprehension questions (i.e., ability to find the main idea, answer factual questions, and summarize the reading text), the researcher conducted analyses at each comprehension question level. Before running an ANCOVA for each item, alpha was re-adjusted to .01 to avoid maximizing the probability of a type I error (Tabachnick & Fidell, 2007).

Table 3 shows the results of the ANCOVA for the first type of reading comprehension question (ability to find the main idea). The results indicate that there was a statistically significant gain in scores for the main idea questions,  $F(1, 82) = 32.02, p = .000$ , partial eta squared = .28. This result suggests that students provided more correct answers to the main idea questions in the post-test than in the pre-test.

The results of the ANCOVA for the factual/details questions are shown in table 4. These results show a strong effect of strategy use on the students' ability to answer questions about text details,  $F(1, 82) = 88.23, P = .000$ , partial eta squared = .52. The value of the partial eta squared indicates that 52% of students' ability to answer details/factual questions can be explained by the use of the 3-2-1 strategy. One explanation for this strong effect is that students used the discussion time to determine their understanding (comprehension) and utilized questions to strengthen this understanding.

Finally, table 5 shows the results of the ANCOVA for the summary questions. The results indicate that there was no statistically significant effect of the strategy used on the students' ability to summarize the text,  $F(1, 82) = 0.03, p = .870$ , partial eta squared = .00. This result can be explained by the fact that the ability to summarize a text is dependent on more than just understanding the text. Many other variables, such as the students' ability to express their understanding in writing and to recall what they read, can impact this process.

To conclude these findings, it is obvious that the main idea questions and the details/factual questions were highly influenced by the use of the 3-2-1 strategy (especially the second type). However, the students' ability to summarize the text was not influenced by the independent variable (3-2-1 strategy use). Thus, these findings indicate significant improvement in students' general reading comprehension as a result of the use of the 3-2-1 strategy. The results of this study are supported by both theoretical and empirical findings from previous research studies. The observed differences in the students' reading comprehension confirm the findings of previous studies in both L1 and L2 reading, which have demonstrated that reading strategy instruction improves reading comprehension and performance.

The findings also confirm that the 3-2-1 strategy helps students become engaged with the text by maximizing their metacognitive monitoring skills. Students in the experimental group had time to think about their comprehension of the text before they began answering the questions. On the contrary, students in the control group were instructed to read the text and then to answer the questions without pausing, thinking about their comprehension, questioning, and summarizing the most important points in the text.

These findings have important pedagogical implications. EFL teachers are encouraged to devote sufficient time for students to interact, manipulate ideas, and express their understanding of the text. Students should also have time to discuss their understanding with their peers. This discussion helps raise their awareness of their comprehension, determine their level of comprehension, and self-correct their mistakes.

## 6. Conclusion

The current study aimed to test the effect of using the 3-2-1 strategy on EFL students' reading comprehension. In this study, reading comprehension was evaluated by measuring the students' ability to identify the main idea of the passage correctly, answer factual questions correctly, and recall and summarize the passages. Based on daily observations throughout the six weeks of instruction and the quantitative results of this study, it is suggested that the 3-2-1 strategy gave students the opportunity to pause, read and review the texts. It required students to consider what they had learned and to process the information they had been exposed to during the lesson. Moreover, when students apply this strategy to their learning, they automatically synthesize information and formulate questions regarding the topic of study. Therefore, this study calls for a greater focus on teaching metacognitive reading

strategies to EFL students to increase the awareness of their comprehension and their ability to self-regulate their learning.

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Table 1. Means and Standard Deviations of Pre and Post-test

Group	Mean	Std. Dev.	N
Experimental	Pre: 9.83	Pre: 2.85	42
	Post:15.28	Post: 2.68	
Control	Pre: 9.21	Pre: 2.66	43
	Post:11.47	Post: 2.71	

Table 2. Tests of Between-Subjects Effects

Source	df	Mean Square	F	Sig	Partial Eta Squa
Corrected Model	2	391.728	230.56	.000	.849
Intercept	1	184.237	108.43	.000	.569
Pre-test	1	465.716	274.10	.000	.770
Group	1	221.553	130.40	.000	.614

R Squared = .849 (Adjusted R Squared = .845)

Computed using alpha = .05

Table 3. Tests of Between-Subjects Effects (Question 1)

Source	df	Mean Square	F	Sig	Partial Eta Squa
Corrected Model	2	29.62	24.30	.000	.37
Intercept	1	16.55	13.57	.000	.14
Pre-test Q1	1	13.26	10.88	.000	.12
Group	1	39.04	32.02	.000	.28

R Squared = .372 (Adjusted R Squared = .357)

Computed using alpha = .01

Table 4. Tests of Between-Subjects Effects (Question 2)

Source	df	Mean Square	F	Sig	Partial Eta Squa
Corrected Model	2	98.77	89.13	.000	.68
Intercept	1	158.67	143.18	.000	.64
Pre-test Q2	1	87.03	78.53	.000	.49
Group	1	97.78	88.23	.000	.52

R Squared = .685 (Adjusted R Squared = .677)

Computed using alpha = .01

Table 5. Tests of Between-Subjects Effects (Question 3)

Source	df	Mean Square	F	Sig	Partial Eta Squa
Corrected Model	2	11.14	19.32	.000	.32
Intercept	1	167.06	289.68	.000	.78
Pre-test Q3	1	22.24	38.57	.000	.32
Group	1	0.02	0.03	.870	.00

R Squared = .320 (Adjusted R Squared = .304)

Computed using alpha = .01