Using PQ4R Strategy in Developing English Reading Comprehension and Reflective Thinking Skills for Seventh Graders

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Using PQ4R Strategy in Developing English Reading Comprehension and Reflective Thinking Skills for Seventh Graders

Declaration

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نتيجة الحكم على أطروحة ماجستير

بناء على موافقة عمادة البحث العلمي والدراسات العليا بالجامعة الإسلامية بغزة على تشكيل لجنة الحكم على أطروحة الباحث/ حسن سليمان حسن جاد الله ليل درجة الماجستير في كلية التربية/ برنامج مناهج وطرق تدريس وموعدها:

استخدام استراتيجية PQ4R التفكير التأملي لطلاب الصف السابع الأساسي.

Using PQ4R Strategy in Developing English Reading Comprehension and Reflective Thinking Skills for Seventh Graders

وبعد المناقشة التي تمت اليوم الأحد 25 شعبان 1441 هـ الموافق 04/04/2020م الساعة الثانية عشرة مصلى، في قاعة اجتماعات كلية التربية اجتمعت لجنة الحكم على الأطروحة والمكونة من:

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ويرسد للمادة أوصت اللجنة بمنح الباحث درجة الماجستير في كلية التربية/برنامج مناهج وطرق تدريس.

واللجنة إذ تمنح هذه الدرجة فإنها توصية بتقديم الله تعالى ولزوم طاعته وأن يسخر علماً في خدمة دينه ووطنه.

والمه وأني التوفيق،

عميد البحث العلمي والدراسات العليا

أ.د. سلام هاشم السقا
الموضوع/ استلام النسخة الإلكترونية لرسالة علمية

قامت إدارة المكتبات بالجامعة الإسلامية باستلام النسخة الإلكترونية من رسالة
للطالب/ة محمد علي أحمد عبد الله

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وتم الإطلاع عليها، ومطابقتها بالنسخة الورقية لرسالة نفسها، ضمن المحددات المبينة أدناه:
- تم إجراء جميع التعديلات التي طلبتها لجنة المناقشة.
- تم توقيع المشرف والمشرفين على النسخة الورقية لاعتمادها كنسخة معدلة ونهائية.
- تم وضع ختم "عمادة الدراسات العليا" على النسخة الورقية لاعتماد توقيع المشرف والمشرفين.
- وجود جميع فصول الرسالة مجمعة في ملف (PDF) وأخر (WORD).
- يوجد فهرس الرسالة، والملخصات باللغتين العربية والإنجليزية بملفات منفصلة (PDF + WORD).
- تطابق النص في كل صفحة ورقية مع النص في كل صفحة تقابلا في الصفحات الإلكترونية.
- تطابق التنسيق في جميع الصفحات (نوع وحجم الخط) بين النسخة الورقية والثقاعية.

ملاحظة: ستقوم إدارة المكتبات بنشر هذه الرسالة كملف متجه بصيغة (PDF) على موقع المكتبة الإلكترونية.

والتوقيع:

توقيع الطالب
Abstract

Using PQ4R Strategy in Developing English Reading Comprehension and Reflective Thinking Skills for Seventh Graders

This study aimed to investigate the use of PQ4R to develop seventh graders' English reading comprehension skills and reflective thinking skills. The researcher used the experimental method to achieve the aims of this study so, he intentionally chose Mosa Ibn Nuseer School for Boys in Gaza. He randomly chose two seventh grade classes out of the six classes in the school and randomly assigned one class consisting of (36) students as an experimental group and the other consisting of (36) students as a control group. The traditional method was used in teaching the control group, while the PQ4R strategy was used with the experimental one in the first term of the school year (2019-2020). The researcher used two tools, a pre-posttest in the reading comprehension and another one for reflective thinking skills.

The study results indicated that there were significant differences between the mean scores attained by the experimental group and those by the control group in favor of the experimental group which got training via PQ4R.

Based upon the previous studies findings, the researcher recommends that seventh grade English Language teachers should urge students to practices reading comprehension and reflective thinking skills inside the teaching sessions because the more the practice, the more achievement, and hence a command of language will occur. The teachers of English language should also be trained to effectively employ the PQ4R in order to develop not only seventh graders' reading comprehension skills, reflective thinking skills, and increase their comprehension but also to improve their general achievement in English language.
المنصوب

استخدام استراتيجية PQ4R في تنمية الفهم القرائي ومهارات التفكير التأملي لدى طلاب الصف السابع

هدف الرسالة

تهدف هذه الدراسة إلى فحص استخدام استراتيجية PQ4R في تطوير مهارات الفهم القرائي ومهارات التفكير التأملي لدى طلاب الصف السابع في مبحث اللغة الإنجليزية.

منهج الدراسة

استخدم الباحث منهجاً تجريبياً لتحقيق أهداف الدراسة.

عينة الدراسة


أدوات الدراسة

واستخدم الباحث أدوات للبحث، وهما اختبار قبلي بعدي لمهارات الفهم القرائي وأخر كذلك لقياس مهارات التفكير التأملي.

نتائج الدراسة

ولقد أشارت نتائج الدراسة إلى وجود فروق ذات دلالة إحصائية بين الفصول المتوسطة التي حققتها المجموعة التجريبية وتلك المجموعة الضابطة لصالح المجموعة التجريبية التي حصلت على التدريب عبر PQ4R. في ضوء النتائج بوصفت الدراسة بأن الظروف بطلب من معلم اللغة الإنجليزية الصف السابع أن يحتوي الطلاب على ممارسة مهارات الفهم القرائي ومهارات التفكير التأملي داخل الصف، فكلما ازدادت هذه الممارسة كلما ازداد الإنجاز والتمكين من اللغة، كما يجب تدريب معلم اللغة الإنجليزية بتفعيل هذه الاستراتيجية لتحسين مهارات الفهم القرائي ومهارات التفكير التأملي لديهم، لتطوير نسبة التحصيل العام للطلبة في مبحث اللغة الإنجليزية ككل.
بعد هَلِ الَّذين يَعْلَمُونَ وَالَّذين لا يَعْلَمُونَ إِنَّمَا يَتَذَكَّرُ أُولو الْأَلْبَابِ

[الزمر: 9]
Dedication

To my: Parents

My wife and my children

Family

Friends

Colleagues,

Who have been lightening my way, encouraging me, and waiting for my success.
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My first thanks are for ALMIGHTY ALLAH Who always helps and provides me with energy in spite of the difficulties I face in my life.

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List of Abbreviations

SQ3R  Stands for Surveys, question, Read, Recite, and review.

PQ4R  Preview, Question, Read, Reflect, Recite and Review.

SPSS  Statistical package for social sciences.

EFL   English as a foreign language.

RT    Reflective Thinking.
Chapter One

Study Background
Chapter One
Study Background

1.1 Introduction:
The English language is considered the world language and it is the only foreign language that is being taught to all students in the UNRWA and the governmental schools and also at the Gaza universities. Since English is an instrument of communication, so its teaching should aim at developing the learner's language skills. This development can be achieved through providing the learners with communicative learning activities to practice the different skills in a meaningful and natural way.

Keshta (2000) states that "English is a universal language: the language of communication among countries in the international world of trade, business, communications, air transportation and technology." Abu Elenein (2011) affirms that "English as a language has become an essential demand for all levels and fields. That is why, Palestine is one of the countries which paid attention to teaching English as a second or foreign language to secure the interest and benefit of its people.

Like any language, English has four main skills: reading, listening, speaking, and writing. Reading considered as a receptive skill that encourages students to acquire vocabulary and accelerates language acquisition by encouraging reading continuously. Thus, one of the basic aims of teaching reading is to qualify learners for reading effectively and accurately in order to acquire information and understand meaning correctly from the written material.

Reading is a basic language ability and a very complicated act that everyone should master. In many situations, reading is considered a necessary channel of communication in an ever-widening world. It is the process of recognition interpretation and perception of written or printed materials. In fact, people are living in a reading world where it is hard to succeed without.
One of the most important elements to absorb the knowledge is by doing reading. By this, the reader is actually prepared to know something and it will become his or her knowledge. It is not only a single process but needs some operational procedures in absorbing from what he reads to what he gets from reading. Anderson et al. (1985) in Sabouri (2016, p.230) assured that reading is the process of making meaning from written texts. It needs the harmony of a lot of related sources of information. Alyousef (2006, p.64) said that reading can be seen as an interactive process between a reader and text which leads to automaticity or reading fluency.

