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2021

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ABSTRACT

The present study investigated the effectiveness of utilizing inferencing strategy in developing some EFL reading comprehension skills among Faculty of Education students. The design of the study was pre-post one experimental group design. The study sample consisted of 30 students selected from second year students enrolled at the English section in the academic year 2020-2021 at Faculty of Education, Benha University at the second term. The instruments and materials of the study were: an EFL reading comprehension skills checklist including six main skills and 20 sub-skills, an EFL reading comprehension skills pre-posttest and a rubric for scoring it and text modification strategies based program. The EFL reading comprehension skills test was administrated to the participants then they were taught using inferencing as a text modification strategy. After that, they were post-tested using the EFL reading comprehension skills test. The findings of the study revealed that EFL reading comprehension skills were developed due to the use of inferencing strategy for developing some EFL reading comprehension skills among second year students enrolled at English department Faculty of Education.

Key words: Text Modification – Inferencing strategy – EFL reading comprehension skills

ملخص البحث باللغة العربية:

هدف هذا البحث إلى التعرف على فاعلية استراتيجية الاستدلال في تنمية مهارات الفهم القرائي في اللغة الانجليزية كلغة أجنبية لدى طلاب الفرقة الثانية شعبة اللغة الانجليزية بكلية التربية جامعة بنها. لقد تم استخدام التصميم التجريبي ذو المجموعة الواحدة (قبلي بعدي) و لقد بلغت عينة الدراسة ثلاثين طالبا تم اختيارهم من طلاب الفرقة الثانية المقيدون بشعبة اللغة الإنجليزية بكلية التربية بينها. شملت أدوات الدراسة: قائمة بالمهارات اللازمة لهؤلاء الطلاب مقسمة إلى ست مستويات رئيسية و عشرين مهارة فرعية، اختبار قبلي_بعدي لقياس مهارات الفهم القرائي لدي العينة. تم تطبيق اختبار الفهم القرائي للغة الإنجليزية كلغة أجنبية قبلها على المشاركين ثم التدريس لهم باستخدام فاعلية استراتيجية الاستدلال ، وبعد ذلك ، تم تطبيق الاختبار بعديا لقياس مدى التقدم في مستوي أدائهم. تم اجراء الدراسة في الفصل الدراسي الثاني من العام الجامعي ٢٠٢٠/٢٠٢١. وقد كشفت النتائج أن مهارات الفهم القرائي للغة الإنجليزية كلغة أجنبية تم تميمتها نتيجة لاستخدام فاعلية استراتيجية الاستدلال. و أكدت النتائج فاعلية استخدام استراتيجية الاستدلال في تنمية بعض مهارات الفهم القرائي للغة الإنجليزية كلغة أجنبية لدى طلاب الفرقة الثانية في شعبة اللغة الإنجليزية بكلية التربية.

كلمات مفتاحية: التعديل النصي، الاستدلال، مهارات الفهم القرائي باللغة الانجليزية كلغة اجنبية

Introduction

The ability of the mind to perceive and understand ideas can be described as comprehension. For this concern, comprehension requires mental processes to appreciate, understand and recognize essential information within the text. Therefore, the reader can draw information that is directly or indirectly stated within the text to understand its purpose (Rodriguez, 2017).

Miller (2002) mentioned that reading comprehension is the reader's ability to grasp meaning from any type of written material (text). Snow (2002:11) defined reading comprehension as "the process of simultaneously extracting and constructing meaning through interaction and involvement with written language". Both verbs "either extract or construct", were used to refer to the importance and the insufficiency of the text as a determinant of reading comprehension which has three elements: the reader who is comprehending, the text that is to be comprehended and the activity in which comprehension is part of. Brassell, Rasinski and Yopp (2008) defined reading comprehension as an active process in which the reader does not get the meaning by just reading the text but it requires the reader to use the notion of grasping meaning from the overall text.

Educational research shows the importance of reading to enrich the educational process in general. Jubani, Lama and Gjokutaj (2012) reported that students who can read and understand achieve high scores than their poor colleagues at school. Moreover, Bolos (2012) and Buyuktasapu (2012) stated that students who read more stories than others perform much better in reading and writing and so in comprehension. Spooner, Gathercole and Baddeley (2006) said that understanding is the end goal of reading comprehension, because reading comprehension helps in gaining more consciousness about the information found in different texts. So, many students who lack the skill of understanding texts have some weaknesses in decoding skills.

Many educationists assured the importance of reading comprehension because students' success and progress in schools depend on their ability to read and understand. Crain-Thoreson, Lipman and McCledon-Magnuson (1997) point out that there is a positive correlation between reading comprehension and school success. Sorba (1995) suggested that

comprehension is the final goal of reading, so comprehension failure may lead to school failure. This final goal may lead to build a sophisticated reader who has the experience to look inside the text, with his thoughts and emotions.

It can be concluded that excellent reading comprehension skills is crucial for dealing with different types of texts. It increases the reader's enjoyment of reading and helps readers academically as well as professionally. It helps achieve better in the whole fields of the general life. Any lack in reading comprehension skills obviously affects the student's success at school. The final end of reading is comprehension and understanding. So, reading without understanding is frustrating and aimless. The final goal of comprehension is to develop the students' knowledge, skills and experiences.

Shcumm (2006) asserted that the comprehension process involves an understanding of words and how these words are used to create meaning. Comprehension entails three elements: the reader, the text and the activity or the task.

1. The readers' role is to comprehend. The reader must have specific abilities such as cognitive abilities, motivation and various types of knowledge, in order to comprehend the text.
2. The text is the object of comprehension. The features of the text have a large effect on comprehension. Comprehension does not occur by simply extracting meaning from the text. Texts can be easy or difficult, and the factors in which the text is considered an easy or a difficult one, have a strong relation to the readers' knowledge and experience.
3. The activities that facilitate comprehension. A reading activity involves one or more purposes, some operation to process the text at hand, and consequences of performing the activity. The consequences of reading are part of the activity. Some reading activities lead to an increase in the knowledge that the reader has. Another consequence of the reading activity is finding out how to do something.

