Investigating the Effect of Resourcing and Inferencing on Improving Pupils’ Reading Comprehension

The Case of Fourth Year Berkani Ali Middle School Pupils, Ain Mlila

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master in Language Sciences and Teaching English as a Foreign Language

By: Ms. Sihem AYOU

Supervisor: Mrs. Soumia BOUAZIZ

Examiner: Mr. Karim AYADI

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Dedication

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Abstract
Reading is considered as a complex process. It invokes both the second language readers’ language and cognitive abilities. The main goal of reading is the ability to extract meaning from the text. Yet, many students struggle with comprehending what they read. In this regard, the present study aims at investigating the effect of using two reading strategies, namely, inferencing and resourcing on improving pupils’ reading comprehension. On these bases, we hypothesized that using resourcing and inferencing in class would improve pupils’ reading comprehension. To fulfill the purpose of the study and to check the validity of the hypotheses and answer the research question an experimental design was adopted. The experiment ran through four treatment sessions preceded and followed, respectively, by a pre-test and a post-test. Forty-four (44) Berkani Ali middle school pupils, aged between 14 and 16, were selected from a total of 106 pupils and were divided into two groups to represent sample. The participants in the experimental group were exposed to inferencing and resourcing while the control group was not. The Independent Samples t Test and the paired t test were used to analyze the collected data statistically. The results obtained from the experiment confirmed the hypothesis and showed that the use of inferencing and resourcing while reading brought about positive outcomes in terms of learners’ reading comprehension. Based on the results obtained, some pedagogical implications have been proposed.
Key Words: Inferencing, Resourcing, Reading Comprehension.
List of Abbreviations

CG  Control Group.
CRS  Cognitive Reading Strategies
DF  Degree of Freedom
EFL  English as a Foreign Language
EG  Experimental Group
FL  Foreign Language
H1  the Alternative Hypothesis
H0  the Null Hypothesis
LLS  Language Learning Strategies
MCQ  Multiple Choice Questions
Pre  Pre-test
Po  Post-test
SD  the Standard Deviation
SE  The Standard Error of the Mean
Var  the Variance
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General Introduction

Statement of the Problem

Teaching and learning foreign languages such as English covers all the language skills: speaking, reading, writing, and listening. One of these skills that will never be left in education is reading. Reading is an essential skill that equips individuals with the ability to interact with written texts. Many scholars believe that being competent in reading means being able to comprehend and attach the meaning of various written texts. However, classroom observation revealed that Berkani Ali middle school pupils’ reading comprehension is very low. In other words, pupils, when reading, cannot understand the meaning of certain texts. They can neither catch the main idea, nor reorganize the information learned from the text because they face strange and difficult words, which prevent them from unraveling the meanings. Moreover, they are not able to make connection between what they have just read and their background knowledge.

Therefore, with the intention of improving pupils’ reading comprehension, the teacher has to teach them some strategies that can develop text comprehension. Inferencing and resourcing are among those effective strategies that can help pupils overcome difficulties in understanding texts. In short, the current study aims to investigate the effect of using resourcing and inferencing on improving pupils’ reading comprehension of texts.

Aim of the Study

Reading is an activity during which a learner makes use of different strategies to facilitate comprehension. This study aims to examine the importance of resourcing and inferencing, as two cognitive strategies, on improving pupils’ reading comprehension at Berkani Ali middle school. It also aims at motivating students to use their cognitive abilities when reading and preparing them for complex future texts.

Research Question

To achieve the targets of the present study, the following question is raised:
1. Do resourcing and inferencing have an effect on improving students’ reading comprehension?

Research Hypothesis

Accordingly, we hypothesize that:

$H1$: Using inferencing and resourcing in the classroom would improve pupils’ reading comprehension.

$H0$: Using inferencing and resourcing in the classroom would not improve pupils’ reading comprehension.
Research Methodology

In order to examine the effect of inferencing and resourcing on improving pupils’ reading comprehension, an experimental design is to be followed. The target population for this study is fourth year pupils of Berkani Ali middle school. The whole population consists of four (4) classes. Among those classes, two classes were chosen randomly as a sample. The first class represented the experimental group while the other represented the control group. Both groups were pre-tested to determine pupils’ abilities in reading comprehension. Then, the experimental group was exposed to the two strategies, inferencing and resourcing, while the control group was not. After the treatment period, which is considered to be four weeks, the two groups took the post-test in order to determine whether using inferencing and resourcing had improved students’ reading comprehension or not and therefore to confirm or to reject the research hypothesis.

Structure of the Study

The research was divided into two chapters: The first chapter represents the theoretical one. It includes two sections: the first section is devoted mainly to deal with the definition of language learning strategies, the categories of reading strategies, and its importance in English as foreign language classrooms. Furthermore, inferencing and resourcing are defined and their main types are highlighted. The second one is devoted to deal with defining reading, its models, and its types. Moreover, it defines reading comprehension and it provides its main features. The second chapter is the practical part (the fieldwork). It is concerned with describing and analyzing the results and it ends with some recommendations for teachers and future researchers.
Chapter One: Theoretical Background

Section One: Reading Strategies “Inferencing and Resourcing”

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Introduction

When reading literature or informational texts, learners, most of the time, find it difficult to comprehend the written texts. Implementing special reading strategies is a key to student’s success in reading comprehension. Inferencing and resourcing are among these strategies that enable struggling learners understand the meaning of complex words and construct the meaning through using their prior knowledge. Coordinating and using such strategies may not only develop their reading comprehension but also promote their way of thinking.

Accordingly, this section is concerned with the reading strategies in general: cognitive, meta-cognitive, and socio-affective strategies. The main focus will be put upon the cognitive strategies, mainly, inferencing and resourcing.

1.1.1. Definition of Language Learning Strategies

Many researchers and experts have defined language learning strategies (LLS) from different points of view. Rubin in Good Language Learner research (as cited in swell, 2003) was first to define learning strategies in second language literature in 1975. He stated that the term learning strategies stand for thoughts and actions selected consciously by successful students to perform different activities. The appropriate application of these strategies helps English as foreign language (EFL) students in learning and using the language effectively and in making the language learning more enjoyable and successful.

Moreover, Scarcella (as cited in Oxford, 2003) defined strategies as “specific actions, behaviors, steps, or techniques...such as seeking out conversation partners, or giving oneself encouragement to tackle a difficult language task, used by students to enhance their own learning” (p. 110). Therefore, learning strategies are techniques or plans EFL learners use to understand or remember the information, and to practice effectively in a given task in order to accomplish a specific objective and to develop their communicative skills (listening, writing, reading, and speaking).

Finally, O’Malley and Chamot (as cited in Zare, 2012) pointed out that LLS are “special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information” (p. 163). For this reason, learning strategies are seen as special ways of processing or retention of information that improve learning in general and comprehension in particular.

Relating this with reading, researchers in the last decades on second and foreign language learning have viewed reading strategies differently. Thus, they have given no clear-cut definition. According to Griva and Anastasiou (2009), reading strategies are
“specific, deliberate, goal–directed mental processes” which manage the reader’s efforts in constructing the meaning of written texts and drawing conclusions through using textual evidence and background knowledge. Additionally, Standards for the English Language Arts (as cited in Afflerbach, Pearson, & Paris, 2008) acknowledged that:

Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound–letter correspondence, sentence structure, context, graphics). (p. 365)

Therefore, in Standards for the English Language Arts’ (1996) definition, students’ goals for using strategies, while reading, to enhance comprehension are evident (“comprehend, interpret, …, word identification, understanding…”). Students use reading strategies to make sense of what they read, and to understand all the aspects of the text. However, classifying these reading strategies into categories have been problematic for researchers because researchers’ point of view concerning the factors that influenced students using of learning strategies were different.

1.1.2. Categories of Reading Strategies

Many scholars around the world have contributed numerous studies to support the significant role of teaching reading strategies to facilitate the comprehension of information for language learning. Hence, they broke down these strategies into different categories. Bialystok (1978) presented a model that includes four types of reading strategies: functional practicing, formal practicing, monitoring, and inferencing. He believed that the first model, functional practicing, affects language learner’s proficiency, in different reading tasks. In the earliest research, Oxford (as cited in Lee, 2010) developed a new distinction between direct and indirect reading strategies. Here, she argued that direct strategies related directly to the use of language, which included memory, cognitive, and compensation strategies. Whereas, indirect strategies are those strategies that benefit the language learning but do not involve the use of target language directly. They are divided into metacognitive, affective, and social strategies.

The above classifications, the Oxford taxonomy of learning strategies and other taxonomies, were subject of criticisms because they were not based on factor analysis and they separated communication strategies from memory, which is considered as fundamental part of cognitive strategies.
Nowadays, O'Malley and Chamot (as cited in Lan, 2005) classification of reading strategies is the most widely accepted one. Their taxonomy of strategies comprised three categories, which depend on the type and the level of learners’ thinking. They classified them into cognitive, metacognitive strategies, and social/affective strategies.

1.1.2.1. Metacognitive Strategies

Whenever people think about what they said, check their actions (right or wrong), or think about their finished decisions, they are engaged in metacognition. Flavell (1979) was the first to define metacognition. He stated that, “metacognition is a child’s knowledge about and control over his or her own thinking process and learning activities. It is as ‘one’s knowledge concerning one’s own cognitive processes and products or anything related to them” (p. 908). In other words, metacognition refers to what a learner already knows, aware of, and how he applies this knowledge in a particular situation such as reading tasks. Under the umbrella of this definition, a proliferation of metacognitive terms has spread through years, and metacognition strategies are one of them. O’Malley and Chamot (as cited in Oxford, 2003) claimed that metacognition strategies are strategies employed by learners for planning the tasks, identifying learners’ learning styles, arranging studies throughout organizing materials, monitoring the production and comprehension, and ‘evaluating’ the learning activities. These strategies lend a helping hand to develop learners’ awareness of planning and evaluating their thinking processes and are required to understand the sense of the text.

1.1.2.2. Socio-Affective Strategies

It is common that social and affective strategies belong to the same group because affective strategies are connected with attitudes and emotions that are concerned as the important part controlled by the society. According to O’malley and Chamot (as cited in Liu, 2010), social-affective strategies are strategies in which the learners make use of assistance from others to improve spirit and self-esteem in communicative tasks such as problem solving tasks. They involve four types: questioning for clarification, for example asking teachers to repeat or explain with examples the unclear information in reading tasks; cooperation which means engaging learners in cooperative activities, in groups or pairs to achieve better outcomes, self-talk and self-reinforcement.