Grabe (2010, p.8) explained that reading can simply be defined as complex ability to extract, or build meaning from a text.

To understand what the reader reads, definitely the reader should have skill in reading comprehension. Reading skill itself has a crucial position in English beside of writing listening and also speaking. By comprehending what the reader reads it will be very likely to use the involved information. That is the reason why reading very important.

Palestine is one of several countries that apply English as a foreign language. There are lots of students still have less interest in English reading activities because they meet some obstacle in reading for example, when students read a text some of them are not able to find out the needed information or message the text conveyed from what they had read.

"Sheng (2000) considers reading as a process of recognition and perception of the written or printed material. In other words, it understands of the meaning of the written material. It also includes conscious strategies that lead to understanding. Therefore, the process of reading deals with language form, while comprehension deals with language content where meaning is one primary purpose for reading."

Rivers Rivers (1981, p.147) in Medjahdi (2014, p.6) stated that “reading is the most important activity in any language class, not only as a source of information and a pleasurable activity, but also as a tool of consolidating and extending one's which are knowledge of the language
In addition, Brashdi (2006) in Bayu (2013, p.1) indicates that the other problem in reading is the lack of vocabulary. When the students read a text, they will not able to comprehend a text well if they find some unfamiliar words, thus the teachers need to create activity to optimize the students ability in understanding information in a text and to enrich the students' vocabulary.

Via the researcher's observations, some of the students in the elementary stage thought that English is very difficult, they cannot understand what the words of the text mean, or what the text actually talk about and how to relate the whole text to real life situations. Other students said that it is so annoying when they have to read an English reading text, especially in reading text type that has lots of unfamiliar words.

Students in schools, are often engaged in passive learning and instructed mostly about grammar rules for English, Most have lost interest in English, feeling it was just too hard for them. Even though Majority of students have a good understanding of English grammar, but it did not help much.

Vygotsky’s (1978) explicitly stated his position that “passivity of the student is the greatest sin from a scientific point of view, since it relies on the false principle that the teacher is everything and the pupil nothing”.

Some feasible solutions to such a problem were indicated by specialists in the field of TEFL. They claim that using a variety of communicative output activities that suit the various abilities, interests, and needs of the EFL students can be the most effective, especially when supported with motivational techniques that can help learners overcome their irrational fears and worries regarding participation in classroom oral activities.

Through problem solving experiences, children should learn to think strategically while learning (Pape, 2004, p.188) Thinking is the process that transforms the representation of information into new and different ways for solving a problem or reaching a goal (Feldman, 1999, p. 257) According to Buggy (2008) “the way you deal with life depends on the way you think” (p. (33). Higher order thinking includes critical and creative thinking.
Critical and creative thinking is needed to make sense of knowledge in any subject area (Fisher, 2008, p. 3). Mangal (2005) mentions “reflective thinker explores new areas and makes new observations, new predictions and new inferences”.

Logical thinking and reasoning are the domains of critical or reflective thinking which involve classification, comparison, sequencing, cause-effect patterning, webbing, analogizing forecasting, planning, hypothesizing and critiquing (Gelder, 2010, p. 1). Students must have the ability to use their thought processes in learning the information.

In the view of Kumar (2006) “the mechanisms that control one’s own thinking and learning are called metacognition (p. 4) Metacognition is thinking about one’s own thinking that involves how effectively one processes information (Parsons et al., 2001).

(Faryal 2008) holds “metacognition is the knowledge concerning one’s own cognitive processes and products. It includes the active monitoring and consequent regulation and orchestration of information processing activities” (p83). Too many students fail to think about their own thinking, they do not know what they know which means they cannot control their information processing or their cognitive capacities. The greatest challenge to teachers is to make students able to think and understand instead of just memorizing; the teachers are concerned to train the students to think for themselves, that is, to use the knowledge they have in order to arrive at further knowledge.

Woolfolk (2004) describes that “metacognition is awareness of people about their own cognitive machinery and how the machinery works. It literally means cognition about cognition or knowledge about knowledge and learning. This metacognitive knowledge is used to monitor and regulate cognitive processes such as reasoning, comprehension, problem solving, learning and so on.”

There are also several skills related to English that ought to be improved and developed. One of these is reflective thinking skills that can achieve many learning impacts and benefits in learning English as a foreign language in general and learning the reading skill in particular. Thus, reflective thinking is considered one of the
important skills that afford personal creativity, meaning, and criticism from learning activities. According to Fischer and Pruyne (2003) reflective thinking is a complex form of cognition exclusively associated with adult development. Moreover, reflective thinking is regarded as a process of thinking encompasses deep or high-level learning, which means engaging in critical thinking, obtaining cognitive and metacognitive awareness, operating with sophisticated conceptual thinking, and originating creative ideas to solve problems. In the same context, (Hsieh & Chen, 2012) show that reflective thinking transforms and re-digests acquired knowledge to solve problems and demonstrate personal creativity—perhaps, highlighting personal values during knowledge acquisition and integration.

The study states that learning through reflective thinking in classrooms can be accomplished by practice and active co-operation. That's why, Students whether individually or in groups, can learn from solving case problems and participating in other activities before, during and after the class (e.g., preview, review and discuss learning content) to enhance the content quality of reflective thinking and then achieve the expected learning outcomes. Similarly, (Chen, kinshuk, Wei & Liue, 2011) suggest that there are other ways of learning through reflective thinking like teacher's knowledge and practicing different teaching strategies which include completing reflection sheets, writing a reflection diary, storytelling or debating openly.

In the light of the above mentioned results and in a try to find a solution to this problem the researcher suggests using PQ4R strategy which seeks to generate better and effective reading comprehension skills or reflective thinking skills by the students of the seventh grade at Mousa Ibn Al-Nosair Elementary School.

PQ4R is the acronym for preview, question, read, reflect, recite, and review. This distinguished strategy is a set procedure that focuses students on meaningful organization of information and involves in other effective strategies, (Slavin 2006).

PQ4R was introduced by educational psychologist Francis, Thomas and Robinson in 1972 which is the refinement of SQ3R that developed by Robinson in 1961. SQ3 is a method of learning that helps students remembers what they read. S stands for
Surveys (checking or research), Q is the question, and 3R stands for Read, Recite, and review. But in SQ3R needs one step again, namely reflect, in order to develop what information is on the text from the short term memory to the long term memory. Therefore, there is PQ4R the developments of SQ3R.

The PQ4R study strategy encompasses almost all other study strategies related to the cognitive or metacognitive theories in it, a new method being exercised in the West. The present study was an effort to examine the effect of PQ4R study strategy on students reading comprehension and reflective thinking in Palestine.

1.2 Statement of the Problem:

The researcher's interest in conducting this study grew out of school years. Through the researcher's experience in the field of teaching English language in the governmental schools, he can suggest that the problem of the study is represented in the seventh grade students who have weak reflective thinking skills as well as poor reading comprehension skills. Moreover, learning English language has to be accompanied with motivation which is supposed to suit students' needs, desires, abilities and also the recent trends in teaching. On the other hand, the applied techniques which are used can be considered nowadays ineffective in our English classes.

1.3 The Major Question of the Study

To address this problem, the present study tried to answer the following questions:

What’s the Effect of Using PQ4R Strategy in Developing English Reading Comprehension and Reflective Thinking Skills for seventh Graders?

1.4 Research Questions

The following minor questions are emerged from the major one:

1- What are the reading comprehension skills needed to be developed for seventh graders?
2- What are the reflective thinking skills needed to be developed for seventh graders?

3- Are there statistically significant differences at ($\alpha \leq 0.05$) in the reading comprehension posttest mean scores of the experimental group taught by PQ4R strategy and those of the control one taught by the traditional method?