Based on the previous, it can be concluded that students' reading levels differ for many reasons. So, teachers have to play an important role in moving students from lower levels to higher ones. University instructors have to search for different strategies and methods to allow students to understand different types of texts including modification strategies.

Teachers have to clarify to the students how the modified material is the same as the original source, with the same ideas just with different words. In this way, readers with certain difficulties may have their reading skills improved not only through increased vocabulary, but through word association as well.

Text modification or input modification is based on Krashen's (1985) input hypothesis which explains that comprehensible input can lead to acquisition so that input can be made comprehensible by simplifying it. In other words, input must be comprehensible so that acquisition can happen. Input can be made comprehensible in two ways: pre-modified input and interactionally modified input. The pre-modified refers to input which is modified before being supplied to the learner; the latter refers to input that is modified through negotiation for meaning in interaction. Parker and Chaudron (1987, p. 110) mentioned that pre-modified input is classified into three types: simplification, elaboration, and enhancement. Simplification makes changes to the input so it provides fewer difficulties in the syntactic and lexical fields. Some features of simplification may include, adding sentence connectors, repeating some words and phrases, sentence splitting, deleting subordinate clauses in order to eliminate the length and complexity of sentences. On the other hand, elaboration refers to changes in which unfamiliar linguistic items are paraphrased with redundancy and explicitness. Elaboration may happen through paraphrasing, restating, slowing the rate of speech, clearer pronunciation and emphatic stress. The third kind of pre-modified input is enhancement, which refers to typographical enhancement (written input) and intonational enhancement (oral input).

Abbot and Wingard (1981) as cited in Er (2001) mentioned that input is broadly defined as a verbal experience either visual or auditory which may consist of language in use, as when reading the examples preceding an exercise that remarks that some aspect of the foreign language. Krashen (1985:2) continued that (we move from i , our current level, to $i+1$, the next level along the natural order, by understanding input containing $i+1$; ...). According to this hypothesis the unknown structures are acquired with the help of contextual information. Oh (2001) and Yano, Long and Ross (1994) mentioned that there has been considerable debate regarding how educators can best modify input to ensure that

learners can comprehend it, so, two differing types of modification that are often discussed are those of simplification and elaboration.

The advantage of modifying texts is to allow students who have some problems in FL proficiency that of the original text to read the modified text with sufficient understanding to comprehend the message. The measures of text modification can make a reading text better for vocabulary acquisition, more comprehensible, and more accessible (Nation, 2001).

Suseno and Cahyono (2016) stated that the employment of text modification is important due to several reasons. First, it provides comprehensible input so that the students can easily decode the meaning. Second, it is more appropriate to implement text modification in classroom context than in communication strategies. Third, text modification fosters students' affective factors (i.e. self-confidence, motivation).

Kulkarni and Shivananda (2019) demonstrated that text modification is also based on natural language processing (NLP) which is used to extract information from text. NLP has many techniques that is important to be utilized during the text modification process. Noun phrase extraction is crucial in analyzing the "who" in a sentence, parts of speech (POS). Tagging is another crucial part of NLP that involves labeling the words with a part of speech such as noun, verb, adjective, etc. POS is the base for question answering and word sense disambiguation. Another important technique of NLP is extracting entities from text. It is to identify and extract entities from the text, called named entity recognition which is a subtask of information extraction that requires locating as well as identifying named entity mentioned in unstructured text into predefined categories. Also, extracting topics from texts is another NLP technique named as topic modeling.

One of text modification strategies is *inferencing*. To become a good reader, students must not only acquire different vocabulary, but also know and use the strategies that allow them to deal with unknown words found in the reading material which facilitate the reading comprehension process. One of the effective strategies that allow developing reading comprehension skills is inferencing strategies with its various sub strategies including lexical inferencing, visualizing, reading between lines, conceptual inferences and making notes (Juliana, 2016). Lexical inferencing works as a sub strategy of the general inferencing process

that works at all levels of text comprehension. Lexical inferencing refers to an approach for getting a possible meaning of the unknown word or shortly as word-meaning guessing (Kangwanpradit, 2017). Lexical inferencing is considered as guessing the meaning of an unfamiliar or unknown word, word-meaning inferencing, or deriving unknown-word meanings from context (Schmitt, 2010).

Nassaji (2004) suggested a comprehensive taxonomy of lexical inferencing strategies. These strategies may include identifying, evaluating and monitoring as the three main lexical inferencing types. Identifying strategies has been defined as strategies that learners use for unfamiliar word apprehension in the text and are divided into three subtypes of strategies including repeating which happens when the learner repeats any part of the text, word analysis which happens when the learner wants to discover the meaning of any word by analyzing it into its parts and word-form analogy which happens when the learner wants to discover the meaning of any word by its sound. Evaluating strategies are those that learners use in order to make judgments and decisions about the accuracy of what they have inferred that involves two subtypes verifying and self-inquiry. Verifying may occur when the learner wants to make sure of the inferred meaning and self-inquiry that happens when the learner asks questions about the word and the meaning that has already been inferred. The third sub strategy is monitoring that happens when the learner shows by judging the ease or the difficulty of the process itself.

There are two main factors that influence the success of lexical inferencing: learner factors and text factors. Some researchers found that understanding the context depends on the learner's knowledge source, while others see that the main component determining successful lexical inferencing is learners' English proficiency level (Mohebbi & Mohebbi, 2014 and Matsumura, 2010). Kaivapanah and Moghaddam (2012) found that readers who have a higher proficiency level were able to correctly infer meaning of unknown words in context than those with lower proficiency. The cues that help and are a vital concern for learners are the words surrounding the target words, which learners know and access semantically. Teng and He (2015) investigated the use of lexical inferencing strategy, vocabulary size, and success in guessing word meaning of a group of learners. They found that learners with a larger

vocabulary size tend to perform more correct lexical guesses than those with a smaller one.