1.1.2.3. Cognitive Strategies

Cognitive reading strategies (CRS) have been defined by Chamot and O’Malley (as cited in Anastasiou & Griva, 2009) as “strategies involve the direct interaction with the text and contribute to facilitating comprehension, operate directly on oncoming
information, manipulating it in ways that enhance learning” (p. 284). In other words, CRS assist the learners in manipulating or transforming the written material and in constructing the writers’ original meaning. They also support students’ comprehension, and activate their mental processes. According to Chamot and O’Malley (1990), CRS can be classified into the following ones:

- **Resourcing:** includes using the English language references or materials such as: the use of dictionaries (monolingual and bilingual dictionaries).
- **Repetition:** this means rereading the text more then once to comprehend better.
- **Imagery:** using visual aids to store the information learned in the memory.
- **Summarizing:** summarizing long passages into abstracts to help learners in arranging the input.
- **Elaboration:** is concerned with associating the already familiar concepts with the new ones.
- **Inferencing:** making inferences to understand the implicit meaning of the text by combining the prior knowledge with the information read.
- **Note taking:** writing down main ideas of the text, specific ideas, important points, etc. in form of maps, symbols, graphs…and soon.
- **Underlining:** highlighting or underlining the difficult words and the important information.
- **Contextual guessing:** is strategy for learning vocabulary, it means that guessing the meaning of unknown words without interrupting the reading.

Besides the previous strategies, there are others like grouping, deduction, auditory representation, transfer, skipping the difficult parts, and using text markers (Liu, 2010).

### 1.1.3. The Importance of Cognitive Strategy Instruction in EFL Classrooms

Cognitive strategies have been considered as useful for reading comprehension. Researchers on reading instruction in second language contexts strongly argued for teaching these strategies explicitly. Chen (2005) claimed that teaching readers how, when, and why to use cognitive strategies explicitly will raise students’ cognitive awareness of the strategies they use, promote their autonomy, and encourage them to take more responsibility for their own language learning. Moore (n.d.) noted that “Reading instruction is most effective when teachers provide students with direct and explicit teaching” (p. 1). Moreover, Dole, Brown, and Trathen (1996) argued that struggling readers who are given cognitive strategies instruction show significant reading
comprehension improvement over students trained with conventional reading instruction methods.

Dermody (as cited in Choo, Eng, & Ahmad, 2011), as well as, stated that learning the strategies of proficient readers and putting them into practice is a good evidence for struggling readers to improve reading comprehension skills. Dansereau et al. (1979) believed that first language learners are proficient readers because they were taught cognitive strategies through direct instructions i.e. explicit teaching. Whereas, second language learners are poor readers because they have little knowledge of the use of strategies and, most of the time, they make use of inadequate or inappropriate strategies.

Accordingly, EFL teachers should set plans for teaching these strategies from the beginning. These plans should involve how, when, and why to use them in the reading tasks. In addition, the strategies’ use should be flexible; using different strategies in specific situations in order to gain strategic readers.

Consequently, teaching reading strategies explicitly could have considerable potential for enhancing the development of the reading comprehension of EFL students. Inference and resourcing are amongst the most important CRS that should be taught explicitly in foreign language classes because they help learners in getting the ultimate meaning of the texts.

1.1.4. Definition of Inferencing

Inferencing is considered as an important cognitive learning strategy and central to reading comprehension. Good readers conditionally make inferences as they read because writers do not always tell them things explicitly in texts. Numerous researchers and experts of language learning tried to give a clear definition of what inferencing is.

Chikalanga (1992) stated that learners usually make inferences in everyday classrooms without even realizing. He defined inference as “the cognitive process a reader goes through to obtain the implicit meaning of a written text on the basis of two sources of information: the propositional content of the text (i.e. the information explicitly stated) and prior knowledge of the reader” (p. 697). On the other hand, Pennell (2002) proclaimed that "Inferential comprehension is often described simply as the ability to read between the lines […] it requires a reader to blend the literal content of a selection with prior knowledge, intuition, and imagination for conjecture or to make hypotheses” (p.1). This shows that inferencing is a CRS employed by learners to figure out the implied things in the text through combining the information that is right in front of them with their experiences to create new knowledge and with the use of some intuition and reasoning.
Furthermore, Preszler (2006), in her book *Strategies to Help Readers Make Meaning through Inferences*, defined inferring as:

Inferential thinking is often called “reading between the lines.” It is like mathematics in a way, because the answer is not given in an arithmetic problem. One has to figure out the correct answer from the information that is given. Inferring in reading – and in life itself – is figuring out answers from the facts to which we have access. (p. 4)

Preszler, here, assimilated reading inferencing into mathematics inferencing. In both tasks, students are asked questions with no explicit answers. So, if students want to come upon the right answers it is obligatory to fill in missing information by putting together what they already know with what they have read to get the best guess by means of clues available in the text. She also argued that this is what people do in their daily lives; however, what is different is that in reading the evidence for inferences is, only, there in words while in real life it can be drawn from anything for instance, gestures, experiences, and actual events.

To conclude, inferencing has been defined in different ways but all researchers agreed on two major elements required in forming inferences, which are students’ prior knowledge combined with the information presented in the written text.

**1.1.4.1. Types of Inferencing**

Broek (as cited in Narvaez, Broek, & Ruiz, 1999) noted that learners activate their working memory operation while reading i.e. they get back the information stored in long-term memory (background knowledge) when they recognize the information found in the text, at the same time they maintain analyzing the new information using their memory. This led Broek to divide inferencing into three types.

**1.1.4.1.1. Backward Inferences**

Backward inferences are known also by explanations. The reader uses his memory to infer an explanation to why some events in the text appeared in such a way, what is the reason behind the occurrence of them and so on. The questions that can be asked in reading tasks concerning this type are called clarification questions such as: what caused him to do this? what happen that made …do this? ...etc.

**1.1.4.1.2. Concurrent Inference**

Concurrent inferences are rarely found during reading tasks. They are concerned with associating kinds of features and functions in the provided information to the persons, objects, and events in the text. In other words, the reader, while reading, tries to visualize the words or the information he is reading in his memory.
1.1.4.1.3. Forward Inferences

This type of inferences is called predictions. This kind demands readers to predict future event for a given text. Researchers confirmed that predictions are hard to measure because learners’ predictive knowledge differ from one to another. Prediction questions are related to this type for example, what do you think will happen next? what does the future hold for …? and what will …do next?

Finally, we can say that drawing conclusions for the unsaid in the text i.e. making inferences depends more on the readers’ richness of prior knowledge and their way of thinking.

1.1.4.2. What Readers Should do when Inferring?

In his Taxonomy of Reading Comprehension, Barrett (1974) identified eight subtasks. He assumed that the following subtasks should be taught explicitly so that it will enable students to generate inferences, develop knowledge to facilitate comprehension, and overcome difficulties of remembering texts

- Identifying the important passage words
- Inferring the main idea: involves looking for themes and general significance that is not explicitly stated in the text.
- Inferring supporting ideas through searching for the additional facts, the textual evidence, or the specific information that the author made it more informative, interesting, and appealing.
- Inferring sequences by guessing the unstated action or incident that might be stated explicitly between two actions or incidents or predicting future events through using what students’ already know about the past to guess what will happen in the future.
- Inferring comparisons: inferring similarities and differences in characters, times, or places.
- Inferring cause-and-effect relationships: it means inferring the reasons or motives and consequences of specific events for example, the interaction of characters with others and with time and place.
- Inferring character traits: Create sensory images related to character and hypothesize the nature of characters relying on the explicit clues stated in the text.
• Predicting outcomes: students should make reasonable predictions as they read the initial portion of the text, and they should also, as they read further, guess the outcomes of the story or the text.

All in all, inferencing strategy helps EFL learners improve their reading comprehension, make meaning as they go along in their reading, and raise their motivation to read. However, it is believed that learners can make use of this strategy, figure out the intended meaning, only if they acquire the appropriate amount of vocabulary. That is to say, learners should use another strategy to promote their inferences.

1.1.5. Resourcing

1.1.5.1. Definition of Resourcing

Resourcing as a cognitive strategy of language teaching has received a potential interest of many researchers due to its importance in any language learning process.

Oxford Advanced Learners’ Dictionary eighth edition (2010) defines resourcing as: “a supply of something that can be used to help achieve an aim, especially a book, equipment, etc. that provides information for teachers and students”. On the other hand, Macmillan dictionary (2009) defines it as “the work of finding and providing the material, money, or people needed for a particular project or activity” (n. p). This shows that resourcing is the process of using numerous materials to complete a specific task.

In reading, most researchers have agreed on one fixed definition of resourcing strategy. Chamot and O’Malley (1990) have defined resourcing as a cognitive strategy by which foreign language students use target language reference materials such as dictionaries, grammar books, encyclopedias, and glossaries for the sake of learning the unknown grammar rules and the difficult vocabularies while reading.

Many scholars have agreed on the use of dictionaries as an illustration of how resourcing strategy can be implemented in reading activities. They stressed that dictionaries as a source or material can be used to improve comprehension as well as to develop EFL learners’ vocabulary knowledge because they noticed that vocabulary knowledge is the most important component of second language reading.

1.1.5.2. The Importance of Vocabulary Knowledge in Reading Comprehension

Luckner and Cooke (as cited in Hamilton, 2012) said, “Vocabulary knowledge is essential for reading, communicating, thinking, and learning” (p. 3). Many experts of language teaching and learning stressed the significant of vocabulary knowledge to comprehend texts. Thornbury (2002) claimed that learners will notice most improvement in reading comprehension only if they can comprehend the meaning of almost all the
words. Along with the same idea, Alderson (2000) claimed that “Having the struggle with reading because unknown words will obviously affect comprehension and take pleasure out of reading” (p. 35). This is clearly stated by Hamilton (2012) who referred learners’ English reading disabilities and overall academic failure to their lack of vocabulary knowledge.

Moreover, Nation (1990) in his research with hearing individuals indicated that a reader must know 90-95% of the words in a passage to fully comprehend it. Hamilton (2012), also, concluded that EFL learners’ vocabulary knowledge played a critical role in comprehension development. Thus, since, vocabulary knowledge is an important factor that facilitates reading comprehension; teachers should provide instruction that equips students with the necessary strategy for vocabulary development.

1.1.5.3. Dictionary Use

Vocabulary knowledge is the most important component of second language reading comprehension. In most reading activities, students utilize frequently dictionaries as a source either to find out the meaning of strange, difficult words or to check pronunciation. Pousi (2010) gave emphasis to the use of dictionaries in reading tasks, she said that “the dictionary has long been and still is an essential source in reading comprehension” (p. 176). She also asserted on the importance of using these sources by EFL learners while reading to improve both vocabulary learning and text comprehension. Moreover, Finland’s National Core Curriculum (as cited in Nation, 1990), also, advocated dictionary use in foreign language reading tasks because they believed that without vocabulary knowledge nothing in the texts can be conveyed. They emphasized on the importance of teaching this strategy, using dictionaries, in the primary education so that learners will increase their vocabulary acquisition, which definitely will improve their reading comprehension.

Furthermore, Alderson (2000) who accounted the significance of dictionaries in reading, claimed that “to reduce the effect of vocabulary knowledge on measures of reading comprehension, it might be wise to allow students to compensate for lack of vocabulary by consulting dictionaries” (p. 99). Adeniyi (1997) considered the use of dictionary in reading as a must. She stated that second language students comprehend reading well only if they possess a good quantum of vocabulary. She meant, if students’ vocabulary is little they will read little.