4- Are there statistically significant differences at ($\alpha \leq 0.05$) in the reflective thinking posttest mean scores of the experimental group taught by PQ4R strategy and those of the control one taught by the traditional method?

1.5 Research Hypotheses

1- There are no statistically significant differences at ($\alpha \leq 0.05$) in the reading comprehension posttest mean scores of the experimental group taught by PQ4R strategy and those of the control one taught by the traditional method.

2- There are no statistically significant differences at ($\alpha \leq 0.05$) in the reflective thinking posttest mean scores of the experimental group taught by PQ4R strategy and those of the control one taught by the traditional method.

1.6 Purpose of the Study:

1- Examining the using of PQ4R on seventh Graders' reading comprehension and reflective thinking skills in Mosa Ibn Nuseer School.

2- Getting familiarized with the reading skills and sub-skills intended to be improved for seventh graders.

3- Identifying the reflective thinking skills needed to be enhanced for seventh graders.

4- Investigating whether or not there are statistically significant differences at ($\alpha \leq 0.05$) in the mean scores in the post test of reading comprehension skills between the experimental group and the control group.

5- Exploring if or not there are statistically significant differences at ($\alpha \leq 0.05$) in the mean scores in the post test of reflective thinking skills between the experimental group and the control group.
1.7 Significance of the Study:
1. Raise the students’ mastery of English language, particularly in their reading comprehension and reflective thinking skills.
2. Help English language teachers in creating an interactive learning-teaching environment via implementing PQ4R.
3. Benefit English supervisors in designing training courses for English teachers to increase their awareness of the importance of targeted skills through various active techniques and activities.
4. Give the other researchers the opportunity to adapt this strategy in other fields and skills of English language.
5. Enable syllabus designer to organize and enrich the English curricula with activities and exercises based on PQ4R.

1.8 Limitations of the Study:
1. The sample of the study consists of seventh male graders at Mosa Ibn Nuseer Preparatory School in Gaza.
2. The study will be conducted in the first semester of the scholastic year 2019-2020.
3. The study is restricted to utilize the PQ4R strategy in developing seventh graders’ reading comprehension and reflective thinking skills.
4. The study is going to adopt PQ4R in studying "World Languages", (Unit Two) only which is taught for the seventh graders in Palestine.
5. The study is limited to the following instruments i.e. pre/posttest for reading comprehension skills and another one to examine reflective thinking skills which are going to be prepared by the researcher himself.
6. The findings of the study will be appropriate to be utilized for the seventh graders at Gaza preparatory schools.

1.9 Definition of Terms:

PQ4R:

PQ4R is the acronym (Preview, Question, Read, Reflect, Recite and Review) for a comprehension and study strategy (Slavin, 1994). PQ4R method is an elaboration that
can help students to remember what they read, so that the students will gain new information.

**The PQ4R study strategy goes like this:**

P    =    Preview

Q    =    Question

R1 =    Read

R2 =    Reflect

R3 =    Recite

R4 =    Review

**Reading Comprehension Skills:**

"The process of simultaneously extracting and constructing meaning through interaction and involvement with written language" (RAND Reading Study Group, 2002, p.11.).

**Reflective thinking:**

Is a part of the thinking process referring specifically to the processes of analyzing and making judgments about what has happened. Dewey (1933) suggests that reflective thinking is an active, persistent, and careful consideration of a belief or supposed form of knowledge, of the grounds that support that knowledge, and the further conclusions to which that knowledge leads. Learners are aware of and control their learning by actively participating in reflective thinking – assessing what they know, what they need to know, and how they bridge that gap – during learning situations.
The researcher defined reflective thinking as a conscious mental process through which the student explores and evaluates his/her prior experience and decisions in order to reach new understanding, appreciations, solving problems, and judgments.

**Traditional Method:**

The traditional method is the way that the teachers of English language are using in presenting the curriculums of English for Palestine inside the classroom in Gaza. Besides, it is considered as a teacher-centered way, where the teacher controls the class while students are just passive recipients.

**Seventh Graders:**

They are male students aged between (12-13 years of age), who study at Mosa Ibn Nuseer preparatory School, they passed the sixth grade successfully, and on whom the PQ4R will be implemented to test the effectiveness of this strategy on developing reading comprehension skills, reflective thinking skills.
Chapter Two

Literature Review
Chapter Two
Literature Review

Introduction:

This chapter divided into two main sections. The first section is the theoretical framework that consists of three main parts. The first part outlines issues regarding PQ4R strategy, reading comprehension and reflective thinking. The second one of this chapter will show some previous studies related to PQ4R, reading comprehension and reflective thinking. The study review will involve a summary of their purposes, samples, tools, findings, conclusions, recommendations, and the researcher’s commentary on them.

2.1 First Section: Theoretical Framework

2.1 First Part: Advance Organizers:

2.1.1 Social Cognitive Learning Theory:

Social learning theory has been renamed as social cognitive theory by Albert Bandura in the mid 1980 because it had evolved to incorporate so many ideas from cognitive science. Social cognitive theory posits that much human behavior is learned by observing the behavior of others. It is in this social milieu that people acquire cognitive representations of behavior by observing models performed by others (Feden, 2003, p.37). Proponents of social learning theory maintain that while the specific behaviors that result from social learning vary from culture to culture, the acquisition of these behaviors appears to be consistently determined by the process of identification and imitation (Parsons, et.al. 2001, p. 233).

Observational learning rather than learning based on direct experiences is thus, the base of social learning theory. The advocates of this theory emphasize that most of what we learn is acquired through simply watching and listening to other people. The persons whose behavior is observed and often imitated are known as models and observational learning is
referred to as modeling. Observational learning can thus provide extra dimensions and opportunities for the learners in addition to their learning.

Through self-experience and direct involvement with environmental consequences. Social learning theory propagates that learning through observation and modeling proves to be an effective means of learning many things that have been observed, remembered, imitated and reinforced (Mangal, 2005, p.238).

2.1.2 Learning take place
According to social learning theory, one learns through observation by incorporating and imitating the behaviors of others taken as models belonging to one’s social environment. Bandura (1986) explains that following steps are usually involved in this kind of learning:

- Tending and perceiving the most critical aspects of another person’s behavior
- Remembering the behavior
- Motivating learning and carrying out the behavior.

Instead of learning occurring through trial and error, many important skills are learned through observational processes (Feldman, 1999, p.206; Mangal, 2005, p.238).

2.1.3 Role of Teacher
Bandura’s work is highly significant for classroom teachers. He examined how children learn through process of observing and imitating others (modeling). He concluded that students learn to imitate by being reinforced by teachers for specific act of imitation. There are four interrelated factors significant to the learning process: attention, retention, production process and motivation. For students (observers) to learn from the teacher (model), the teacher must get the students attention. Proximity or nearness to the teacher may help attract students. Despite proximity and identification with personal characteristics of the teacher, students may not learn via imitation unless there also is retention. Retention process ensures that the student can retain onto whatever is to be learned. Teacher may get students to rehearse or practice learning via imitation. Observational learning may depend on their production process. Despite the establishment of attention and retention, unless the students also able to actually do the task to be learned, they are unlikely to show what, if anything, they have learned. Thus, to be effective models, teachers must have several characteristics.
They must attract the learner’s attention, provide for the retention of the learning, make sure that the learner has ability to learn through observation and they should practice and be provided some kind of incentive for learning (Parsons, et. al. 2001, p. 236 and Feden, 2003, p. 38).

2.1.4 Social Constructivism

In the view of Sher (2002, p. 115), constructivism is a much broader as well as comprehensive view of learning. This perspective is closely associated with developmental theories of Vygotsky, Bruner and Bandura social cognitive theory. Social constructivists hold that reality is constructed through human activity. It can not be explored and it does not exist unless it is socially invented. Kumar (2006) is of the view that “knowledge is also a human product and is socially and culturally constructed. Individuals create meaning through interaction with each other and with environment they live in” (p. 15). According to Sher (2002) “learning is an active process of constructing rather than acquiring knowledge” (p. 115).