Visualizing works as another inferencing sub strategy of the general inferencing process that works at all levels of text comprehension. Research indicates that poor readers do not visualize while reading; on the other hand, readers who visualize achieve greater comprehension and recall (Tomlinson, 1997). Hobbs (2001) has pointed out that, “to enter actively into the reading process, readers must be able to visualize, making the leap to transform printed symbols to actions, events, and ideas that are clearly visible in the mind’ s eye” (p. 46). Arcavi (2003) defines visualization as the ability to work on and produce an explanation for the pictures or graphs or diagrams either with our minds, on papers or with the help of technological tools for the aim of understanding the previously mentioned unknown ideas.

Using visualizing strategies in teaching reading comprehension has many advantages; (1) helping predicting what students will read and learn from the text; (2) helping clarifying something in the text; (3) helping visualizing object(s), or creature(s) in the text; (4) helping visualizing a setting or place in the text; (5) helping visualizing the text by using the senses (seeing, smelling, tasting, hearing, or feeling); (6) helping visualizing the text by using an emotional reaction (happy, sad, excited, lonely, etc); (7) helping visualizing by using illustrations or text features in the text and (8) helping remembering the text. Visualizing strategies also provide opportunities for students to participate by imagining the events that occur in the text in their minds. Students can use all the senses such as sight, smell, taste, touch, or hearing to go through the text. Visualizing is an interactive strategy because it

involves the reader to visualize the content of reading into their minds. Readers trying to make the story into the concrete by changing the words in the story to illustrations based on the sequence of stories that are appropriate to the student's imagination. (Kelley, Michelle & Nicki, 2013 as cited in Usman, 2016).

Zwiers (2004) formulated nine steps for implementing visualizing in learning to read English, namely:

- Explain to students that text picturing in their minds is vital for understanding it.
- Show students a series of three or four pictures (or show short video clips).
- After each picture, have students close their eyes and visualize what was in the picture.
- Tell students to visualize a variation of each picture. (a picture of mountains, to have several mountain climbers on the cliffs in a snowstorm)
- Tell the students that this is what happens during reading: We start with a rough image, and text makes us modify it with other details.
- Have students imagine that they are in situations similar to those encountered in the text that they are about to study.
- Move to the written text. Read aloud a text and stop after the initial clues are given. Allow students to form picture.
- As an option, play sound effects or music if appropriate.
- Finally, have students visualize their own thoughts while they read the text.

There are many studies that proved the importance of visualizing in reading comprehension as a sub-strategy of inferencing. Ghazanfari (2009) conducted a study on the role of visualization in EFL learners' reading comprehension and recall of short stories at university level. Participants were 50 EFL participants enrolled at the English literature major at Sabzevar University of Teacher Education in Iran. Results showed that the visualizers had better performance than the non-visualizers on both tests.

Neknejad and Rahbar (2015) also investigated the effect of visualization on reading comprehension through multimedia-based texts. Researchers divided 60 Iranian intermediate EFL learners participants into three groups, each with 20 EFL learners: multimedia-based texts with static visuals, multimedia-based texts with dynamic visuals and control group with no visualization. The results of this study proved that reading comprehension while using dynamic visualization would lead to better comprehension among EFL learners. Dynamic visualization increased the motivation of learners to improve their reading comprehension.

Note Making is another inferencing sub strategy. According to Kobayashi (2005), it is said that making notes is the important instrument that helps better comprehending. Dewitt (2007) stated that note taking is a short piece of information about content to be kept in mind. Taking notes allows for just two strategies in processing the context's information in the mind thus students can make notes and write down their own words and beliefs. Students also are able to apply the written words and their ideas. Nguyen (2006) stated that note making is recognized as a critical activity which enhances learning in different contexts. Notes are essential for recalling what has been heard or seen, and can promote reflection. Babu (2016) added that note making may be defined as preparing a brief and organized written record of a given material without changing its original meaning and used as an aid to memory. Notes are essential for recalling what has been heard or seen, and can promote reflection after wards. Babu (2016) added that note making may be defined as preparing a brief and organized written record of a given material without changing its original meaning and used as an aid to memory.

Context of the problem:

Despite the importance of EFL reading comprehension skills, second year students at Faculty of Education lack EFL reading comprehension skills. Considering the English Language Teacher Education Program at Benha University, Faculty of Education, the researcher found that 10 theoretical hours and two practical hours were allocated from a total of 218 hours for the development of reading and creative writing skills distributed over the four study years. Students study four courses on reading and creative writing, one course each academic year.

Besides, examining the National Academic Reference Standards (NARS) revealed that it focused on reading skills as a basic skill in the EFL Teacher Preparation Program. NARS noted that graduated students enrolled at the English section, Faculty of Education must be able to:

- Understand author's aim.
- Derive meaning from context.
- Elicit implicit meaning.
- Identify main idea and detailed ideas.
- Analyze texts.
- Renew his linguistic knowledge continually.
- Use grammar to analyze.
- Interpret and criticize texts.
- Use grammar and rhetoric in understanding and writing text.
- Understand content of various texts and the bases of their organization.

According to the literature, many studies investigated that the weakness in reading comprehension skills in the academic texts may be due to the text itself, text length, text structure, text complexity, text density, text significance, text ambiguity, text discourse, text proportion and text content and sequence. The case that require a certain degree of treatment which is utilizing inferencing strategy.