Finally, Nation (1990) stated that “dictionaries are used primarily to check meaning. The next most frequent uses are to check spelling and pronunciation.” (p. 135)
Besides, he listed dictionary as one of the most significant sources that help learners get information from texts. Thus, we can assume that consulting dictionaries in reading increases both learners’ comprehension and vocabulary.

1.1.5.3. Types of Dictionaries Used for Reading in EFL Classes

Over the past years, researchers have discussed the best types of dictionaries that should be used in FL classes. They are of two categories, which are monolingual and bilingual dictionaries (Nation, 2001).

On one hand, monolingual dictionaries provide the word with its several possible definitions, examples, and idioms in the target language to illustrate more the meaning. This type requires an appropriate amount of vocabulary. Schofield (1997) recommended teachers to advise their students to use monolingual dictionaries to assist their reading comprehension and vocabulary acquisition.

Bensoussan, Sim, and Weiss (1984), as well as, stated that monolingual dictionary gives meaning of words in a context, so he emphasized on the importance of using it in reading comprehension. Schofield (1997), again, mentioned that a number of experts regard monolingual dictionaries as the most helpful vocabulary references that could develop learners’ reading comprehension.

On the other hand, bilingual dictionaries, as well, provide the meaning of a word however in another language, normally the user’s native language. Bilingual dictionaries are more popular among learners at all levels than the monolingual ones and are, often, the first dictionaries encountered by EFL learners (Bensoussan, Sim, & Weiss, 1984). The majority of experts of foreign language have supported the use of this type for both vocabulary learning and reading comprehension.

Furthermore, Nation (2001) claimed that bilingual dictionaries are useful references for reading comprehension because they supply learners with words that are easy to understand even for beginners. Knight (1994) said, “Lower proficiency learners show improved reading comprehension from using bilingual” (p. 290). In other words, bilingual dictionary use helped learners achieve the threshold of comprehension specially the less proficient ones.

Finally, using dictionary (bilingual or monolingual) as sources helps learners develop vocabulary knowledge and reading comprehension.

Conclusion

This section has dealt with the cognitive strategies used in reading tasks, mainly, resourcing, and inferencing. Inferencing develops learners’ cognitive capacities through
employing their prior knowledge. Resourcing, on the other hand, strategy is seen as an important in developing comprehension and vocabulary learning. Each strategy complete the other i.e. learners cannot generate inferences without understanding meaning of, almost, all the unknown words and versus. Implementing both of them in reading activities can lead to an improvement in students’ comprehension.
Section Two: Reading Comprehension

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Introduction

It is evident that reading is one of the language skills that will never be left in education. It allows learners to connect with thoughts of others (the past and the present ones). In EFL context, reading is considered as one of the most important strands of literacy because it develops learners’ competencies in many areas such as: word recognition, fluency, motivation, and comprehension. The ability to read and comprehend written texts produces confident and independent readers.

Interestingly, this section tends to provide an overview about reading, reading comprehension, and different processes of comprehension. It aims also at shedding some light on comprehension deficits EFL learners face while reading as well as some factors that may affect reading comprehension.

1.2.1. Definition of Reading

In the field of education and especially in EFL classes, reading is in fact considered by many scholars a very efficient and good way of learning the English language. It helps EFL readers decode or figure out how to pronounce words in the texts and then automatically comprehend the meaning of these words. Many experts believed that reading is a very complex process. Hence, they have not fixed a clear definition for this notion. The reason behind, argues Zhang (2009), is that their understanding of reading differs from one to another.

Weaver (2009), in his book Reading Process, has defined reading as follow:
Reading is a process very much determined by what the reader’s brain, emotions, and beliefs bring to the reading: the knowledge /information (or misinformation, absence of information), strategies for processing text, moods, fears and joys—all of it […] The strategies one uses vary according to one’s purpose, including whether one is reading for oneself only (still the purposes vary) or for somebody else, such as reading to answer comprehension questions, reading to perform for listeners (including the teacher and classmates), and much more. (p.8)

On the basis of this definition, reading includes both the cognitive process, which involves the ability to use the mind whether to grasp the information or to gain new knowledge and includes the different strategies readers apply that can affect his/her way and purpose of reading. Weaver also stated that reading is the readers’ abilities to master a set of skills: phonics, fluency, vocabulary, and comprehension and, then, use it to process the written texts.
Another definition of reading regards that this language skill refers to a combination of the readers’ background knowledge (what they already know), their mental processing, and the text input (Kuzborsk, 2011). In other words, reading refers to the skill of using the mental processes through recapturing a particular knowledge of word from previous experience and relates it to what is written in the text.

Finally, Bakke (2010) claimed that everyone have an idea about ‘what reading is’ but explaining how the reading process happens is somehow difficult. She believed that the reading process is a very complex one involving transforming print into language in order to extract the information intended by the author.

### 1.2.2. Models of Reading

In trying to explain how the reading process happens in a more detailed way, researchers have agreed upon three models: Bottom-up, top-down, and interactive model. These models show the way the reader’s mind works from the beginning of the reading process until the end (getting the message).

#### 1.2.2.1. Bottom-up Models

This model of the reading process hypothesizes that reading begins with examining each part of the language (letters) and then putting these parts together to understand the whole text (meaning). According to Gough’s (as cited in Weaver, 2009) model, reading is described as a serial mental process. Readers begin by ‘identifying’ the features of written language (letters) then ‘combine’ these letters to ‘recognize’ spelling patterns then to recognize words, proceed to sentence, paragraph, and finally the whole text. The key idea here is “decoding” i.e. when learners read they start decoding the basic units of the text (letters or words) into their aural equivalents (sound representation), then they move from these to try to get the text’s whole meaning so he called it ‘data-driven’.

Moreover, Goodman (as cited in Treiman, 2001) said that “Bottom-up approaches are series models where the reader begins with the printed word, recognizes graphic stimuli, decodes them to sound, recognizes words, and decodes meanings” (p. 6). Therefore, bottom-up processes emphasize readers to rely on decoding the different features of the text to comprehend it.

It is needed to be pointed out, however, that this model had been criticized by many scholars for being an inefficient way to process a text because it neglects the role of students’ prior knowledge, as a facilitating variable, of language and how it works. Moreover, this approach slows readers’ comprehension of large units because it puts
emphasis on decoding each unit of language i.e. the focus is no longer the meaning of the whole text but the linguistic forms (Weaver, 2009).

1.2.2.2. Top-Down Models

The top-down model have been defined by experts as an approach to reading which considers readers’ prior knowledge and expectations as the basis of text comprehension. Goodman (as cited in Pearson & Kamil, 1978) stated that “top-down models assume that the translation process begins in the mind of the reader with hypothesis or guess about the meaning of some unit or print” (p. 4). He hypothesized that readers activate their expectations, using their background knowledge, about the topic to be read when they begin or while reading to interpret the text meaning. Such a hypothesis depends on the readers’ store of knowledge. In other words, if EFL readers have a high degree of background knowledge they will overcome comprehension deficiency.

Furthermore, Smith (as cited in Bakke, 2010) pointed out in this model that readers should emphasize the use of four reading processes: prediction, confirmation, correction, and finally termination. He stated that the reader predicts what he is about to read, then when he starts reading he may confirm or correct his predictions and finally he can get the authors’ message.

Therefore, in contrast to the bottom-up process that entails that word decoding is the main aspect of text understanding, top-down focuses on the readers’ prior knowledge. All the experts have agreed on the importance of using both processes while reading to develop better comprehension.

1.2.2.3. The Interactive Models

Rumelhart (1981) was the first to develop the interactive reading model. He defined it as:

in brief, an interactive model is one in which data-driven, bottom-up processing, combines with top-down, conceptually driven, processing to cooperatively determine the most likely interpretation of the input […] interactive model is thus a form of a cooperative processing in which knowledge at all levels of abstraction can come into play in the process of reading and comprehension. (p. 37)

In other words, the reader combines his knowledge of the word structure (word identification) with the deep structure (background knowledge) to reach the whole meaning of the reading material as well as to develop the cognitive abilities of learners. He also indicated that the interactive model works as following: the reader starts hypothesizing and setting expectations for the information in front of him through visualizing the input by
using his prior knowledge of letters, words, phrases, and sentences which facilitates processing of the text.

Stanovich (as cited in Rumelhart, 1981) also supported Rumelhart’s model, he stated that “the interactive approach stresses both what is on the written page and what a reader brings to it using both top-down and bottom-up skills. It views reading is the interaction between reader and text” (p. 38).

To sum up, this process validates both methods (bottom-up and top-down) of comprehending reading text with realizing that learners process information in very different ways.

1.2.3. Types of Reading

Researchers have found that learners employ different types of reading when they need to accomplish a particular goal. Therefore, researchers have identified and presented two main types: extensive and intensive reading.

1.2.3.1. Extensive Reading

Many scholars consider extensive reading as an approach to FL reading in which learners read large reading quantities or materials in a direct and fluent way for the purpose of pleasure. Long and Richards (as cited in Robb & Susser, 1989, p. 241) identified extensive reading as "occurring when students read large amounts of high interest material, usually out of class, concentrating on meaning, "reading for gist" and skipping unknown words." That is, this type of reading does not require checking dictionaries frequently when facing unknown words because learners’ goal is, only, to get the story main idea not the specific details.

Moreover, Robb & Susser (1989) added to their definition the importance of reading easy texts especially for EFL learners. They meant by “easy” that the text should contain no more than 1-2 % of unknown and difficult words therefore, learners will not make frequent use of dictionary this will make learners feel like if they are reading naturally i.e. as if they are reading in the mother tongue.

Language learning researchers have considered extensive reading as a good type for any language development. In the EFL context, they believed that this form of reading helps learners build vocabulary and grammar structure because when reading learners meet thousand of new lexical and grammar patterns, and reading extensively, i.e. meeting those patterns more then ten times, will defiantly help learners master new words as well as help them understand how grammar is really used. They also pointed out its importance on developing learners’ reading speed and fluency.
Finally, researchers have called EFL teachers to encourage their students to read whenever it is possible because the more they read, the more they will learn, and the more they will enrich different aspects of the language.

1.2.3.2. Intensive Reading

In contrast to extensive reading, which deals with the larger area of reading, intensive reading on the other hand deals with the narrower one. It requires readers to read carefully, concentrate, and to focus to the deep structure or the specific details of the text to extract the meaning, for the purpose of accomplishing a particular reading task given by the teacher (Miller, 2011).

According to Texas Women’s University Counseling Center (2014, p.7), “The intensive reading is reading for a high degree of comprehension and retention over a long period of time. It is basically a study technique for organizing readings that will have to be understood and remembered.” This entails that intensive reading involves reading the text line by line to comprehend the meaning of the words as well as to store the information learned in the memory for a long period of time because what counts in intensive reading is comprehension and remembering.