2.1.5 When Learning Occurs

According to social constructive perspective, learning occurs through social and environmental interaction. Kumar (2006) holds: Social constructivists view learning as social process. It does not take place only within an individual nor is it a passive development of behaviours. Meaningful learning occurs when individuals are engaged in social activities and use cognitive tools. They produce products as well as impose meaning on it. Learning may not take place in isolation from environment. (p. 15)

While supporting the social learning method, Pressley (2003, p. 15) says that cooperative learning is a very flexible mechanism that can be included into a variety of content areas, used in kindergarten through college. It is very effective in improving academic achievement. Santrock (2004) says “Vygotsky claims that cognitive skills originate in social relations and culture and child’s development as inseparable from social and cultural activities” (p. 51). The idea of collaborative learning has been strengthened by Sigelman (1999, p. 189) that learning in collaboration with more knowledgeable companions drives development.
2.1.6 Role of Teachers

In the view of social constructivists, according to Kumar (2006) “teaching methods can include reciprocal teaching, peer collaboration, cognitive apprenticeships, problem based instruction and other methods that involve learning with others” (p. 16) Vygotsky’s views are nearest to the ideas of constructivists. To him, children are involved in interactive activities in collaboration with a skilled peer or teacher. This act is called scaffolding. For the range of tasks, the zone of proximal development which has a lower limit and upper limit levels of tasks is followed. This term is for that piece of work for which children face difficulty mastering on it alone but with the guidance and assistance of a more skilled partner or instructor they can become master of it. Teacher uses the zone of proximal development, simply observes the students attention, smoothly provide support when needed, encourage the students and more skilled peers are used as teachers. Teachers ask questions and answer the queries and transform the classroom with vygotsky’s ideas. Teacher is only the observer and monitor of students who are engaged in their zone of proximal development (Santrock, 2006, p. 239). (Nayak and Rao 2004) states:

There are a variety of perspectives and emphases within cognitive psychology that are currently impacting educator’s thinking about how to improve the teaching learning process. The information processing approach focuses on the study of the structure and function of mental processing within specific context, environment or ecologic. (p. 98)

2.1.7 SQ3R Strategy

The SQ3R reading method is a structured strategy to reading that can be very helpful for teach (Hay, 2005, p.29). Trabasoo and Bouchard (2003) “SQ3R is a text pre-reading developed in 1941 for World War II military personal undergoing accelerated courses. It is considered a “test previewing: comprehension strategy instruction in that it guides readers to look for the meaning before reading the text”.

According to Burns et al., (1988, p.350) probably it is the best-known study method.

The five steps of SQ3R strategy are:
− **Survey**: Survey is the scanning of material to have a picture of the whole
− Material covered by the book or article.
− **Question**: This step is to ask questions about the text and to turn headings or
− Subheadings into questions, then to answer them.
− **Read**: Read the text thoroughly in the light of the questions posed during the
− Question step, and then make notes in your own words.
− **Recall**: Close your book and try to remember the information that has been read. Try
  to write the information in your own words which you remember Testing your recall
  is the only way to know how successful your learning has been. 55.**Review**: In this
last step, look back to your notes to make sure you do not forget and to see how what
you have learned relates to the course as a whole, your other reading and what you
are still required to do (Hay, 2005, p. 29; Feldt & Robert, 1999, p. 103; Huber, 2004,
p. 1). If reading assignments are consistently presented through the SQ3R method
the procedure may become part of the child’s skills.

### 2.1.8 The PQ4R Study Strategy

The PQ4R strategy of learning is based on the SQ3R approach (Sanacore, 2000, p.3).
Shefield, et al. (2005) hold that Francis Robinson developed the SQ3R method of self-
regulated reading (p. 10). This strategy is best-suited for text book reading (Huber ,2004 ,
p.2). Nord (1985, p.4903) is of the opinion that it is the most commonly taught and higher
level study skill technique. Hamblin (1986, p. 44) states that the old principle of gestalt
psychology is embodied in it which stresses the need to get a grasp of the nature of the whole
before attempting to master specific parts of that whole.

The PQ4R strategy is based on SQ3R with a fourth R added for the “reflect” step. Thus
it becomes a six step approach. According to Harley (2001, p.336), one of the best known
methods for studying is called PQ4R method. Sanacore (2000, p.3) states that the PQ4R
strategy should be effective in improving the reading of material when the student’s purpose
is thorough understanding of the content. Harley (2001 ,p.336) maintains that the PQ4R
method emphasizes identifying the key points of what you are reading. It enables learners to
process the material more deeply and think about its implications.
According to Mangal (2005, p. 269), in PQ4R technique the learners are taught to adopt a systematic approach to learning the desired material involving sequenced steps. Burns, et al. (1988, p. 351) hold that this strategy helps the students remember content material better than simply reading the material. Woolfolk (2004) explains the effectiveness of this strategy in these words:

First, following the steps makes students more aware of the organization of a given chapter. Next, these steps require students to study the chapter in sections instead of trying to learn all the information at once. This makes use of distributed practice. Creating and answering questions about the material forces students to process the information more deeply and with greater elaboration. (p. 300).

In the view of Sanacore (2000, p. 3), PQ4R method should help the student comprehend better, concentrate better, and retain better. It is appropriate for most subject areas in which reading informational textbook chapter are stressed. Reynolds,1996)p. 215) states that if you are learning a new skill, preparing for a test or mastering body of information, you will have to read thoroughly and carefully, noting the connections between idea and organization of the content. For this purpose, PQ4R strategy can actually save time and make a student more efficient reader, and because of reading actively, it is easier to concentrate and retain new information.

Harley (2001, p. 336) maintains that PQ4R technique maximizes memory retention. Elaborative processing of material is highly beneficial. The method can be applied either to whole book or to just one chapter in a book. Peirce (2003) holds that “students who learn study strategies in one course need to apply them in other contexts than where they first learn it” (p. 3). Ormord (1998, p.331) argues that when a student acquires effective learning strategies, rather than rote learning, those strategies often transfer positively to learning in a very different situation. The PQ4R strategy has six steps, systematically combines a whole series of important study strategies, a plan of attack for studying a chapter or dealing with a textbook assignment.

**The PQ4R study strategy goes like this**

1. P = Preview.
2. Q = Question
3. R1 = Read
4. R2 = Reflect
5. R3 = Recite
6. R4 = Review

2.1.8.1 Step 1: Preview

A preview is a rapid survey that helps setup mental compartment in which students fit the material. It involves taking several minutes to look through an entire chapter before beginning to read it (Butcher, 2002, p.97). In the view of Sobkowiaka (2001):

Preview refers to gathering the information necessary to define goals and concentrate on the text. At this stage, the reader reads the title and thinks of the topic it may suggest. To get more information, the reader reads boldface headings and any graphics should be noticed and paid attention to, as they build a framework into which details will be fitted during intensive reading. (p.3)

Preview is the quick survey of the material. Seiman (2010) explains that: To preview the reading material, students need to quickly overview the text and understand the main points and how this information is structured. The learner will skim the text book chapter to see the overall structure, decide which reading method will be best based upon headings and view the larger image of the chapter to understand the reading. (p.10) (Huber (2004, p.102) states that the preview asks the students to survey the material they are going to read. This activity may involve anything from identification of text structure and headings of the substance to previewing illustrations. Mangal ,2005)p.269) says that previewing is quickly getting an idea of the material that is going to be remembered. Bibi (1994, p. 26) holds that the preview consists of quick and efficient survey of the text content and it’s organization. It involves title, table of content, headings, subheadings, diagrams, maps, graphs and pictures etc.

How to Preview the selection

Wong (1994) suggests that “when you first open the book to a new chapter, do not dive right in and begin reading from the beginning of the chapter straight to the end .
Instead, learn to use the process of surveying” (p. 100). Squires (2003, p. 103) also posits not to just start reading automatically at page one and plough through the whole text. Instead, first skim through the table of contents, section headings, summaries and the beginnings and ends of the chapter. This will give you a mental framework within which you can house the detailed information.