To document the problem of the present study, the researcher conducted a pilot study on a sample of 20 second year students enrolled at the English section at Benha faculty of education during the second term of the academic year 2018-2019. The researcher

used a reading comprehension test from Long (1980). The test included questions that measure the three levels of reading comprehension (literal, inferential and creative/critical). The results showed that second year students lack EFL reading comprehension skills.

According to the pilot study, second year students have a problem in moving from the comparatively simple, short, adapted, direct and varied texts at secondary stage to the authentic, long, complex texts that they face at college. Therefore, students cannot understand simple questions about a text or answer them as a whole. Therefore, that there is a great need and importance in developing reading comprehension skills for second year students in the English Section at Benha Faculty of Education.

Statement of the Problem:

In spite of the importance of the EFL reading comprehension skills and the need for enhancing them among second year students at faculty of education, they seem to lack these skills. This study was an attempt to develop second year students' EFL reading comprehension skills through a program based on text modification strategies because the courses that students taught do not deal with different reading text types and text length that do not allow the students for more reading comprehension practices.

Questions of the Study:

To investigate this problem, the present study attempted to answer the following questions:

1. What are the EFL reading comprehension skills required for second year students at faculty of education?
2. How can inferencing strategy be used for developing EFL reading comprehension skills among second year students at the Faculty of Education, Benha University?
3. What is the effect of using inferencing strategy in developing some EFL reading comprehension skills among second year students at faculty of education?

Hypotheses of the study:

The study has one main hypothesis and six sub hypotheses as follows:
There is a statistically significant difference in the overall EFL reading comprehension skills between the mean scores of the participants in the pre and posttest in favor of the post test. The six sub hypotheses are:

1. There is a statistically significant difference in literal reading comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.
2. There is a statistically significant difference in comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.
3. There is a statistically significant difference in application reading comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.
4. There is a statistically significant difference in the analysis reading comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.
5. There is a statistically significant difference in synthesis reading comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.
6. There is a statistically significant difference in evaluation reading comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.

Method

Participants

The participants consisted of thirty second year students enrolled at the English section at Faculty of Education, Benha University at the second semester of 2020-2021 academic year.

Design

The present study is a partially mixed research methodology. It combines both quantitative and qualitative methods of collecting data to help in bridging the gap between quantitative and qualitative

research. To conduct the quantitative analysis the pre- post experimental group design was used. The study participants were tested before and after conducting the program. In addition, a qualitative analysis of the students' performance is provided.

Instruments and materials

In order to fulfill the purposes of the study, the following instruments were designed:

- An EFL reading comprehension skills checklist prepared by the researcher.
- An EFL reading comprehension skills pre-posttest prepared by the researcher and a rubric to score it.

The EFL reading comprehension skills checklist

The EFL reading comprehension skills checklist was designed for identifying the EFL reading comprehension skills required for second year faculty of education students. Therefore, the EFL reading comprehension skills have been derived from review of literature and related studies including Torky (2021); Farihat (2020); Radaideh (2020); Sa'aleek (2020); Ma'Dievna and O'G'Li (2019); Zahran (2019); Elhawiet (2019); Ibrahim (2019); Šamo and Mikulec (2018); Tampubolon and Rajagukguk (2017) and El-Sayed, Qoura & El-Hadidy (2017).

The EFL reading comprehension skills test

The researcher prepared a pre-post EFL reading comprehension skills test. The purpose of the test was to determine the students' level before and after the experiment. The test items cover the EFL reading comprehension skills identified by jury members. The EFL reading comprehension skills test consisted of twenty questions covering all the main skills and sub skills. Each question was different in the length of correct answer and in depth of question. The questions were 5 closed ended questions and 15 open ended ones.

The EFL reading comprehension test was corrected using a rubric prepared by the researcher. The rubric was used to assess students' EFL reading comprehension skills. Each skill in the rubric was scored from "3" to "1". "3" refers to the highest performance and "1" refers to the lowest performance. The questions from 1 to 5 take 1 mark for each question (closed ended questions). Questions from 6 to 20 take 3 marks for each item (open ended questions). The total mark of the test was 48.

Determining the validity of the study instruments

Considering the face validity, the EFL reading comprehension skills checklist and test, was submitted to a number of jury members in curriculum and methods of teaching EFL (N=11). After modifying the list of EFL reading comprehension skills according to the jury members' modifications, the final form of the EFL reading comprehension skills checklist included six main skills with twenty sub skills. Considering the test, the jury members were requested to judge whether the test items were clear and appropriate to the study sample and whether the test items measure the EFL reading comprehension skills that they are supposed to measure. Jury members suggested some modifications and the researcher has taken them into account.

Considering the content validity, some jury members were asked to determine if the test items measure the EFL reading comprehension skills that they are supposed to measure. They agreed that the test was a valid tool for measuring EFL reading comprehension skills. To make sure of the validity of the EFL reading comprehension test, the researcher analyzed the data and measured the degree of validity between each item of the test and the overall test

Determining the Reliability of the study instruments

For estimating the reliability of the EFL reading comprehension test, the researcher used test re-test method. The researcher administered the test at the beginning then re-administered it after two weeks to the same participants (N=22). The correlation co-efficient (r) between the mean score of the first and the second administration of the test was measured by using Pearson formula. So, the co-efficient reliability was (0.95) that showed high reliability of the test. The researcher used the inter rater and the correlation between the raters were calculated and computed and it was (.98) so the correlation is significant at the 0.01 level.

The Experimental Treatment

The Following procedures were conducted in the present study:

Pre-testing:

Having conducted the validity and reliability of the study tools, the researcher pre-tested the study participants using the EFL reading comprehension skills test to measure their level in EFL reading comprehension skills before implementing the program. Pre-test

statistics revealed that the study participants are lack in EFL reading comprehension skills.