However, this form of reading has been criticized for being tedious, i.e. it lasts for a long period of time because the reader’s focus is on the sentence structure, in which s/he is obliged to translate every difficult word to understand its meaning; referring every moment to the dictionary. Therefore, this slows the reading process and makes it less interesting (Miller, 2011).

Finally, scholars have found that extensive and intensive readings are both complementary to each other. The reader should use both of them to develop better language learning.

1.2.4. Reading Comprehension

1.2.4.1. Definition of Reading Comprehension

According to several experts, reading comprehension is simply defined as the process of extracting and constructing meaning through co-operation with written language. Hoover and Gough (1990) pointed out that reading comprehension is the connection of oral comprehension skills and decoding, i.e. readers could orally monitor and interpret what they were reading.

In addition, Pardo (2004, p. 272) defined it as “the process in which readers construct meaning by interacting with text through the combination of prior knowledge and previous experience, information in the text, and the stance the reader takes in relationship
to the text.” Here, Pardo viewed reading comprehension as an integration of the readers’ background knowledge and his knowledge of the text information.

Similarly, Gilakjani and Ahmadi (2011) stated that reading comprehension definition moved beyond word recognition or what is known as the receptive process to an interactive process, in which the reader has to use both models of reading (top-down and bottom-up). That is, the reader has to bring something from the information he possesses (what s/he already know) to construct the meaning of what he/she read. This was supported by Ulmer et al, (n.d., para: 1), they said that “reading comprehension is the reciprocal interactions among reader, text, and the context of the reader’s prior literacy schema. It is an interactive and complex process.” Noteworthy in this definition are the words reciprocal and schema, which entails that the reader cannot extract the whole meaning of the text without combining their prior knowledge with the information in the text.

Therefore, from the above definitions, reading comprehension is the process of constructing meaning through the active involvement of the reader’s background knowledge, the information deduced by the written language, and the reading situation context. If the reader’s background about the written information is low, he will not be able to make sense or connects what he/she is reading.

1.2.4.2. **Reading comprehension processes**

Researchers have divided the processes that occur in the working memory into two processes: lower-level processing and higher-level one.

**1.2.4.2.1. Lower-Level Processes**

Grabe (2014, p. 9) stated that lower level processes include “fast, automatic word recognition skills, automatic lexico-syntactic processing (automatically recognizing word parts and morphological information and automatically parsing the immediate clause for syntactic information), and semantic processing of the immediate clause into relevant meaning units”. In other words, it is the ability to understand the meaning of words rapidly and integrate it with the grammatical information to build a coherent idea called (semantic proposition formation).

However, he claimed that these processes are possible only if the reader possesses a good word reading (fluent) and an appropriate amount of vocabulary because if his word recognition is not automatic and fast he will fail in comprehending reading (Grabe, 2014).
1.2.4.2.2. Higher-Level Processes

Higher-level processes are typically viewed as those processes, which deal with the ability to comprehend texts that are more complex, it demands more the reader’s attention (conscious). According to Kuzborska (2011, p. 104), higher-level processes include:

A reader’s ability to establish purposes for reading, to monitor comprehension, to use reading strategies, to make inferences of many types, to draw on background knowledge, to recognize and process discourse structure and discourse signaling in texts, and to critically evaluate the information being read.

It means, the reader activates his background knowledge with the use of some cognitive strategies to infer, interpret, and then comprehend the message intended by the author, according to his purpose of reading.

Grabe (2014) has offered some examples related to higher-level processes, which are: forming main idea meanings, recognizing related and thematic information, building a text model of comprehension (reader’s comprehension of the author’s message), making inferencing, and using background knowledge.

Overall, Grabe (2014) stated that the higher level processes in combination with the lower-level processes form the cognitive processing resources that help the readers to carry out reading for many purposes. Therefore, the reading purpose controls reading comprehension processes.

1.2.4.3. Components of Reading Comprehension

For many EFL learners, reading comprehension is a very challenging task. This task requires knowledge of essential components. Learners who have a thorough idea about these components comprehend texts easily. Researchers have divided these components into five.

1.2.4.3.1. Phonemic Awareness

Experts define phonemic awareness as the learners’ knowledge of word’ sounds, how are pronounced, and how to combine and separate them into words. For example if the learner knows that the combination of the four phonemes (the smallest units of sounds within spoken language) /b/, /l/, /e/, and /s/ make up the word bless, and that other words such as blend, blade, blame start with the same phoneme, they defiantly have phonemic awareness. Therefore, phonemic awareness is learners’ ability to recognize, isolate, and combine word’ sounds. (NRP, 2000)
As an example to check learners’ understanding of phonemes, teacher may ask those questions:

- What word is made from combining those sounds: /k/ /a/ /t/?
- How many phonemes are there in the word lake?
- What is the first sound in the word section?

Moreover, through a number of studies, researchers pointed out that EFL learners who have developed better phonemic awareness can comprehend easily printed materials, i.e., connect what appears in the text (words), their meaning, and pronunciation, with what is stored in their memory. Therefore, they encouraged teachers to teach this skill explicitly from the beginning to improve learners’ abilities in recognizing the unfamiliar printed words.

1.2.4.3.2. Phonics

The National Reading Panel (2000) have defined it as “the relationship between a specific letter and its sound, only as it relates to the written word” (p.1). That is, phonics is learners’ ability to say letters and the sounds represented by these letters. It is also used in writing in which the learner make use of a sound/letter combination to spell words. In other words, if the learner is aware of the relationship between sounds and letters of the English language he will easily spell the word. For example, if he is asked to spell the word spell he might begin with writing s, the /s/ sound. Then, the sound /p/ and he writes p and so on.

Therefore, researchers emphasized the importance of teaching explicitly phonics rules. Teaching learners how to combine sounds with their letters, and teach them how one sound can be represented by different letters such as the phoneme /k/, which stands for the letter c and k, will help them in decoding the text (NRP, 2000).

To sum up, phonemic awareness and phonics are two processes learners use to identify, read, and comprehend the unfamiliar words. Both are based on the learners’ knowledge of alphabet.

1.2.4.3.3. Fluency

Another component of reading comprehension is fluency. NRP (2000) considered fluency as the learners’ abilities to read print texts accurately with efficiency. They believed that fluency depends on word recognition. This means, if learners are fluent in reading their word reading is automatic, i.e. they concentrate on comprehending the whole rather than on decoding each word.

The best way to develop fluency, for many researchers, is by practice. Re-reading familiar texts several times, books, or reading loudly improve learners’ fluency. However,
NRP (2000) agreed that the texts chosen for developing reading fluency should not contain difficult vocabulary because if so, the learner will concentrate on decoding individual words that will hinder their fluency.

1.2.4.3.4. Vocabulary

It is obvious that learners have to own an appropriate amount of vocabulary in order to communicate effectively. In reading, vocabulary knowledge is considered as the first step for reading success. NRP (2000) stated that when learners read they rely on oral vocabulary, i.e. they recognize the words they see in print from the way they pronounce it (correspond to the spoken one). Therefore, comprehension is easier when the readers come across words that are part of their oral language and when the readers do know a number of words.

Additionally, vocabulary is important in both learning to read and reading to learn the information. That is, if the learners are supposed to learn a specific thing in the written text they need to understand the meanings of the words they read.

1.2.4.3.5. Text Comprehension

The final component of reading comprehension is text comprehension. It involves the process of extracting the meaning through connecting what is written in the text with what the reader already know, and continue thinking about the whole information until it is understood (Brown, 2002).

According to him, this process requires from learners the following:

- Use a set of reading strategies to enrich their comprehension such as monitoring, guessing, questioning…etc.
- They should be aware when deciding about the reading strategy to be employed.
- An effort is required to achieve a high level of comprehension because being able to comprehend texts is attributed to effort more than ability.

Finally, as it is stated above reading comprehension is a very challenging task requires teachers to blend the five components (phonemic awareness, phonics, fluency, vocabulary, and comprehension) in an appropriate way that meets all learners’ needs in comprehension.

1.2.4.4. Reading Comprehension Difficulties

Difficulties with comprehending and remembering what is written have been reported by many exports. For Elwér (2014) a deficit in reading comprehension is “the result of a specific problem in one of the two skills involved in reading comprehension (i.e., decoding or linguistic comprehension) or a combination of deficits in both skills”(27).
In addition, Sanford (2015) added to poor decoding and poor in comprehension, poor working memory as the difficulties learner may face in comprehension.

Decoding difficulties is one of the most important factors that create struggling readers. If the reader is unable to match the sound with its letter, he will struggle to understand the text meaning as it is claimed by Nation (2004, p. 250) “when decoding is slow and effortful, resources are dedicated to word-level processing. By contrast, when decoding is automatic, resources are available for the task of comprehension.” Additionally, students with low working memory capacities often find it difficult to remember what they have just read and connect it with their prior knowledge to understand the topic unlike those with high working memory that, stores the information needed to be learned temporally in short-term memory (Sanford, 2015).

**Conclusion**

To sum up, reading comprehension is complex process involves combining the texts clues with the reader’s prior knowledge to comprehend the overall. Since it is a complex process EFL teachers and learners have to work hand by hand to improve it. One way to improve EFL learners reading comprehension is through learning its essential five components. Through this section, we have seen reading comprehension, its definition, processes, components, and finally difficulties.
CHAPTER TWO: FIELDWORK (ANALYSIS OF THE RESULTS)

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Introduction

The present study is designed to investigate the hypothesis; whether or not fourth year pupils of Berkani Ali middle school would improve reading comprehension by making use of inferencing and resourcing strategies. At first, the theoretical chapter has dealt with the collection of different researchers’ views about the variables of this study (inferencing and resourcing) and (reading comprehension). This chapter, then, is intended to complete our study through providing a detailed description of research design, the method used, the participants who took part in the study, the setting, and the procedures followed.

2.1. Choice of the Method

Since this research aims at finding out the effectiveness of using reading strategies, namely inferencing and resourcing, on developing reading comprehension, an experimental design seems to be the most suitable method to achieve the aim. This design allows the researcher to test cause-and-effect hypothesis, and draw conclusions through comparing two groups (experimental and control groups) on one possible result.

Therefore, following an experimental design, in many terms, helps us to estimate the causal impact of reading strategies (inferencing and resourcing) as an independent variable on enhancing students’ reading comprehension as a dependent one. In other words, we have followed this design to see whether or not students’ reading comprehension will be improved through the use of inferencing and resourcing strategies.

2.2. Population and Sampling

The population for our research is fourth year pupils at Berkani Ali middle school for the academic year 2015/2016. The total number of pupils in this population is 120 with different genders, abilities, and age between 14 and 16. Out of this population, two groups were chosen randomly as sample. The sample is composed of 22 pupils in each group (experimental and control group). What made those pupils the perfect candidates for our study are the following reasons. First, it is assumed that at this level, unlike the previous ones, textbook requires pupils to read certain texts followed by comprehension questions to be answered.