Hay (2005, p. 27) narrates that “to take full control of any reading task that involves searching for information, you need to gain a general overview of the book or chapter you are consulting.” Reynolds (1996, p. 215) suggests to be as specific as possible about one’s expectations because when you know what you are looking for, you are more likely to find it. When you have decided on your purpose, make a high speed survey of your reading selection. Durwin (n.d.) argues that “students should read chapter outlines, scan the chapter for general topics and identify major section within the reading assignment” (p. 1) Hay (2005, p. 28) describes that before reading the text book or article in detail follow these:

- Glance at the title of the book, chapter of article and think about what it means.
- The title usually gives you an idea of what the book’s contents will be about.
- Scan the contents page of book or chapter before you begin reading. It will give you what it covers.
- While previewing an article or book chapter, skim the pages, looking for subheadings that indicate content.
- Check the beginning and the end of any chapter for an abstract or summary.
- Look at illustrations, diagrams and graphs and read their captions to get further clues to content.
- If you are previewing a chapter, read the first sentence of each paragraph.

Hay (2005, p. 28) further explains that the quick survey is an essential first step. You should never embark on careful reading until you have looked ahead and decided what you need to do. Bavair (n.d) illustrates the preview step of PQ4R strategy by
saying that “take a look at the material: skim the chapter headings, the boldface words and read the outline summary” (p.1).

Reynolds (1996, p. 216) describes that if your goal is mastery of the reading selection, the survey will prepare you to absorb what you read and help you devise an effective working strategy. Ryan (n.d, p .1) says, for previewing the material, read headings and sub headings as well as the associated pictures and graphs to have a best understanding of what you will read. Reynolds (1996, p. 216) also suggests that while previewing, read the first and last paragraphs, along with any study aids: headings, subheadings, summary, charts, diagrams and review questions. Burton (2007, p. 1) also suggests to look at the structure of the text and identify the aspects which may help with reading.

Burns et al., (1988) explain that “in survey step, as you approach reading assignment, notice chapter title and main headings, read introductory and summary paragraphs and inspect any visual aids such as maps, graphs or illustrations. This initial survey provides a framework for organizing the facts you later derive from the reading (p 350).

There are some common features illustrated in related literature by the experts for how to preview a chapter, book or any other material:

**Title:**

The title gives a reader in a few words the shortest possible summary of the whole chapter. Without reading a line of text, you can learn in general way, what the material is about (Butcher, 2002, p. 97). The topic for the chapter is stated in the title (Wong, 1994, p. 101.)

**Introduction**

The introduction is a key to understand the contents of the chapter. It highlights the main ideas and may give organizational clues about the relationship of ideas (Wong1994, p. 101).
Chapter Objectives

The chapter objectives state the goal of the chapter, what the author intends to achieve from your reading. Read the objectives carefully and thoroughly (Wong, 1994, p. 101).

Chapter Headings

The learner may look for the headings, subheadings, key sentences and relationship among these headings. Page through the chapter and look at different levels of headings (Butcher, 2002, p. 97). The headings and subheadings appear in a larger or an italic print. Glance over the headings and subheadings to understand the structure of the chapter (Wong, 1994, p. 101).

Boldface Words

Look briefly at words marked in boldface and italics and in colour. Such words are important terms which help get an idea (Butcher, 2002, p. 97).

Picture and Charts

Pictures, charts and boxed material are helpful to understand the chapter at a glance. To get a general idea about contents and relationship to the topic, look enough to these visual aids (Wong, 1994, p. 101; Butcher, 2002, p. 97).

Chapter Study Questions

The questions found at the end of the chapter help to review the information the author feels is important to learn. While beginning the reading process, there is some foresight on the key points to learn in the chapter (Wong, 1994, p. 101).

Chapter Summary
If there is chapter summary, it should be read carefully because it highlights the main idea of the chapter (Wong, 1994, p. 101). Eliot (n.d) posits that “summary is provided to help understand the most important points in the chapter” (p. 2). If there is no summary, read the first and last sentence of every paragraph (Reynolds, 1996, p.216).

Before reading ask, yourself some questions about preview:

- What previous knowledge I have about the chapter?
- What information can I find from the chapter?
- What should I look for when reading carefully?
- What information am I looking for?

Then the student should find out the main idea, the association between the title and the main headings and the connection between headings and subheadings of the chapter.

This is the way, through which the main idea of the chapter can be extracted Previewing is a good idea and it should be the part of reading instruction (Langan, 1998, p.88).

2.1.8.2 STEP 2: Question

According to Sobkowiaka (2001) the second step, “question, helps the reader focus on the reading passage and get involved in the work. Form as many questions concerning the text as possible” (p. 3) . (The process of question and answer lies at the heart of explaining and understanding (Squires, 2003, p. 110). The question process is a central feature of most classrooms (Ryan, 2004, p. 171). In the view of Duffy & Roehler (1983) “all the steps are important but question step is the real key to success” (p. 311). Questions allow learners the chance for planning or identification of the important information to be obtained from the reading. (Durwin, n.d. p. 1 and Roger, 2006, p. 116) state that questioning activity engages students in thinking. Questions, where possible, should also link back to what students already know to extend their natural curiosity.
According to Feden (2003, p.118), questions challenge students to think at higher level.

Bovair (n.d.) explains that: One study showed that subjects who study a passage without questions recall about thirty percent of it, with questions provided by the experimenter, they recall sixty percent, and if they make up their own questions then they recall seventy five percent. So this simple technique can double the amount you can remember. (p. 1).

Ryan (2004, p.172) is of the opinion that there is relationship between questioning strategies and student achievement. Questions from students mean they are thinking critically about what you are saying. Squires (2003, p.110) argues that questions and responses will make you think harder, and perhaps lead to a wider discussion in the group.

According to Simon (2010) “during the question phase of PQ4R reading strategy, students build questions based on the surveying they did previously. These questions are provided with the intention that they will be answered later on in the reading” (p. 10). In the view of Artis (2008) “by knowing what the textbook chapters are about, students can be provided questions to promote critical thinking skills” (p. 10).

According to Burton (2007, p.1), questioning step of PQ4R strategy encourages the learners to formulate some questions to provide answers from the information in the text. These can be factual but should also include critical and evaluative questions.

How to Develop Questions

Reynolds (1996, p. 216) suggests to write down any questions that occurred during the survey step. Make up questions from headings, charts, summary and other information as well. All the “Reading Thoughtfully” encourages the students to ask questions as preparation for reading.
Rowntree (1988, p. 85) states that headings are always likely to bring questions in mind.

Langan (1998, p. 340) and Wong (1994, p. 103) advise to turn headings into basic or specific questions, and then locate its answer to get the heart of the matter. Basic questions start with words such as what, why or how. Specific questions start with the words when, where or who.

According to Eliot (n.d.) “turn the headings within chapter into questions. Using the author’s heads has an added benefit. It gives insight in the organization of the subject matter and the relationships among ideas” (p. 2).

Headings and subheadings can be turned into questions by using previous knowledge and experience. These questions may be answered during the reading. Questions that arise during the survey step are needed to be recorded as well. Then these predicted questions should be compared to those given at the last page of the chapter.

Make a margin on the left of note book to write questions. During this step don’t write answers.

Writing student’s own study questions has several advantages:

− The questions give students a purpose of reading. Natural curiosity leads to
− Read so that answers can be provided.
− Curiosity can help to concentrate on reading.
− Increased concentration helps to gain increased comprehension.
− Questions help students prepare for future test (Wong, 1994, p. 103).
− Phrasing questions about the substance can make the learning an active process.
− Generally, questions about material in books promote retention
− Questions help students perceive the underlying structure of chapters (Eliot n.d. p. 2).
− Ask students to read a selected passage and give them a question to focus
− Their reading (Cottrell, 2001, p. 276).
### 2.8.1.3 Step 3 & 4: Read and Reflect

This is the heart of reading process (Rynolds, 1996, p. 216). The reading process is also a thinking process (Wong, 1994, p. 103). Eliot (n.d.) explains that “once you have phrased questions, in the PQ4R method, read the material that you can answer the questions” (p. 2). If you want to read in an active way, you must be prepared to question as you read. Your aim is to gain the best insight into a book’s content in the shortest possible time (Barness, 1992, p. 60). According to Hay (2005, p. 25), to be an efficient reader you need to know what is the purpose of your reading and what are you looking for. Ali (1993-94, p. 135) maintains that the reader should think, predict, question, evaluate, define and redefine when engaged in reading activity. Kathryn (1990) says “critical reading should be central to any discussion of thinking skills because the reading of textbooks plays such a prominent role in the content fields” (p. 2).