Experimentation of the Program:

After pre-testing, the experimentation was administered to the study participants (N=30) by the present study researcher. The experiment lasted for eight weeks, three sessions per week. The experiment included twenty sessions in addition to one session for pretesting at the beginning and another session for post testing at the test. At the beginning of the experiment, the objectives, importance and characteristics of the program were presented to the study sample. After the introductory session, the rest of the instructional sessions were introduced to the study sample. At the beginning of each session, the participants were informed about the role of the teacher, the role of the students, the instructional materials and the various tasks. At the end of the experimentation, the participants' progress in EFL reading comprehension skills was checked after the implementation of the experimentation using the EFL reading comprehension test.

Post-testing:

The researcher post tested the study participants, after conducting the experiment using the same instrument (the EFL reading comprehension test). Post-testing the participants of the study was to investigate the effectiveness of the experimentation.

Findings of the study

Quantitative Analysis of the Findings

The findings of the present study are presented in the light of the hypotheses of the study. Using the Statistical Package for Social Sciences (SPSS) program version (18), the paired sample t-test was used. The present study contains one main hypothesis and six sub hypotheses related to the EFL Reading Comprehension skills test.

Findings of the main hypothesis:

This hypothesis states that, “There is a statistically significant difference in the overall EFL reading comprehension skills between the mean scores of the participants in the pre and posttest in favor of the post test.” This main hypothesis includes six sub hypotheses describing the twenty sub skills of the EFL reading comprehension skills test.

Table 1

The mean scores, standard deviations, t-value and level of significance of the experimental group in the pre and post assessment in the overall reading comprehension skills.

	group	N.	Mean	S.D.	t- value	D. F.	Sig.
Overall reading comprehension skills.	Pre	30	23.30	4.21	-16.13	29	0.01
	post	30	40.93	3.26			

It is clear that the mean scores of the experimental group in the post assessment (40.93) are higher than the mean scores in the pre assessment (23.30). The t-value is significant at the (0.01) level. So, this hypothesis was confirmed.

Testing sub Hypothesis (1)

This hypothesis states that, “There is a statistically significant difference in literal reading comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.”

Table 2

The mean scores, standard deviations, t-value and level of significance of the experimental group in the pre and post assessment in the literal skills

	Group	N.	Mean	S.D.	t- value	D. F.	Sig.
Literal skills	Pre	30	3.43	1.50	-7.21	29	0.01
	Post	30	6.30	0.98			

It is clear that the mean scores of the experimental group in the post assessment (6.30) are higher than the mean scores in the pre assessment (3.43). The t-value is significant at the (0.01) level. So, this hypothesis was confirmed.

Testing sub Hypothesis (2)

This hypothesis states that, “There is a statistically significant difference in comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.”

Table 3

The mean score, standard deviations, t-value and level of significance of the experimental group in the pre and post assessment in the comprehension skills

	group	N.	Mean	S.D.	t- value	D. F.	Sig.
comprehension skills	pre	30	5.60	1.162	-13.49	29	0.01
	post	30	9.90	1.348			

It is clear that the mean scores of the experimental group in the post assessment (9.90) are higher than the mean scores in the pre assessment (5.60). The t-value is significant at the (0.01) level. So, this hypothesis was confirmed.

Testing sub Hypothesis (3)

This hypothesis states that, “There is a statistically significant difference in application reading comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.”

Table 4

The mean score, standard deviations, t-value and level of significance of the experimental group in the pre and post assessment in the application skills

	Group	N.	Mean	S.D.	t- value	D. F.	Sig.
Application skills	Pre	30	5.10	1.184	-13.24	29	0.01
	Post	30	8.76	1.22			

It is clear that the mean scores of the experimental group in the post assessment (8.76) are higher than the mean scores in the pre assessment (5.10). The t-value is significant at the (0.01) level. So, this hypothesis was confirmed.

Testing sub Hypothesis (4)

This hypothesis states that, “There is a statistically significant difference in the analysis reading comprehension achievement between the mean

scores of the participants in the pretest and that in the posttest in favor of those of the posttest.”

Table 5

The mean score, standard deviations, t-value and level of significance of the experimental group in the pre and post assessment in the analysis skills

	Group	N.	Mean	S.D.	t- value	D. F.	Sig.
Analysis skills	Pre	30	2.06	1.048	-7.58	29	0.01
	Post	30	4.46	1.195			

It is clear that the mean scores of the experimental group in the post assessment (4.46) are higher than the mean scores in the pre assessment (2.06). The t-value is significant at the (0.01) level. So, this hypothesis was confirmed.

Testing sub Hypothesis (5)

This hypothesis states that, “There is a statistically significant difference in synthesis reading comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.”

Table 6

The mean score, standard deviations, t-value and level of significance of the experimental group in the pre and post assessment in the synthesis skills

	Group	N.	Mean	S.D.	t- value	D. F.	Sig.
synthesis skills	Pre	30	2.56	0.626	-8.57	29	0.01
	Post	30	4.46	1.195			

It is clear that the mean scores of the experimental group in the post assessment (4.46) are higher than the mean scores in the pre assessment (2.56). The t-value is significant at the (0.01) level. So, this hypothesis was confirmed.

Testing sub Hypothesis (6)

This hypothesis states that, “There is a statistically significant difference in evaluation reading comprehension achievement between the mean scores of the participants in the pretest and that in the posttest in favor of those of the posttest.”

Table 7

The mean score, standard deviations, t-value and level of significance of the experimental group in the pre and post assessment in the evaluation skills

	group	N.	Mean	S.D.	t- value	D. F.	Sig.
Evaluation skills	pre	30	4.53	0.97	-9.003	29	0.01
	post	30	7.36	1.27			

It is clear that the mean scores of the experimental group in the post assessment (7.36) are higher than the mean scores in the pre assessment (4.53). The t-value is significant at the (0.01) level. So, this hypothesis was confirmed.