In addition, it is believed that those learners are familiar with reading activities because, as we all know, their English tests and exams are in a form of text followed by comprehension questions. Furthermore, at this level students have a sufficient knowledge of English that enables them to participate in the experiment.
2.3. The Research Design

The present study is an experimental study conducted to check the hypotheses through investigating two groups. This investigation addressed one research question, which is:

- Do resourcing and infrencing have an effect on improving pupils’ reading comprehension?

The question can be reformulated as the following:

Is there a statistically significant difference in comprehending written texts between those who were exposed to the reading strategies (inferencing and resourcing) and those who were not?

Accordingly, we hypothesize that:

\( H_1 \): Using inferencing and resourcing in the classroom would improve pupils’ reading comprehension.

That is, there would be a statistically significant difference in comprehending written texts between students who were taught reading through using inferencing and resourcing strategies and those who were taught reading comprehension without using these strategies. Accordingly, the null hypothesis would be:

\( H_0 \): Using inferencing and resourcing in class would not improve pupils’ reading comprehension.

The nature of our research, therefore, requires an experiment in which both the control group and the experimental one go through three phases:

Table 1: Research Design

<table>
<thead>
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<th>Sample</th>
<th>Pre-test</th>
<th>Treatment</th>
<th>Post-test</th>
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<tbody>
<tr>
<td>Experimental Group</td>
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<td>T+ MCQ</td>
<td>T+ MCQ</td>
</tr>
<tr>
<td>Control Group</td>
<td>T+ MCQ</td>
<td>T+ MCQ</td>
<td>T+ MCQ</td>
</tr>
</tbody>
</table>
2.4. Procedure

2.4.1. The Pre-test Phase

In the process of carrying out the present research, pupils in both experimental and control groups received a pre-test in which they were asked to read a short text followed by comprehension questions (see Appendix A). The first part of comprehension questions was concerned with asking pupils questions related to inferencing strategy. Each question tackled a specific area of inferences. In the first question, for instance, pupils were asked to select the main idea, which was not stated explicitly as it is usually. In the second one, pupils were supposed to provide the words helped them in their selection. Here, the aim was to see whether their selection was based on understanding or just on luck. The third one included three true or false statements. In the fourth question, pupils were supposed to choose the right answer and to provide an explanation for the choice. This question was intended to test students’ background knowledge.

The second part was concerned with the resourcing strategy in which pupils were asked one question; to match the word with its appropriate definition. However, pupils were supposed to answer without using any materials, particularly, dictionaries. The aim behind this activity was to assess pupils’ vocabulary knowledge. Pupils were given one hour to answer the questions of the test and they were asked to work individually without helping each other taking all the time they need in answering each question. The test depicted student’s comprehension level through scores.

2.4.2. Treatment

After the pre-test, the experimental group received the treatment, which lasted four (4) sessions, one hour for each. Pupils in the experimental group were taught using the two strategies (inferencing and resourcing), whereas those of the control group were taught reading comprehension by their instructor without using these strategies.

2.4.2.1. Experimental Group Instruction

Throughout the period of the treatment, the experimental group was explicitly taught the two cognitive strategies, inferencing and resourcing (Appendix C, D, E, F). Pupils were at first asked to read carefully the text in pair. For the first part of the comprehension questions, we have explained the ambiguous questions for pupils through explaining inferencing strategy; its definition, how to use background knowledge, and how to perform it to answer the implicit question through providing a number of examples.

For the second part, pupils were instructed to use the dictionary to find the meaning of the words they did not know. Here, pupils used both dictionary types (the bilingual and
the monolingual). Importantly, in each session, pupils were exposed to different texts. The four types of texts are:

**Session 1:** Narrative text

**Session 2:** Descriptive text

**Session 3:** Conversation

**Session 4:** Narrative text

The reading comprehension questions were designed in a way similar to what pupils used to receive in their exams with only two different questions. The texts used were adopted in a way that suited the pupils’ level and interest.

### 2.4.2.2. Control Group Instruction

In contrast to the experimental group, which was receiving the treatment through using inferencing and resourcing explicitly, the control group members were not receiving the same treatment. They proceeded dealing with the reading activities in the common way, without focusing on the explicit use of any reading strategy. They were asked to read texts provided in their textbook followed by questions to be answered.

### 2.4.3. The Post-test Phase

After four weeks of the treatment period, a post-test was administrated for both groups (experimental and control group). The post-test structure and the type of the questions were similar to the pre-test. The aim behind this test was to see whether there is any significant improvement on pupils’ comprehension after the treatment. Importantly, as the pre-test, pupils were put under the same conditions; they were required to answer the questions individually in a period of sixty (60) minutes.

### 2.5. Instruments

#### 2.5.1. Test Used in Pre-testing and Post-testing

This study was conducted to see whether there is any effect of using two reading strategies on fourth year middle school learners’ reading comprehension. Hence, the two groups (experimental and control groups) received two tests (pre-test and post-test) identical in the structure and the form of the questions but different in the content. The two tests consist of a short text followed by seven comprehension questions to be answered in accordance with inferencing and resourcing strategies.
2.6. Scoring

Both tests (pre-test and post-test) were scored out of twenty (20) points. The test consists of seven questions. The first part (making inferences) was scored out of twelve points. That is, three questions for selecting the correct answer, two were scored out of two (2) and one out of one (1). Other two (2) points were for mentioning the words that helped them in guessing the correct answer, each word was scored on (0.5) point. Concerning the question with three true or false statements, each statement was out of one (1) point. The second part was out of eight (8) points, each scored on (0.5) point.

2.7. Statistical Analysis

In order to test the hypotheses and to see whether there is an effect of the independent variables (inferencing and resourcing) on the dependent variable (pupils’ reading comprehension) two parametric tests were used; the independent sample t-test and the paired samples t-test. The independent sample t-test is used to compare the scores obtained from the pre and post-test of the two groups (experimental and control group). In other words, it is used to see the significant differences that exist after receiving the treatment. The second one is the paired samples t-test. The aim behind it is to find out whether the treatment has any impact on improving pupils’ reading comprehension in the post-test in comparison to that of the pre-test.
2.7.1. Results of the Pre-test

Table 2: The Control Group and the Experimental Group’s Results in the Pre-test

<table>
<thead>
<tr>
<th></th>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>8</td>
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<tr>
<td>3</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>11</td>
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<tr>
<td>5</td>
<td>5</td>
<td>5</td>
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<tr>
<td>6</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>12</td>
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<tr>
<td>8</td>
<td>11</td>
<td>11</td>
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<td>9</td>
<td>13</td>
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<td>10</td>
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<td>11</td>
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<td>12</td>
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<td>13</td>
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<td>14</td>
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<td>15</td>
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<td>16</td>
<td>5</td>
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<tr>
<td>17</td>
<td>6</td>
<td>7</td>
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<td>18</td>
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<td>5</td>
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<td>19</td>
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<td>4</td>
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<tr>
<td>21</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>22</td>
<td>11</td>
<td>8</td>
</tr>
</tbody>
</table>

Mean: \(X_{co} = 8.14\)  \(X_{ex} = 8.27\)

Variance: \(V_{co} = 5.922\)  \(V_{ex} = 6.981\)

Std. Deviation: \(SD = 2.434\)  \(SD = 2.642\)
The second table represents the scores of both groups (the experimental and control group) on the pre-test. It was designed in order to see the performance level of both groups before the treatment period. Through it, we can notice that there is a slight difference between the scores of the two groups. The lowest score obtained in the experimental group is similar to that of the control group, which is four (4), and the highest score obtained by both of them was fourteen (14), two participants scored it.

We had used the SPSS as a tool to calculate the mean, standard deviation, variance, and standard error of the mean. SPSS stands for *Statistical Package for the Social Sciences*, and is the most frequently used software among psychologists, sociologists and linguists (and probably in many other fields) to perform statistical computations. The control group scored a mean $X_{co} = 8.14$ and the experimental group’s mean is $X_{ex} = 8.27$. Thus, from the total number of 44 scores, we have the following percentages:

| Control group: | 13 ≥ 8 → 59.09% ≥ 8 |
|               | 9 < 8 → 40.91% < 8  |
| Experimental group: | 15 ≥ 8 → 68.18% ≥ 8 |
|                 | 7 < 8 → 31.82% < 8  |
2.7.1.1. Independent Sample T test for the Pre-test

An independent sample t-test is used to compare means from independent groups. We have compared pre-test scores between experimental group and control group subjects using two independent samples.

Data: Two independent samples of pre-test scores, one from EG and one from CG. Same data can be found in table (2).

Substituting our values:

\[
t = \frac{(\bar{X}_{ex} - \bar{X}_{co})}{\sqrt{\frac{\text{var}^21}{n} + \frac{\text{var}^22}{n}}}
\]

Our obtained or calculated t-value is 1.94. Our degree of freedom (df) equals the total group size 44 (df = n1+n2-2, df= 44-2=42). Entering a D table with 42 degrees of freedom, we see that for alpha \( \alpha = 0.05 \) the tabled value is 2.01.
Our calculated value is less than the tabled value at alpha = .05 i.e. (1.94 < 2.01). Therefore, we can assume that the two groups are similar (the group variances are equal); there is no significant difference between them before the treatment period.

2.7.2. Results of the Post-test

Table 3: Control Group versus Experimental Group scores on the Post-test

<table>
<thead>
<tr>
<th></th>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
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<td>17</td>
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<tr>
<td>7</td>
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<td>17</td>
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<tr>
<td>8</td>
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<td>13</td>
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<tr>
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<td>10</td>
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<tr>
<td>11</td>
<td>10</td>
<td>8</td>
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<tr>
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<td>13</td>
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<td>14</td>
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<td>10</td>
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<tr>
<td>15</td>
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<td>11</td>
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<tr>
<td>16</td>
<td>5</td>
<td>12</td>
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<tr>
<td>17</td>
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<td>11</td>
</tr>
<tr>
<td>18</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>19</td>
<td>5</td>
<td>9</td>
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<tr>
<td>20</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>21</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>22</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Mean</td>
<td>9.18</td>
<td>11.18</td>
</tr>
<tr>
<td>Variance</td>
<td>9.394</td>
<td>9.775</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>3.065</td>
<td>3.126</td>
</tr>
<tr>
<td>Std. Error of Mean</td>
<td>0.653</td>
<td>0.667</td>
</tr>
</tbody>
</table>
The table above represents the post-test scores of the experimental and control groups. It was designed to see whether the level of the performance of both groups in answering comprehension questions was changed after the treatment period or not. We can notice that the participants’ scores have witnessed changes after the treatment period: the experimental group with a mean $X_{ex} = 11.18$ and the control group with a mean $X_{co} = 9.18$. The lowest score for the experimental group was (6) and the highest was (17), whereas the control group lowest score was (5) and the highest was (16).