In the view of Boud (1999, p. 105), one of the basic skills of learning is the ability to read. According to Ali (1993-94, p. 135), the readers should have ability to understand the lexical meaning, the phrasal meaning, the functional relationship, and the structure of discourse. Boud (1999, p. 105) explains that most people when they read are aware neither of how they read, nor of the cognitive and effective processes which underlie their behavior. Even if they try to develop awareness, enormous difficulties are experienced in observing their reading-for-learning process. One outstanding experience is that they are unable to remember themselves reading. Only by guiding learners back into contact with their own process can they become aware of the existing state of their skills and bring these under review. Johri (2007, p. 287) holds that we must teach the child to understand what he reads and integrate what he reads with what he already knows.

During reading step, students may read the selection thoroughly as many times as necessary for maximum comprehension, retention and to get good initial sense of the chapter. Then focus upon main points of selection, headings, subheadings and unfamiliar terms to comprehend the selection. After students have gotten an overall impression of the chapter by reading everything once, they go back to reread everything
once, they go back to reread parts that they did not at first understand (Reynolds, 1996 p. 216).

According to Wong (1994, p. 103), the read step of PQ4R encourages to read carefully. Read paragraph by paragraph of textbook to concentrate and comprehend one section of information at a time. Careful reading saves from rereading. After reading one paragraph, stop and think about what has been just read and ask yourself questions like:

- What did the author just say?
- What is the main idea of the paragraph?
- What details are important to know?
- This process of reading a paragraph, stopping, asking questions and thinking about the information helps in several ways:
- The mind stays focused on the information. Reading too quickly or carelessly puts the mind into “automatic pilot” where a little or no information can be registered in memory.
- The accuracy and higher level concentration can be attained that result better comprehension.
- The memory can have time to process new information. The learner also has time to think about information and understand it with greater accuracy.

According to Johri (2007, p.286), although the skillful reader can read rapidly his most important characteristic is his marvelous ability to adjust his pace to the difficulty of the material and to his purpose in reading it. His comprehension remains big for all materials, but his rate fluctuates. He reads slowly when encounters difficult materials, when he finds it necessary to consider implications, or when he wants to remember a number of facts.

Butcher (2002, p. 100) argues to read the chapter straight through. In this first reading, not to be worried about understanding everything, just get a good initial sense of the chapter. Hay (2005, p. 25) explains that the reader cannot read everything in the
same way, he must match the method of reading with the purpose of reading. Eliot (n.d. p. 2) says looking for answers of questions posed make sense of purpose that will help focus on the key points of the subject matter. According to Cottrell (2001, p. 276).

Students must focus their attention for key information. Parsons et al. (2001, p. 429) suggest to read using questions as guides. Pay attention to introductory paragraphs, reread difficult passages and look up unfamiliar terms.

Then, according to Butcher (2002, p. 100), after getting an overall impression of the chapter, you can go back to reread parts that you did not first understand.

Making the Main points

Khattak and Khan (2002, p. 31) maintain that the first step and perhaps a central part of the programme is reading paragraph for the main idea. Rynolds (1996, p. 217) suggests to read thoughtfully, referring to the dictionary when necessary, check your understanding of the passage. Then decide upon the selection’s main point (often subheadings will help you to find it). Look up any unfamiliar terms and references to make sure you comprehend what you have read. Then use “one of the best of eye, a pencil or marker, to mark up the reading material thoroughly at least once to make sure you understand it before you get out your pencil or marker: lines, stars, and question marks in the wrong places can be distracting. Students very much need to learn to read actively, critically and analytically (Rynolds, 1996, p. 217).

Look for and mark off what looks to be important ideas of details. In particular, mark off with following:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>←→</td>
<td>Set off a definition by underlining it.</td>
</tr>
<tr>
<td>Ex.</td>
<td>Set off examples by writing Ex in the margin of the page. Do not underline examples</td>
</tr>
<tr>
<td>. 1,2,3</td>
<td>To mark enumeration items in a list, use numbers</td>
</tr>
</tbody>
</table>
*Imp*  For setting important ideas use a star or imp.

Use a check for marking off items that may be important.

?  For the material that you cannot understand and may need to read later, use a question mark.

The purpose of marking is to set off points so that the student can easily return to them later when he will take study notes or answers of the posed questions. Butcher (2002), holds that “marking should be a selective process, mark only the most important points: definitions, key examples, enumerations, and what seem to be other important ideas. Setting off too much material is no better than setting off too little.” According to Simon (2010, p.10), reading step of this method is the most important part. In the view of Sobkowiaka (2001) “read implies filling the earlier-built mental framework with detailed information. If possible, some additional questions regarding the text should be made up” (p. 3). Durwin (n.d.) says:

While reading, students should attempt to answer the questions developed from the outline or section heading or questions provided in the chapter by the author. Students should not skip over tables, figures or other important visuals because these often support the main ideas in the narrative of the text. (p. 1).

Reflection is necessary and a vital strategy to be used during reading process. Eliot (n.d.) maintains that “reading without reflecting is like eating without digesting. Reflection is thinking about the substance just read. Think of the previous examples from one’s own life, and relating the new information to things already in knowledge (Bavair, n.d., p.1).

During reading the reader must take breaks from the reading material in order to relate information to previous knowledge (Durvin, n.d., p.1). In this sense O’Reilly (2010) argues that “Learner’s background knowledge is important in determining how well readers can comprehend, learn and utilize new information. Student’s prior knowledge plays a vital role in learning” (p. 1). Sobkowiaka (2001) supports the argument that “while the reader reads the text, he should ponder on it, look for its
reflection in reality, his own experience and background knowledge. Thus, the main aim of reflecting on the text is to understand it” (p. 4). Parsons et al., (2001, p. 429) is also of the opinion to think about what has been read, relate ideas to what you already know. In the view of Reynolds (1996, p. 217), during reading, look for connections between the reading selection and your own experience such as:

Is the information related to what you already know? Will it be helpful to you academically, professionally, or personally? Make sure you have not missed any practical details. Check your understanding of any abstract ideas you have read. It will help to comprehend and retain what you have read; it also develops the insightful outlook that is the hallmark of every truly educated person. This strategy is a vital part of the critical reading process.

Reddy (2006, p. 66) argues that true human learning should aim at the higher level of thinking i.e. creative and critical thinking. Thus reflection involves higher level of thinking. When a learner, according to Klein (n.d. p. 3), reads in short bits, stops about what he has read, he is passing through the higher level thinking process.

Mangal (2005, p. 270) and Eliot (n.d. p. 2) posit that while reflecting, the information given in selected material is organized and made meaningful. If students want to remember the information, they need to think about it and put it in heads in their own words, instead of sitting back passively and absorbing it.

Cottrell (2001, p. 277) suggests to give students time to reflect upon their own reading. Moon (2008, p.25) says that thinking critically about one’s own actions or ideas might involve gathering of various processes such as understanding, analysis, synthesis, evaluation and so on, such as those described by Bloom (1956), and termed tools of manipulation of knowledge. Eliot (n.d.) explains that “you learn more effectively when you reflect on what you are learning. Reflecting means relating it to things you already know about. This process makes the material meaningful and remember, and you are able to apply the information to your own life” (p. 3).

Thus reflection is thinking process that involves:
**Linking new information to the old**

According to Mangal (2005, p.270) and Eliot (n.d. p.3), we mostly expand our knowledge base by relating new information to the things we already know. (Ghani1991, p. 14)

Holds that we travel from familiar to unfamiliar, that is, we try to establish an association between the known and unknown. In the views of (Thomas and Pattison, 2008 p. 100), in order to actively derive meaning from print, the reader needs to be able to relate what is read to other experiences and knowledge.