Qualitative Analysis of the Findings

The present study focused on raising the students and increasing their prior knowledge about the content of the texts and their reading performance using text recall, written questions and the key word sorting sentences. Also the study stressed choosing the text of familiarity with the student either the content or the style, the case which helped them demonstrate superior reading performance of literal and inferential comprehension and problem solving when they were provided more cohesive texts with sentence connectives (e.g., phrases that explicitly linked ideas together using topic headings and topic sentences). This result is consistent with Cheng (2019).

The extensive exposure to the text modification strategies helped the students benefit greatly from text structures and demonstrates on improvement in reading comprehension skills. The students learned text modification strategies through teachers’ scaffolding and modeling that faded when the instruction progressed and substantial practice at each step. The students were trained with structure strategies modification including using signal words and generic questions constructing graphic

organizers and writing summaries for different types of structures. This study is consistent with Bontista et al (2017).

The students practiced all types of modification with all types of text which helped them to pass to high level of comprehension. These practices included:

1. Strategies for text analysis
2. Comprehension- written summary
3. Comprehension transfer
4. Content

After training, the students gained significant increase in their information recall, elaborated information and how to use clues of meaning. The students were able to modify the text independently using the distinctive features of the text structures following the teacher modeling, group work and independent practice.

The results of the study revealed also that the effectiveness of the modification strategies on the students' reading comprehension skills may appear clear in the students' responses to the comprehension aspects followed each text. This improvement in the students' performance may be due to the fact of using text modification strategies as an approach focusing on comprehension of expository texts and generalization of texts which are written in the same way but with a different structure and topic.

In addition, the training program of the text modification went through different phases of the strategy instruction which indicated:

First: the modified text, that the students produced during the baseline were short and of low quality so that the main ideas were not clear. After implementation of the text modification strategies especially elaboration strategies the students composed a well text reflecting the main text, which reflects to the students' comprehension of the text due to the strategy instruction contribution.

Second: combining text structures instruction and multiple modification strategies on instructional framework in the training program using reading comprehension processes was effective on the expository text comprehension. Moreover, results indicated that providing text structure instruction and reading strategies combination simultaneously had a powerful effect on the students reading comprehension.

Third: the students' responses to the comprehension questions increased during modeling, guided practice and independent practices phases during modification. As the students learned how and when to use the strategies, their comprehension skills also improved in the strategy instruction training while modeling. During modeling, the students paid attention to the implementation process of the strategies rather than trying to comprehend the information in the text, therefore, the number of correct answers to the comprehension questions during modeling phase were less than during the guided practice and independent practice phase. In the guided practice phase, the students started to implement the strategies on their own and their comprehension performance become better than this performance observed during the modeling phase. In the independent practice phase, the students internalized the strategy and started to use the strategies independently as they had learned how to understand a text, more progress in their performance was observed. These results are consistent with Bigli and Ozmen (2018) and Alfasi, Weiss and Lifshitz (2009).

It is clear from the results of the students that the students improved in their comprehension of the text and reading it. This can be attributed to the fact that the training program which focused on variety of text modification strategies provided the students with ample information about knowledge of the text to help them organize the content. Knowledge of the text also allowed the students the processing and construction of a mental representation that is, the meaning of the text. The study also dependent on the direct instruction of text knowledge and direct teaching before starting the text including introducing the students to different text types to help students prompting and associating information.

Another result related to the text modification strategies effect on reading comprehension is that teaching text structure as well as lexical inferencing helped students develop text structure awareness and implement the reading strategies this awareness led to the students' using the strategies correctly. Moreover, during the assessment in the independent practice and after the teaching of the strategies it was observed that the students predicted the comprehension and inferential questions to be asked. This showed that they:

- (a) recognised the text structure.
- (b) achieved a descriptive type of text structure knowledge.
- (c) utilized the text structure knowledge to comprehend the text.

Discussion of the results

In interpreting the results of the study, the researcher refers that the above mentioned result can be due to the different strategies, activities and tasks in the text modification strategies based program that develop the students' overall EFL reading comprehension skills. Because of the corona virus almost most of the twenty sessions were online, so many results may be affected by this way of online instruction. As the researcher will explain later, some skills were less improved because they are more effective if they were taught in offline sessions. In spite of that, the different types of instructions, roles and phases that the researcher used during the whole program including explicit instruction, scaffolding and modeling were effective and were considered the main reason for developing the six main skills with their twenty sub skills.

The explicit instruction used in the present study program has some features. One feature is small group instruction in which the students are divided into small groups to incorporate with each other during the implementation. The other is graphic organizers use: graphic organizers are used without altering the format of the text to facilitate the reading process. Accurately, intensively and consistently follow up activities: all the activities used are intended to foster reading comprehension. All the activities used also are within the sequence of the instruction and are contextualize comprehension activities. Finally, the results of the present study revealed that all the twenty sub skills were developed and improved among the participants of the experimental group.

Conclusion:

Based on the aforementioned results, it can be said that the participants' EFL reading comprehension skills were developed after the implementation of the text modification strategies based program. It is clear that the first main hypothesis and its six sub hypotheses were accepted, confirmed and supported. Accordingly, the significant differences found in favor of the experimental group in the post assessment of the EFL reading comprehension skills test can be related

to the implementation of the text modification strategies based program which has proved to be effective.

Before the implementation of the text modification strategies based program, most of the participants were found to lack EFL reading comprehension skills and have many problems in comprehending the reading passages. However, after the implementation of the text modification strategies based program, students themselves felt the improvement in their EFL reading comprehension skills. Their errors decreased because of the continuous feedback and scaffolding the teacher introduces through the text modification strategies based program resulting in an increase in EFL reading comprehension skills.