For a total number of 44 scores, we have:

- **Control group:**
  - $15 \geq 8 \rightarrow 68.18\% \geq 8$
  - $7 < 8 \rightarrow 31.82\% < 8$

- **Experimental group:**
  - $20 \geq 8 \rightarrow 90.91\% \geq 8$
  - $2 < 8 \rightarrow 9.1\% < 8$

**Figure 2.** Experimental and Control Group’s Scores Distribution on the Post-test

### 2.7.2.1. Independent-Sample T Test of the Post-test

We have used the SPSS to calculate the mean and variance of both groups (experimental and control group) in the post-test. The experimental group mean is $\bar{X}_{ex} = 11.18$, the average increased (from 8.14 to 11.18) and it is higher than the control group mean which is $\bar{X}_{co} = 9.18$. 
Substituting our values:

\[
 t = \frac{(X_{\text{ex}} - X_{\text{co}})}{\sqrt{(\text{var}^2_1/n) + \text{var}^2_2/n}}
\]

\[
 t = \frac{(11.18 - 9.18)}{\sqrt{(95.45 + 88.17)/22)}
\]

\(\bar{X}_{\text{ex}}\) the mean of the experimental group
\(\bar{X}_{\text{co}}\) the mean of the control group
\(\text{var}^2_1\) the variance of the control group
\(\text{var}^2_2\) the variance of the experimental group

\(t = 2.88\)

Our calculated \(t\) value is 2.88. Our degree of freedom equals the total group size (44) minus 2, or 42. Consulting a \(t\) table with 42 degrees of freedom, we see that for \(\alpha = .05\) the tabled value is 2.01.

We can observe that our calculated value is larger than the tabled value at \(\alpha = .05\), (2.88 > 2.01). Therefore, we can deduce that there is a statistically significant improvement achieved by the experimental group compared to the control group. In other words, we reject the null hypothesis and accept the alternative hypothesis, namely, that the difference in gaining scores is likely to be the result of the experimental treatment and not the result of chance. This also indicates that any difference existing between the two groups in our sample also exists in the population.
### 2.7.3. Control Group Pre-test versus Control Group Post-test

**Table 4: Control group’s Difference Scores between the Pre-test and Post-test**

<table>
<thead>
<tr>
<th>Control group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>7</td>
<td>+2</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>11</td>
<td>+3</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>7</td>
<td>-1</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>5</td>
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</tr>
<tr>
<td>5</td>
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<tr>
<td>6</td>
<td>11</td>
<td>14</td>
<td>+3</td>
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<tr>
<td>7</td>
<td>6</td>
<td>10</td>
<td>+4</td>
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<td>8</td>
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<td>9</td>
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<tr>
<td>11</td>
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<td>+2</td>
</tr>
<tr>
<td>12</td>
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<tr>
<td>13</td>
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<td>9</td>
<td>+1</td>
</tr>
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<td>+5</td>
</tr>
<tr>
<td>22</td>
<td>11</td>
<td>8</td>
<td>-3</td>
</tr>
</tbody>
</table>

\[ \bar{X}_{pr} = 8.14 \quad \bar{X}_{po} = 9.18 \quad \bar{d} = 1.04 \]

Table four (4) is designed to calculate the difference scores between the pre-test and the post-test of each participant in the control group. We can notice that the control group scored a higher post-test mean \( \bar{X}_{po} = 9.18 \) than the pre-test mean \( \bar{X}_{pr} = 8.14 \). The mean difference score is \( \bar{d} = 1.04 \).
From the total number of 22 scores in the controlling group, we get the following:

<table>
<thead>
<tr>
<th></th>
<th>≥ 8</th>
<th>&lt; 8</th>
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</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>59.09%</td>
<td>40.91%</td>
</tr>
<tr>
<td>Post-test</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>68.18%</td>
<td>31.82%</td>
</tr>
</tbody>
</table>

**Figure 3.** Scores Differences in the Pre and Post-test for each Participant in the Control Group

### 2.7.3.1. The Paired Sample T-test of the Control Group

A paired samples t-test is used to compare two related means. Shier (2004) provided examples of where this test might occur:

- Before and after observations on the same subjects. For example, students’ diagnostic test results before and after a particular module or course.
- A comparison of two different methods of measurement or two different treatments where the measurements/treatments are applied to the same subjects.
Carrying out a Paired T-test in SPSS of the Control Group

The simplest way to carry out a paired t-test in SPSS is to compute the differences (using Transform, Compute) and then carry out a one-sample t-test as follows:

- Analyze ➔ Compare Means ➔ One-Sample T-test ➔ Choose the difference variable as the Test Variable and click OK

The output will look like this:

**Paired Samples Statistics**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Group Pre-test</td>
<td>8.14</td>
<td>22</td>
<td>2.642</td>
<td>.563</td>
</tr>
<tr>
<td>Control Group Post-test</td>
<td>9.18</td>
<td>22</td>
<td>3.065</td>
<td>.653</td>
</tr>
</tbody>
</table>

**Paired Samples Correlations**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>22</td>
<td>.555</td>
<td>.007</td>
</tr>
</tbody>
</table>

**Paired Samples Test**

<table>
<thead>
<tr>
<th></th>
<th>Paired Differences</th>
<th>t</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td>95% Confidence Interval of the Difference</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 1</td>
<td>Control Group Pre-test - Control Group Post-test</td>
<td>-1.045</td>
<td>2.716</td>
<td>.579</td>
</tr>
</tbody>
</table>

*Figure 4. Reading the Paired-Sample Output of the Control Group*
The figure presents the output for the Paired-Sample T test for the CG. It consists of three major parts: Paired Samples Statistics, Paired Samples Correlations, and Paired Samples Test. The paired samples statistics output provides the mean, sample sizes (N), standard deviations, and the standard error of the mean (the standard deviation divided by the square root of n). The Paired Samples Correlations output presents a hypothesis testing.

Additionally, the paired sample t test shows the mean difference between the two tests (pre/post-test), and the standard deviation and standard error associated with that difference. The mean difference in this case is 1.04. It also shows a "95% confidence interval" for the difference between the means which tells us that on 95% of occasions, the difference between the two tests would be somewhere between -2.250 and 0.159.

At alpha level = 0.05, we can notice that Sig. (2-tailed) = 0.085 which means that 0.085 > 0.05 (larger than 0.05). We can say that there is not a significant difference between the pre and post-test in the control group. In other words, no significant difference was found between the controlling group pre/post-test in terms of reading comprehension. Therefore, from the results obtained we can conclude that we are 95% confident that the difference between the means of the pre-test and post-test in the control group is due to chance.
### 2.7.4. Experimental Group Pre-test versus Experimental Group Post-test

**Table 5**: Experimental Group’s Difference Scores between the Pre-test and Post-test

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>13</td>
<td>+3</td>
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<td>2</td>
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<td>9</td>
<td>+1</td>
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<td>3</td>
<td>5</td>
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<td>13</td>
<td>8</td>
<td>13</td>
<td>+5</td>
</tr>
<tr>
<td>14</td>
<td>8</td>
<td>10</td>
<td>+2</td>
</tr>
<tr>
<td>15</td>
<td>7</td>
<td>11</td>
<td>+4</td>
</tr>
<tr>
<td>16</td>
<td>8</td>
<td>12</td>
<td>+4</td>
</tr>
<tr>
<td>17</td>
<td>7</td>
<td>11</td>
<td>+4</td>
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<tr>
<td>18</td>
<td>5</td>
<td>8</td>
<td>+3</td>
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<td>19</td>
<td>4</td>
<td>9</td>
<td>+5</td>
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<tr>
<td>20</td>
<td>9</td>
<td>9</td>
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<tr>
<td>21</td>
<td>8</td>
<td>14</td>
<td>+6</td>
</tr>
<tr>
<td>22</td>
<td>8</td>
<td>10</td>
<td>+2</td>
</tr>
</tbody>
</table>

\[ \bar{X} = 8.27 \quad \bar{X} = 11.18 \quad \bar{d} = 2.90 \]
Table and figure five represent the different scores obtained by each participant of the experimental group in the pre and post-test. We can notice that the post-test mean $X_{po}$ = 11.18 is higher than the pre-test mean $X_{pr}$= 8.27 with a difference $d= 2.90$. There is a noticeable change from the pre-test to the post-test.

From the total number of 22 scores in the control group, we get the following:

**Pre-test:**

- $15 \geq 8$ → 68.18% $\geq 8$
- $7 < 8$ → 31.82% $< 8$

**Post-test:**

- $20 \geq 8$ → 90.91% $\geq 8$
- $2 < 8$ → 9.1% $< 8$

### 2.7.4.1. The Paired Sample T-test of the Experimental Group

We used this test because we want to see if the difference in scores before and after the treatment period is significantly different. We have followed the same steps to calculate the paired t-test by using the SPSS. Again, the descriptives were automatically calculated as follows:
### Paired Samples Statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 Experimental Group Pre-test</td>
<td>8,27</td>
<td>22</td>
<td>2,434</td>
<td>.519</td>
</tr>
<tr>
<td>Experimental Group Post-test</td>
<td>11,18</td>
<td>22</td>
<td>3,126</td>
<td>.667</td>
</tr>
</tbody>
</table>

### Paired Samples Correlations

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 Experimental Group Pre-test &amp; Experimental Group Post-test</td>
<td>22</td>
<td>.763</td>
<td>.000</td>
</tr>
</tbody>
</table>

### Paired Samples Test

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 Experimental Group Pre-test - Experimental Group Post-test</td>
<td>-2,909</td>
<td>2,022</td>
<td>.431</td>
<td>-3,805 - 2,013</td>
<td>-2.013</td>
<td>21</td>
<td>.000</td>
</tr>
</tbody>
</table>

**Figure 6. Reading the Paired-Sample Output of the Experimental Group**
From the figure above we have the calculated t value is -6.75, the degree of freedom is 21 (N-1), and the significance level is alpha= 0.05 (when the confidence interval is 95%). The tabled t is 2.080 and sig (2 tailed) or the two tailed significance value p is 0.00. If we compare the sig 2tailed to the alpha level, we get:

\[ 0.0 \ < \ 0.05 \] (less than the level of significance)

The p value is less than the significance level (alpha=0.05), it means that a very small probability of this result occurring by chance, under the null hypothesis of no difference. The main hypothesis of this study is accepted and the null hypothesis is rejected because p<0.05. This indicates that the treatment (using inferencing and resourcing strategies) had a clear significant effect on improving the experimental group participants’ reading comprehension.

This shows that there is an evidence \( t = -6.75, \ p = 0.00 \) that using inferencing and resourcing improve pupils’ marks in reading comprehension from time 1 (M= 8.27 and SD= 2.43) to time two (M= 11.18 and SD= 3.12), \( t (21) = -6.75, \ p < 0.05 \) (two tailed). The mean increased in experimental group scores was -2.90 with a 95% confidence interval ranging from -3.80 to -2.01. It suggests that we can be 95% confident that the difference between the means of the pre and post-test in the EG is not due to chance.