Arends (2007) is of the view that “meaning can emerge from new materials only if they tie it into existing cognitive structures of prior learning” (p. 259). Harley (2007 p. 52) posits that student’s prior knowledge affects their learning more than anything else. Consequently, a constant reference in the literature on teaching is to find out what the students already know, and start from there. Thomas and Pattison (2008, p. 100 explain that reading does not exist as a skill in isolation though this is how it is often treated in school; it is connected to language, to life, to culture and experiences O’Reilly (2010) explains that “knowledge is the foundation with which new information is learned. Learner’s existing knowledge has a large impact on knowledge acquisition” (p. 10)

Sanacore (2000, p. 2) states that students will learn how to transfer learning if they relate their learning experiences to their interests and experiences. So, activate the student’s previous knowledge of the content, and facilitate the application of this knowledge to the present reading assignment. Thus, ‘what one already knows will affect most readily what one can come to know’. According to Eliot (n.d. p.3), we better learn information if we reflect on it.

**Relating New Information to Events in Our Personal lives**

Eliot (n.d. p.3) maintains that we can reflect on information by relating the new information to our personal lives. According to Trabasso and Bouchard (2003), Jahir (2007, p. 284) holds that the past experiences and present needs of the reader govern what meanings he receives. Barnes (1992, p.53) explains that relate the things you
already know and relate them you have been reading to your own life. If you don’t do so, your reading will take several repetitions. Through reflection, the material can be embedded so firmly in the memory that it can be retained on the basis of review.

**Relate new information to old rules**

Sometimes to reflect on information means to apply rules (Eliot, n.d. p.3). In the view of Peirce (2003) “connect the reading to a past lecture or to prior knowledge and apply the chapter content to a scenario or a case” (p. 8). According to Harley (2001, p.336), prior knowledge provides a framework for understanding new material and activate appropriate concepts more easily. It also helps us to decide what is important and relevant in material and what is less so. Johri (2007, p. 285) says, the person who has little experience or knowledge of his own, will gain little from reading.

**Compare and contrast the facts**

Harley (2001, p. 337) states that learner should reflect on the material while reading it. He may try to think about examples and try to relate them to prior knowledge. Durwin (n.d.) holds the same view and says “create examples beyond those provided in the text. Compare how this relates to other information in the text (p.1). Peirce (2003, p. 8) suggests to compare and contrast the selected material with another reading.

**Use Mnemonic Devices**

Ghani (1999, p. 10) is of the view that through the use of mnemonics, one can remember and fix the information permanently in his mind. According to (Mangal ,2005p. 270) and Eliot (n.d. p. 3), mnemonic devices refer to remember any information but we usually use chunks of information by combining them into phrases Correlating the information with other similar facts, concepts and principles according
to Mangal (2005, p. 270), correlating the information with other similar facts, concepts and principles is a process performed during the reflection step.

Kiewra (2002) is also of the view that “students must relate or connect the material to be learned” (p. 76). Arends (2007) posits that “prior knowledge definitely filters new information and thereby determines how well new information will be integrated and retained by a learner” (p. 262). In this sense Eliot (n.d.) holds that:

There are thus many ways to reflect upon the selected material for study. Broadly speaking, when we reflect on material, we relate things. This may mean relating it to personal experiences, categorization or classification of information, making associations and using mnemonic devices such as acronyms and mediation. (p. 3).

At the end, students must ask themselves questions like this:

- Do I know exactly what I am looking for?
- Have I considered what questions I will have to answer?
- Have I determined what information do I require?

If a student finds any answer in ‘no’ then he must repeat the process and reread the text (Barnes, 1992, p. 53).

In the light of above mentioned arguments, it is concluded that reflection step of PQ4R study strategy helps to retrieve information previously stored in long term memory, rejects or accepts new information, reconstruct it, then register it again in long term memory for further use.

2.8.1.4 STEP 5: Recite

In the view of Huber (2004) “definition of “recite” is not literal, but rather means that students should periodically stop to reflect on what they have read, to interact with the text and to answer their self-generated questions”. Sobkowiaka (2001) says “recite and review correspond to the ones from SQ3R strategy”.

A leading cognitive psychology text recommends this method, in this concern Kiewra (2002) posits “the PQ4R method of learning text material. One of the four R’s
is “recite”, which involves repeating information” (p. 75). Recitation is, in fact, surefire way of mastering the material to be learnt (Butcher, 2002, p. 105). In this step, students check their understanding by restating what they learned from the selection (Reynolds 1996, p. 218). The information provided in the material is remembered through recitation and recall both orally and in writing (Mangal, 2005, p. 270). Students may recite material as follows:

**A. Answering Questions:** After finishing a section, try to recall the information that was in it. The reader should stop and make effort to answer his questions from memory, if he is unable to do this, reread the difficult material and the parts relevant to the questions he could not answer. Relate information to headings and recall main points (Harley, 2001, p. 336; Sobkowiaka, 2001, p. 3; Parsons, et.al., 2001, p. 429). According to Eliot (n.d. p.4), Ryan (n.d. p.1) and Wong (1994, p. 104), after reading a section, recite each answer aloud to yourself or to someone else. Reynolds (1996, p. 218) explains this strategy that for recitation, cover the answer to the questions you wrote in previous step and see if you can recall the answers. In the view of Butcher (2002, p. 105), recite the material to yourself. Eliot (n.d. p. 4) explains that reciting the answers aloud is helpful for remembering them in different ways. Repetition fosters retention.

We produce the concepts and ideas, associate them with spoken words and gestures. Thomas and Pattison (2008, p. 107) hold that reading aloud introduces the idea of stories, what they are and how they relate to real life in different ways. It helps children to map their own experience onto written words so that what they are hearing make sense to and hold meaning for them. It also introduces a feel for the flow of words, helping children to anticipate what may be coming next.

**B. Key Words:** Butcher (2002, p. 105) suggests to use key words in the margins of notes. Then, turn each key word or phrase into a question and go over the material until you are able to answer the questions without looking at the page .You will find out immediately whether or not you know the material. Go back and reread the items, if necessary. Next, look at definitions and examples. After finishing a section, go back and review previous sections and make sure you can recite all the material.
C. **Tell Story**: Encourage the learners to talk about the text e.g. without looking at the print, in pairs or small groups, explain different parts of the text to each other. If this is difficult, reread the appropriate parts. Telling something to someone else is a good way of finding out if it has been fully understood. Some learners need to activate their auditory memory by talking about what they have read (Burton, 2007, p. 2). Kiewra (2002) maintains that “make reciting and repeating information aloud so that you both hear it and “get the physical sensation in your throat, tongue and lips” (p. 75). Discuss the text and create mind maps or posters with the key points which can activate visual memory and highlight any gaps in recall of the text (Burton, 2007, p. 2).

D. **Summarizing**: Another possibility is to write a summary of what you have read then compare your version with summaries written by other members of the class or study group (Reynolds, 1996, p. 218). According to Orey (2001) strategic readers might stop and summarize what they have just read in order to ensure comprehension” (p. 4). Bavair (n.d.) supports the idea that “one form of recitation is to try to write ideas in your own words, using your own organization. Then try to explain the ideas to somebody else” (p. 1)

e. **Using Auditory Channels**: Wong (1994, p. 104) narrates that reciting is one of the memory principles and valuable for the reasons that it requires you to explain the information clearly. Reciting provides with important feedback. It leads to active learning which increases the level and length of concentration. It also activates the auditory channels of the brain. The more senses you can use in the learning process, the stronger the paths will be to your memory. Reciting in your own words helps you avoid rote memorization. After recitation, you have fresh ideas in memory that later can be connected to the new information while reading the next paragraph.