Recommendations of the study:

In the light of the findings of the study the following recommendations may be presented:

1. The objectives of teaching English language should concentrate on reading comprehension skills.
2. Adopting new methods for teaching Reading comprehension.
3. Using text modification strategies based programs instead of traditional methods in teaching reading comprehension skills should be encouraged.
4. Developers of English language curriculum should benefit from text modification based programs.
5. Teaching and learning reading comprehension skills through using text modification programs should be emphasized.

Suggestions for further research

The following areas are suggested for further research

1. Investigating the effectiveness of text modification based program in developing EFL other language skills among Faculty of Education students.
2. Investigating the effectiveness of text modification based program on special needs students.
3. Investigating the effectiveness of text modification based program in developing students' writing skills.

4. Developing remedial courses based on text modification activities for overcoming students` problem on the four language skills.
5. Replication of the study at various educational stages such as primary, preparatory and secondary stages.
6. A comparative study to find either simplification or elaboration is more effective.
7. Investigating the effectiveness of text modification based program in broader samples to increase the generalization of the findings.

References

- Abu Shamla, A. (2010). *The Effectiveness of a Suggested Program Based on Prior Knowledge to Develop Eighth Graders' English Reading Comprehension Skills*. Unpublished Master Thesis, Islamic University of Gaza.
- Arcavi, A. (2003). The role of visual representations in the learning of mathematics. *Educational Studies in Mathematics*, 52(3): 215–24.
- Babu, S. (2016). The utility of note-making – A study. *Scholarly research journal for interdisciplinary studies*, 4(26). 2763-2768.
- Basyouni, N. B. A. (2018). *Using Some Online Reading Strategies to Enhance EFL Secondary Stage Students' Reading Comprehension Skills and their Attitudes towards Reading*. UnPublished Master Thesis, Mansoura University, Egypt.
- Bolos, N. (2012). Successful strategies for teaching reading to middle grades English language learners. *Middle School Journal*, 44 (2), 14-20.
- Brassell, D., Rasinski, T. and Yopp, H. (2008). *Comprehension that works: Taking Students Beyond Ordinary Understanding to Deep Comprehension..* Huntington Beach, CA: Shell Education.
- Buyuktaskapu, S. (2012). Effect of family supported pre-reading training program give to children in preschool education period on reading success in primary school. *Educational Sciences: Theory and practice*, 12 (1), 309- 316.
- Crain-Thoreson, C.; Lippman, M. Z. and McClendon-Magnuson, D. (1997). Windows on comprehension processes as revealed by two think aloud procedures. *Journal of Educational Psychology*, 89 (4) 579 – 591.

- Dewitt, S. (2007). The effects of note taking and mental rehearsal on memory. *Journal of Undergraduate Psychological Research*, 6(2), 46-49.
- El-Garawany, M.S. (2010). *The effect of repeated reading strategies on developing oral reading fluency and reading comprehension among prospective teachers* Unpublished master dissertation. Faculty of Arts, Minufiya University.
- Elhawiet, R.S.M. (2019). *The Effectiveness of Literature Circles Strategy in Developing Secondary School Students' EFL Reading Comprehension Skills*. Unpublished Master Thesis. Damanshour University, Egypt.
- El-Sayed, M. M., Qoura, A. A. S., & El-Hadidy, M. M. S. (2017). Enhancing EFL Secondary Stage Students' Listening and Reading Comprehension Skills through a CALL Program. *Journal of Research in Curriculum Instruction and Educational Technology*, 3(4), 35–67.
- Er, G. (2001). The Input Hypothesis And Second-Language acquisition Theory. *EGiTiM FAKULTESi DERGiSi*,13. 25-36.
- Fraihat, B. O and Baniabdelrahman, A. (2020). The Effect of Using Graphic Organizers on Jordanian EFL Tenth Grade Students' Reading Comprehension and their Attitudes towards Using them. *Applied Sciences Private University*. 22(1). 1-17.
- Ghazanfari, M. (2009). The role of visualization in efl learners' reading comprehension and recall of short stories. *Iranian Journal of Applied Language Studies*, 1 (1). 1-23.
- Helwa, H.S. (2010). *The effectiveness of using annotation strategy in developing some reading comprehension skills among EFL college students* Unpublished master dissertation. Banha university. Faculty of education.
- Hobbs, R. (2001). Improving reading comprehension by using media literacy activities. *Voices from the Middle*, 8(4). 44-50.
- Ibrahim, S.K.A. (2019). *Using Digital Reading Strategies for Developing EFL Reading Comprehension Skills among Faculty of Education Students*. Unpublished Master Thesis. Benha University, Egypt.

- Jubani, A., Lama, I, N., & Gjokutaj, M. (2012). Improve the quality of learning by increasing the students' reading skills. *Problems of education in the 21st century*, 42, 50-61.
- Juliana, J. (2016). The effect of lexical inferencing strategies on students' reading comprehension. *Journal MELT*, 1(2). 126-143.
- Kaivanpanah, S., & Moghaddam, M. S. (2012). Knowledge sources in EFL learners' lexical inferencing across reading proficiency levels. *RELC Journal*, 43(3), 373-391.
- Kangwanpradit, K. (2017). *The use of Thai EFL postgraduates' lexical inferencing strategies through the think aloud method*. Published Master Thesis. Thammasat University. Thailand.
- Kim, Y. (2003). *Effects of input elaboration and enhancement on second language vocabulary acquisition through reading by Korean learners of English*. Published Doctoral Dissertation. University of Hawaii at Manoa, Honolulu, USA.
- Kobayashi, K. (2005). What limits the encoding effect of note-taking? A meta-analytic examination. *Contemporary Educational Psychology*, 30 (2), 242-262.
- Krashen, S. (1985). *The Input Hypothesis: Issues and Implications*. Harlow: Longman.
- Kulkarni, A. and Shivananda, A. (2019). *Natural Language Processing: Recipes Unlocking Text Data with Machine Learning and Deep Learning using Python*. APress.
- Long, M. (1981). Input, interaction and second language acquisition. In H. Winitz (Ed.), *Native language and foreign language acquisition* (pp. 259–278). New York: New York Academy of Sciences.
- Matsumura, Y. (2010). *Factors influence the lexical inferencing of Japanese EFL learners*. (Doctoral dissertation), The Temple University, Graduate School.
- Miller, D. (2002). *Reading with meaning*. Portland me; Stenhouse publishers.
- Mohamed, F. S., Abd Alhaq, E. M. and Helwa, H. S. (2010). *Using K.W.L plus strategy for developing some reading comprehension skills among EFI freshmen*. Benha University, Faculty of Education.
- Mohebbi, Z., & Mohebbi, H. (2014). Unpacking the black box of lexical inferencing: Briefing the factors affecting L2 learners' lexical