2.8. General Discussion

This research was designed with an aim of investigating whether or not using reading strategies, namely, inferencing and resourcing improve students’ reading comprehension. The following research question was raised:

- Do resourcing and inferencing have an effect on improving pupils’ reading comprehension?

In the light of the above question, we hypothesized that:

H1: Using inferencing and resourcing in the classroom would improve pupils’ reading comprehension.

H0: Using inferencing and resourcing in the classroom would not improve pupils’ reading comprehension.

To confirm or reject the hypothesis we have followed an experimental design. The results obtained from this study reveal that the experimental group has showed an improvement in reading comprehension in the post-test compared to the control group. The experimental group post-test scored mean was 11.18, while the control group scored mean was 9.18. Further, the experimental mean difference between the pre and the post-test was \( \bar{d} = 2.90 \), whereas the control mean difference was \( \bar{d} = 1.04 \). This indicates that there is a
statistical significant difference between the pre and post-test in the experimental group and non-significant difference in the control group.

Moreover, the paired simple t-test and the independent t-test prove that the significant improvement witnessed by the experimental group in reading comprehension was due to the manipulation of the independent variable during the treatment period. We can conclude that the hypothesis proposed which indicates that pupils who are taught using reading strategies, particularly inferencing and resourcing, had showed a significant improvement in their reading comprehension is confirmed through the experiment.

Lack of Significant Improvement in the Results of the Control Group

The control group participants did not show any improvement in their reading comprehension because they were taught in the traditional way i.e. they studied reading comprehension without using any reading strategies. In fact, as stated previously the control group mean difference was 1.04, which was statistically not significant.

We can deduce that the control group had not achieved any improvement in reading comprehension because of the traditional methods used for teaching reading. Moreover, it could be due to participants’ limited knowledge in vocabulary, about reading strategies, and limited background knowledge. Hence, no significant progress was shown in answering reading comprehension’ questions.

Significant Improvement for the Experimental Group

The results from the experiment reveal that when using inferencing and resourcing in classrooms as two teaching strategies students improved their reading comprehension. In other words, teaching EFL students how to make inferences, though combining the contextual clues with the one’s background knowledge, to figure out the intended meaning and teaching them how to use references while reading helped them in getting the meaning easily and in developing comprehension.

Therefore, the experimental group significant improvement demonstrates that inferencing and resourcing can be effective strategies that convey to improve EFL students’ reading comprehension. It activates their mental processes, develop vocabulary knowledge, and enables them to connect their prior knowledge to the information being read.

2.9. Pedagogical Recommendations

Based on the findings of this investigation we emphasize the significance of using inferencing and resourcing as two reading strategies to help learners improve their reading comprehension. It is recommended for EFL teachers to use, teach explicitly, and integrate
such strategies in EFL settings. It is recommended because it activates learners’ cognitive abilities through teaching them how to make a connection between what they already know and what they read. Moreover, it is recommended for helping students to overcome their vocabulary problems as they read by teaching them the main strategies that develops vocabulary and facilitate reading comprehension especially the resourcing strategy. Teachers should play a great role in raising their students’ interest towards reading and its importance in learning a language.

All in all, The significant results of applying the reading strategies, namely, inferencing and resourcing in EFL classrooms to enhance reading comprehension indicate that they are beneficial and useful strategies teachers need to use in their classes through training their learners to connect background information with the written one and to use dictionaries.

Conclusion

This second chapter is devoted to the fieldwork. It has presented all the research tools and procedures employed to collect the data. Its aim is to investigate the effect of two cognitive reading strategies (inferencing and resourcing) on improving pupils’ reading comprehension. The findings of this study showed that learners of experimental group achieved a significant improvement in reading comprehension. The obtained results have confirmed what has been hypothesized that: using inferencing and resourcing in class would improve pupils’ reading comprehension.

Limitations of the Study

Like any other research work, the present study has some limitations. The first limitation is related to the duration of the treatment: due to time constrains, the experiment was done only in six sessions, two for the pre- and post-tests and the other four ones for the treatment. However, these strategies need more time to make the learners achieve better goals. Lack of interest by some pupils is another limitation; however, the majority was fully engaged in the experiment.

Further Suggestions

The present study is a combination of two cognitive reading strategies. For further studies, we suggest the link between two metacognitive strategies. Furthermore, the factor of time is very important in carrying out an experimental study. Therefore, future researchers should take it into consideration by trying to devote sufficient time that enables them to reach their objectives.
General Conclusion

To conclude our study, we review what has been already dealt throughout the whole study. First, through classroom observation we have stated the problem, which was that Berkani Ali middle school pupils encounter difficulties in comprehending texts. Therefore, two cognitive reading strategies, particularly inferencing and resourcing have been suggested as a possible solution to overcome that problem. In this regard, our aim is investigating the effect of resourcing and inferencing on improving pupils’ reading comprehension. To fulfill the purpose of the study, we have asked the following question “Do resourcing and inferencing have an effect on pupils’ reading comprehension?”. On the basis of this question, it was hypothesized that “using inferencing and resourcing in class would improve pupils’ reading comprehension” and the null hypothesis was “using inferencing and resourcing in class would not improve pupils’ reading comprehension”.

Our research was tackled in two main chapters. The first chapter covered the theoretical part of the study. The first section included, shortly, the background of reading strategies including inferencing, resourcing, and its importance. The second section provided an overview about reading comprehension. The second chapter represented the practical part of this study. It tackled the analysis of the experiments’ findings. It revealed that using inferencing and resourcing significantly improved pupils’ reading comprehension proved in significant improvements that were achieved by the experimental group. This significant improvement confirmed partly H1 and rejected H0. Finally, we suggested pedagogical recommendations for teachers.
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Texas women’ university counseling center (2014). Intensive reading techniques.


APPENDICES
APPENDIX A: The Pre-test
APPENDIX B: The Post-test
APPENDIX C
APPENDIX D
APPENDIX E
APPENDIX F
APPENDIX A

The Pre-test level: 04AM Timing: 1H

Text:
Sara is a single mother with two young children. Her son is seven years old, and her daughter is six. Sara is a cashier at a Syrian restaurant. Today is a special day for Sara and all women; she wanted to celebrate the day with her family. Unfortunately, she had to work the morning shift from 6:30 to 2:30 because the restaurant is daily opened. Therefore, Sara’s children decided to surprise their mother, they bought pretty card and flowers for her. They also made a special dinner with beef, rice, and salad with their aunt’s help. Sara felt so happy when she saw what her children did for her.

1. Comprehension questions

A/ Select the correct answer

The main idea of this paragraph is: (1.5 pt)

- The working mothers
- How to make a dinner
- Women day celebration

Which words help you guess? (2 pt) .................................................................
.................................................................................................................................

B/ True or False: (3 pt)

- ______ the restaurant Sara works at opens every day.
- ______ Sara is a single mother with two sons.
- ______ children are going to buy a card and a flower for their parents.

C/ When do you think this event happens? : (2 pt)

- Autumn
- Summer
- Winter
- Spring

D/ what give you clue to when this is happening. (1 pt) .................................
.................................................................................................................................

E/ What can you guess from this sentence: « Sara is a single mother with two children »? (1.5 pt)

- Sara’s children have a father.
- Sara’s children have no father.
Directions: Match the columns. Write the letters on the lines. (8 pt)

1. _____ holiday  
   a. your father and mother

2. _____ Mother  
   b. The third month of the year

3. _____ Children  
   c. short way to say father

4. _____ dinner  
   d. kids

5. _____ presents  
   e. gifts

6. _____ aunt  
   f. group of relatives

7. _____ March  
   g. a special day to honor women

8. _____ parents  
   h. place when you can eat a meal

9. _____ Son  
   i. the sister of your father or mother

10. _____ daughter  
    j. meal eaten in the evening

11. _____ spring  
    k. short way to say mother

12. _____ Mom  
    l. mother’s female child

13. _____ restaurant  
    m. mother’s male child

14. _____ family  
    n. season Women’s Day is in

15. _____ dad  
    o. woman who gave birth

16. _____ Women Day  
    p. period of time when you are not at work
APPENDIX B

Post-test          Level 4 AM          Timing: 1H

Text

It is a special day for Beth. She has invited her best friends and family members to come for the day. Her mom and dad prepared for them pizza and a pretty cake; the cake was decorated with words, Beth’s name, and twelve candles. When Beth’s friends arrived at night, the candles were lit. Her guests started singing while she made a wish and took a long breath to blow out the candles. After that, Beth’s friends took turns to hit the piñata. When they left, Beth opened all the gifts.

Comprehension questions

A/ Select the correct answer

What day is Beth celebrating (1.5 pt)?

☐ Mothers’ day
☐ Her birthday
☐ Fourth of July

Which words help you guess?(2 pt)......................................................................................

...........................................................................................................................................

B/ True or False (3pt):

- Beth is turning thirteen years old.
- Beth’s mom prepared for her friends apple pie and a pretty cake.
- The party cake was decorated with Beth’s name.

C / When do you think this event happens ( 1.5 pt)?

☐ The morning
☐ Afternoon
☐ The evening

D / How do you know this (2 pt)?

...........................................................................................................................................

...........................................................................................................................................

E/ What can you guess from this sentence: the cake was decorated with twelve candles?

(1.5 pt)

☐ Beth’s age is twelve.
☐ Beth friends’ number is twelve.
Directions: Match the columns. Write the letters on the lines (8pt)

1. ___ Candle  a. the day on which you were born
2. ___ Mom  b. a sweet food
3. ___ Family  c. short way to say father
4. ___ presents  d. time from afternoon until you go bed
5. ___ Party  e. group of relatives
6. ___ Cake  f. short way to say mother
7. ___ Dad  j. number
8. ___ Wish  h. gifts
9. ___ mother  i. somebody you know well and like
10. ___ Breath  g. the person you invite to your house
11. ___ Evening  k. woman who gave birth
12. ___ Twelve  l. the number of years the person half lived
13. ___ Friend  m. to want something to be true
14. ___ Guest  n. the air you send out from lungs
15. ___ Age  o. round stick of wax it burns to give light
16. ___ Birthday  t. a special occasion often to celebrate something
It was Sunday holiday, Jessica and mark were planting a tree in their backyard. Their parents were watching TV in the living room, and they did not know what the children were doing. Jessica and mark learned an important lesson yesterday at school. Their teachers told them that trees are important to the environment because they create oxygen and provide a home for birds and other small animals. Now, the kids want to surprise their parents by planting a tree in the middle of the backyard. They hope their parents will be happy.

**Comprehension questions**

A/ Select the correct answer

The main idea of this paragraph is:

- [ ] The TV
- [ ] The Arbor Day
- [ ] The sunny day

Which words help you guess? .......................................................... ..........................................................

B/ True or False:

- [ ] Jessica and mark were planting a tree in their house garden
- [ ] trees are important to the environment because they create Carbone dioxide
- [ ] the children plant the tree in the central of the backyard.

C / When do you think this event happens? :

- [ ] January
- [ ] June
- [ ] March

D / How do you know this?.......................................................... ..........................................................

........................................................................................................................................
........................................................................................................................................
Directions: Match the columns. Write the letters on the lines.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>kids</td>
<td>a. season Arbor Day is in</td>
</tr>
<tr>
<td>2</td>
<td>holiday</td>
<td>b. the garden</td>
</tr>
<tr>
<td>3</td>
<td>Arbor Day</td>
<td>c. fly animal</td>
</tr>
<tr>
<td>4</td>
<td>surprise</td>
<td>d. gas that is present in the air and the water</td>
</tr>
<tr>
<td>5</td>
<td>tree</td>
<td>e. your father and the mother</td>
</tr>
<tr>
<td>6</td>
<td>march</td>
<td>f. mother’s female child</td>
</tr>
<tr>
<td>7</td>
<td>living room</td>
<td>j. short way to say mother</td>
</tr>
<tr>
<td>8</td>
<td>backyard</td>
<td>h. something that is unexpected or happens suddenly</td>
</tr>
<tr>
<td>9</td>
<td>spring</td>
<td>i. mother’s male child</td>
</tr>
<tr>
<td>10</td>
<td>mom</td>
<td>g. a tall plant creates oxygen</td>
</tr>
<tr>
<td>11</td>
<td>oxygen</td>
<td>k. room where people sit together and watch TV</td>
</tr>
<tr>
<td>12</td>
<td>son</td>
<td>l. a special day to plant trees</td>
</tr>
<tr>
<td>13</td>
<td>daughter</td>
<td>m. the third month of the year</td>
</tr>
<tr>
<td>14</td>
<td>bird</td>
<td>n. children</td>
</tr>
<tr>
<td>15</td>
<td>parents</td>
<td>o. period of time when you are not at work or school</td>
</tr>
<tr>
<td>16</td>
<td>environment</td>
<td>p. the natural world in which people, animals, plants live</td>
</tr>
</tbody>
</table>
APPENDIX D

Treatment B

Text

Wendy is going to visit a special person today. This older person gives a lot of hugs and kisses to Wendy. This person takes good care of Wendy all the time. She reads Wendy’s favorite stories always, cooks all her favorite food, and bakes the best apple pie in the world. The person Wendy is going to see looks very beautiful in a red sari. This person is the mother of her mother.

1. Comprehension questions

A/ Select the correct answer

Who is the special person Wendy is visiting?

☐ Wendy’s mother
☐ Wendy’s cousin
☐ Wendy’s grandmother

Which words help you guess?............................................................................................................................
.................................................................................................................................................................
.................................................................................................................................................................
.................................................................................................................................................................

B/ True or False:

• ———— Wendy is going to see a young person.
• ———— The person Wendy is going to see looks very beautiful in a white sari.
• ———— The person Wendy is going to see is her grandfather.

What can you guess from this sentence: “The person Wendy is going to see looks very beautiful in a red sari”?

☐ The person Wendy is going to see is from Algeria.
☐ The person Wendy is going to see is from Korea.
☐ The person Wendy is going to see is from India.

Which word help you guess?........................................................................................................................................
2. **Directions:** Match the columns. Write the letters on the lines

1. _____ Special a. things you like more than others
2. _____ Person b. a child of your aunt or uncle
3. _____ Older c. women who gave birth
4. _____ Grandmother d. your father’s father
5. _____ Mother e. apples baked in a dish
6. _____ Favorite f. someone important than the others
7. _____ Young g. living for a short time
8. _____ Apple pie h. piece of cloth worn by Indian women
9. _____ Food i. a human
10. _____ Sari g. living for a short time
11. _____ Red k. living for a long time
12. _____ Grandfather l. to put your arms around somebody
13. _____ Cousin m. your mother’s mother
14. _____ Hug n. things you eat
15. _____ Beautiful o. to coke food
16. _____ To bake p. having beauty
APPENDIX E

Treatment C

Conversation:

A. Hi, how are you Emmy?
B. Not fine actually.
A. Why, what wrong with you?
B. I cannot believe this is my last day here!
A. You are leaving us today.
B. Yes, I’m so nervous about this.
A. I’m sure it will be fine.
B. I do not know. It will be so different.
A. I thought you want to change.
B. No, I did not. I wanted to stay here but my parents and my aunt want me to continue my study in a private school.
A. Stop worrying, every thing will be fine.
B. I hope so.

1. Comprehension questions

A/ Select the correct answer
Emmy and her friend are in:

- The supermarket
- The restaurant
- The school

Which words help you guess?...........................................................................................................................
...................................................................................................................................................................

B/ What are they (Emmy and her friend) talking about?

- Exams
- Changing the school
- How to prepare a cake

C / Which words help you guess?...........................................................................................................................
...................................................................................................................................................................

D/ True or False:

- _______ Emmy is going to a public school.
- _______ Emmy feels happy for leaving her school.
- _______ Emmy’s parents want her to change the school.
2. Directions: Match the columns. Write the letters on the lines.

1. ______ Private a. feeling good about something
2. ______ Restaurant b. something makes you worry
3. ______ Public c. your father and mother
4. ______ Parents d. short way to say father
5. ______ Aunt e. feeling bad about something
6. ______ Nervous f. something only special group of people can use
7. ______ Happy g. large store sells food, drinks, and goods
8. ______ Worrying h. place when you can eat a meal
9. ______ Supermarket i. something all people can use
10. ______ Dad j. not right or correct
11. ______ Thought k. a person you know and like
12. ______ Wrong l. past simple of the verb ‘think’
13. ______ Friend m. to go away from a person or a place
14. ______ To leave n. to become different
15. ______ Hope o. to want something to happen and think it is possible
16. ______ To change
Jane rolled over in her bed as she felt the sunlight hit her face. The beams were warming the back of her neck when she slowly realized that it was a Thursday. Struggling to open her eyes, she looked up at the clock. “9:48,” she shouted, “oh my god!” Jane jumped out of bed, threw on the first outfit that she grabbed, brushed her teeth, threw her books into her backpack, and then ran out the door.

1. **Comprehension questions:**

A/ Select the correct answer

Where is Jane going?

- [ ] Gym
- [ ] School
- [ ] Restaurant

Which words help you guess? ........................................................................................................................................

B/ True or False:

- [ ] Jane has no school on Thursday.
- [ ] The beams of light warm Jane’s neck.
- [ ] Jane forgets to take her books.

C/ What can you guess from this sentence: “she felt the sunlight hit her face”?

- [ ] The weather outside was rainy
- [ ] The weather outside was sunny

What problem is Jane having?

- [ ] Being late for school
- [ ] Filling sick
- [ ] Forgetting her homework

Which words help you guess? ........................................................................................................................................
2. **Directions:** Match the columns. Write the letters on the lines.

1. _____ Sunlight       a. to try very hard to do something
2. _____ Backpack        b. to take something quickly
3. _____ Neck            c. a set of clothes you wear for school
4. _____ To grab         d. to put something in a place quickly
5. _____ To shout        e. the light from the sun
6. _____ Teeth           f. a line of light
7. _____ Outfit          j. large bag carried on the back
8. _____ To struggle     h. the white structures in the mouth
9. _____ To threw        i. to say something in aloud voice
10. _____ Beam           g. physically ill
11. _____ Rain           k. to move quickly off the ground
12. _____ homework       l. place for doing physical exercises
13. _____ To jump        m. the front part of the head
14. _____ Sick           n. work given for students to do at home
15. _____ Face           o. water that falls from the sky
16. _____ Gym           p. the part of the body between the head and shoulders
Résumé

La lecture est considérée comme un processus complexe. Il invoque à la fois la langue les deuxièmes lecteurs de langue et les capacités cognitives. Le principal objectif de la lecture est la capacité à extraire le sens du texte. Pourtant, de nombreux étudiants luttent pour comprendre ce qu'ils lisent. À cet égard, la présente étude vise à étudier l'effet de l'utilisation de deux stratégies de lecture, à savoir, l'inférence et de ressourcement sur l'amélioration de la compréhension en lecture des élèves. Sur ces bases, nous avons émis l'hypothèse que l'utilisation de ressources et inférences en classe permettrait d'améliorer la compréhension en lecture des élèves. Pour atteindre le but de l'étude et de vérifier la validité des hypothèses et répondre à la question de la recherche d'un modèle expérimental a été adopté. L'expérience a couru à travers quatre séances de traitement précédé et suivi, respectivement, par un pré-test et post-test. Quarante-quatre (44) du CEM Berkani Ali collégiens, âgés entre 14 et 16, ont été sélectionnés parmi un total de 106 élèves et ont été divisés en deux groupes pour représenter l'échantillon. Les participants du groupe expérimental ont été exposés à l'inférence et les ressources alors que dans le groupe de contrôle n'étaient pas. The Independent Échantillons Test t et le test t apparié ont été utilisés pour analyser les données recueillies statistiquement. Les résultats obtenus à partir de l'expérience ont confirmé l'hypothèse et a montré que l'utilisation des inférences et des ressources lors de la lecture a des résultats positifs en termes de compréhension en lecture des apprenants. Sur la base des résultats obtenus, certaines implications pédagogiques ont été proposées.
الملخص

تختبر قراءة النصوص الأجنبية من العمليات المعقدة، لأنها تتضمن قراءة اللغة الثانية اعتلال كل من اللغة والقدرات الإدراكية. الهدف الرئيسي من القراءة هو القراءة على استخراج المعنى من النص. إلا أن الكثير من الطلاب لا يزال يفتقر لهذه القدرة. تهدف هذه الدراسة إلى التعرف على أثر استخدام استراتيجيات القراءة، وهما الاستدلال وتوفير الموارد على تحسين فهم النصوص لدى التلاميذ. على هذه الأسس، نحن افترضنا أن استخدام الموارد والاستدلال في الصف من شأنه أن يحسن فهم النصوص لدى التلاميذ. لتحقيق الغرض من الدراسة، تم الالتزام من صحة الفرضيات وإجابة على سؤال البحث. تم اعتماد تصميم التجربة. تم التجربة من خلال أربع جلسات العلاج سبق وتلت ذلك، على التوالي، على الاقل والاختبار البياني. أربعة وأربعون (44) تلميذ من متوسطة بركاني علي تراوح أعمارهم بين 14 و16 تم اختيارهم من مجموعه 106 تلميذ وقسمت إلى مجموعتين تمثيل عينة تم تدريس المشاركون في المجموعة التجريبية باستخدام الاستدلال والموارد بينما في المجموعة الضابطة لم يتم ذلك. استخدم اختبار الدالة الإحصائي لتحليل البيانات التي تم جمعها من التجربة. وأكدت النتائج المتحصل عليها من هذه التجربة الفرضية التي طرحت وأظهرت أن استخدام الاستدلال والموارد أثناء القراءة جلبت نتائج إيجابية في فهم النصوص واستنادًا إلى النتائج التي تم الحصول عليها، تم اقتراح بعض الآثار التربوية.