- inferencing. *Advances in Social Sciences Research Journal*, 1(5), 22-28.
- Nassaji, H. (2004). The relationship between depth of vocabulary knowledge and L2 learners' lexical inferencing strategy use and success. *The Canadian Modern Language Review*, 61(1), 107–134.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge, England: Cambridge University Press.
- Neknejad, S. and Rahbar, B. (2015). Comprehension through Visualization: The Case of Reading Comprehension of Multimedia-Based Texts. *International Journal of Educational Investigations*, 2(5). 144-151.
- Nguyen, N. H. (2006). *Note taking and sharing with digital pen and paper*. Published Master thesis. Norwegian University of Science and Technology and Information Science.
- Oh, S.-Y. (2001). Two types of input modification and EFL reading comprehension: Simplification versus elaboration. *TESOL Quarterly*, 35, 69-96.
- Omar, B. A. E. A. (2018). *Effects of Using a Contract learning strategy in teaching faculty of education EFL first graders upon their reading comprehension, critical thinking and self-esteem*. UnPublished Master Thesis, Sadat University, Egypt.
- Parker, K., & Chaudron, C. (1987). The effects of linguistic simplification and elaborative modifications on L2 comprehension. *University of Hawaii Working Papers in ESL*, 6, 107-133.
- Radaideh, E,T,H. (2020). *The effect of digital storytelling on fifth grade students' reading comprehension skills and their motivation towards it*. Published dissertation. Yarmouk university.
- Ramadan, W. M. (2009). *The effect of journal writing on developing pre-service EFL teachers' reading comprehension and writing skills and on reducing their writing apprehension*. Cairo

University, Institute of Educational Studies, Department of Curriculum and Instruction.

Sa'aleek, R.A.A. (2020). *The effect of using gamification on Jordanian EFL sixth Grade students' reading comprehension and their attitudes towards it*. Published doctoral dissertation. Yarmouk university.

Šamo, R., and Mikulec, A. (2018). EFL Reading Metacomprehension from the Developmental Perspective: A Longitudinal Case. *Journal of Language and Education*, 4(1), 105-116.

Schmitt, N. (2010). *Researching vocabulary: A vocabulary research manual*. Basingstoke, England: Palgrave Macmillan

Schumm, J. S., (2006). *Reading Assessment and Instruction for All Learners*. United States of America: Guilford Press.

Shehata, M. (2006). *The effectiveness of semantic mapping strategy and DRTA strategy in developing Benha High Institute of Technology students reading comprehension skills* Unpublished master dissertation. Faculty of Education. Benha University.

Snow, C. E. (2002). *Reading for Understanding: Toward a research and development program in reading comprehension*. Arlington, VA:RAND.

Sorba, B. (1995). *Lifelong Readers*, The Educational Resources of Information Centre (ERIC), School of Education, Dominican College.

Spooner, A. R., Gathercole, S. E., & Baddeley, A. D. (2006). Does weak reading comprehension reflect an integration deficit? *Journal Of Research In Reading*, 29 (2), 173-193.

Suseno, A. and Cahyono, B. Y. (2016). Language Input Modification by Indonesian EFL Teachers across Teaching Experience and Students' Grade. *International Journal of Language and Linguistics*, 3(5). 1-10.

- Tampubolon, S. and Rajagukguk D. (2017). The Effect of Synthesizing Strategy on Students' Reading Comprehension at SMA Serdang Murni Lubuk Pakam. *The Explora Journal Journal of English Language Teaching (ELT) and Linguistics*, 3 (1). 1-33.
- Teng, F., & He, F. (2015). Towards effective reading instruction for Chinese EFL students: Perceptions and practise of lexical inferencing. *The English Teacher*, 44(2), 56-73.
- Tomlinson, B. (1997). *The role of visualization in the reading of literature by learners of a foreign language*. Published Doctoral Dissertation. University of Nottingham.
- Torky, S,A. (2021). The effect of teacher's presence in collaborative online writing on EFL writing skills, reading comprehension and learner autonomy. *Journal of Education, Sohag University*. 1(82). 1-60.
- Usman, H. (2016). Increasing Reading Comprehension Ability through Visualizing Media of 4th Grader Students at Labschool Primary School Setiabudi South Jakarta. *American Journal of Educational Research*, (4)18. 1265-1270.
- Van Dijk, T.A. and Kintsch, W. (1983). *Strategies of discourse comprehension*. New York: Academic Press.
- Yano, Y., Long, M. H., & Ross, S. (1994). The effects of simplified and elaborated texts on foreign language reading comprehension. *Language Learning*, 44(2), 189–219.
- Zahran, S. A. (2019). *Using Electronic Guided Reading Instructional Approach (EGRI) for Developing EFL Reading Comprehension Skills and Attitude Towards Reading among Preparatory Stage Pupils*. Unpublished Doctoral Dissertation. Benha University, Egypt.
- Zwiers, J. (2004). *Building Reading Comprehension Habits in Grades 6-12: A Toolkit of Classroom Activities*. Newark: International Reading Association.