Reddy (2006, p. 93) throws light on this step by saying that materials learnt through recitation were much better remembered than when material were learned through reading alone. It reduces the time needed for learning and increases the persistence of learning. According to Shahid (2000, p. 173), psychologists are of the opinion that recitation is helpful in the process of retention. Self-recitation is much more efficient way of retaining learnt material.
In the view of Reddy (2006, p. 93), the conscious use of recall during the process demands that the act of reading be effortful. It prevents the reader from letting his eyes dance lightly along from word to word while he focuses his thoughts. The learner sets specific goals and makes an immediate evaluation of his progress toward them. Recitation gives the learner chance to check immediately on the accuracy of his learning. Correct information is confirmed and incorrect is rejected. It is a muscular activity as the learner tries to repeat the material in his own words, he tends to use at least his muscles in the process.

f. Use all the Senses: Klein (n.d. p. 4) suggests using all the senses while reciting the material, see, say, hear and then write or draw, and select the important parts.

According to Rowntree (1988, p. 91), at least half the PQ4R time may be spent on reflecting and reciting the material. Because the ideas in the text are important, the time is not wasted. You will lose understanding unless you follow through reflecting, reciting and reviewing.

2.8.1.5 STEP 6: Review

Since most forgetting takes place within 24 hours, students will have to review the reading selection to retain what they have read (Reynolds, 1996, p. 218; Klein, n.d p.5). Ghani (1999, p. 9) maintains that unless perpetually repeated, we usually tend to forget most of the information stored in our memory. According to Sobkowiaka (2001) “review factor is very similar to recite one, but the ‘review’ is applied after the whole text has been read, and the ‘recite’ is employed after each small section of the text” (p. 3).

Fisher (2008, p. 146) explains that review is an important element in the process, as it aims to develop metacognitive awareness of the process, the content and the response of the individual. It aims to help children identify what they have learnt from the experience, where they and others achieved success, and ways in which they or the group could improve in the future. The review can take place during or after the discussion. It can be undertaken as part of whole group or paired discussion, in response to an evaluation sheet of key questions or through individuals doing a ‘think write’ in
their notebooks. Reddy (2006, p. 100) holds that careful review is a valuable aid to memory, particularly when it is begun soon after the initial learning. According to Child (p.140, 1995) the review is important because memories begin to fade with the passage of time unless we actively recall them periodically.

It is a useful idea to set aside some time both during and after the learning session for actively recalling or committing to paper the work covered. Reddy (2006, p. 101) supports the idea that the first review should take place soon after learning, in order to avoid the great loss that takes place during the initial period of rapid forgetting. An hour or two each week should be identified for the review of all the course notes for the semester or the year. Narrates that review is a vital step for the reason that :(Wong 1994, p. 105)

- The process of memory involves putting information into long-term memory and being able to retrieve it from this memory storage when needed.
- Frequent ongoing review keeps information fresh in the memory. The student has less need to cram or feel unprepared for tests.
- New knowledge can be easily connected to the information in the memory.
- An immediate review of information summarizes the learned material. It provides the learner a big picture supported by important details.

**How to Review:**

Durwin (n.d) posits that “review actually requires the student to mentally, rather than physically, think through the chapter contents in order to monitor how much of the material has been learned” (p. 2). Reddy (2006, p. 101) advocates to teach the child to review independently. According to Child (1995, p. 140), we should spend at least half the study time trying to recall and recite the work we are learning because often the time is totally taken up in reading, without necessarily absorbing the work. In the view of Reddy (2006, p. 101), we must also review lesson before we begin a new unit, and schedule a regular portion of study time for it in the classroom.
Reynolds (1996, p. 218) maintains that a short, easy selection may require only five minutes of review every day; a long or difficult selection may require extensive reading and review. Cottrell (1999, p. 115) suggests how to understand what has been read. What is the basic argument of the idea? Does the text answer the questions posed? How does new knowledge relate to your previous knowledge? Does it confirm or challenge your view? What else do you need to find out? Keeping the above questions in mind organize information, restudy difficult material and remember linkages (Parsons, et.al:2001, p. 429). Bavair (n.d.) says “try to recall the material and set yourself. Study partners can help here. Making up a quiz as part of recitation and then taking it as review is a good way to study” (p. 1). Make sure your review strategies are appropriate.

To the length and difficulty of the reading selection (Reynolds, 1996, p. 218). In the view of Harley (2001, p.337), after finishing read, reflect and recite, go through the material mentally, recalling the main points. Again answer the questions you posed.

A few minutes after you have finished this process, flick through the material once more If possible, repeat this an hour or so later Mangal (2005, p.270) says that learner asks himself questions related to the information given in the material and in case he is unable to provide satisfactory answer, he reads the material again, recites and remembers it more carefully and then again evaluates his learning. According to Eliot

To effectively review material, you need to establish goals and plan ahead to meet them. Learning takes time. We forget most of what we learn. Thus we remember best when we repeat or review what we have learned. Once you have determined the amount of study time, try to space or distribute it fairly evenly. Distributed learning is efficient than cramming. (p. 5).

Reddy (2006, p.101) maintains that although no new materials are presented during a review the child learns many things for the first time, since he will seldom have learned all that is available during the previous exposure. New applications and understandings will be developed during the review.

Following valuable activities were suggested for immediate and ongoing review:
− Reread the entire selection.
− Answer the questions predicted during the question step.
− Answer those questions given at the end of the chapter.
− List the key points from the text, orally or in writing, as appropriate.
− Repeat the survey step by reading only selected parts of the selection.
− Personalize the information by asking yourself additional questions: Why is this important to learn?
− Try explaining what you have read to a friend.
− Write a summary.
− Without looking, recite your summary from memory.
− Make mind map or outline.
− Create additional study tools such as vocabulary, flash cards etc and study them.
− Redo the review questions at the end.

Individually read the text again to monitor your own confidence and to identify any aspects which need further development. This will act as formative assessment. (Reynolds, 1996, p.219; Wong, 1994, p.105 and Burton, 2007, p. 2)

2.2 Second Part: Reading comprehension skills

2.2.1 The Nature of Reading

Reading is the most fundamental activities that is done by students with the purpose to get information that they have not known before, with reading the students will gain knowledge and wide insight. By reading also the students will be able to communication with other people through written.

Many experts define reading with different meaning. According Braunger and Lewis (2001:4) as quoted in Rodli jurnal (2015), reading is a complex and purposeful socio-cultural, cognitive, and linguistic process in which readers simultaneously use their knowledge of spoken and written language, their knowledge of the topic of the text, and their knowledge of their culture to construct meaning with text. Beene and
Kopple (1991) reading is the process of finding the meaning in written characters or symbols and of interpreting and analyzing texts.

Dalman (1982, p. 22) point out that reading is a verbal process interrelated with thinking and with all other communication abilities such as listening, speaking, and writing. Specifically, reading is the process of reconstructing from the printed patterns on the page of the idea and information intended by the author.

While, according to Nunan (2001, p. 33): “reading is viewed as a process decoding written symbol, working from smaller units (individual) letters to larger ones (word, clauses and sentences). Purpose of reading is that students are able to read fluently, they comprehension and understand the contents of the text that students read. Therefore, the students are also expected to be able to understand that reading material provided by the teacher can be controlled properly.

Based on the statement above reading is one of language skill that demand people so that can mastered to read and understand of the text or material. Reading also has purpose is comprehension text, because if people don’t have reading skill is good so the people can’t extend information to other people.

2.2.2 Reading Comprehension

Reading is the process of recognizing, interpreting, and perceiving the written or printed material. It is also as ability to comprehend, not simply to recognize, letters, forms, and symbols. Comprehension is very important in reading because with comprehension the students can know meaning of the text that they read. Comprehension is understanding what has been read. Reading comprehension is thus much more decoding.

Reading comprehension results when the reader knows which skills and strategies are appropriate for the type of text, and understands how to apply them to accomplish the reading purpose. Reading may prove to be almost useless without comprehension. According to Mahmoud (1992:102-103) there are three levels of reading comprehension:
a. **Literal reading** is the ability to follow directions and understand exact words, meanings, and character.

b. **Aesthetic reading** is the ability to appreciate artistically the style and overall quality of what is being read.

c. **Critical reading** consist of making factual distinctions between common ideas, facts, and opinion.

The writer can conclude that total comprehension requires reading at all of the above levels. Thus, to comprehend a chapter in a textbook well, one must have ability to read at all levels.

### 2.2.3. Components of Reading Comprehension Proficiency

Reading comprehension is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language. We use the words extracting and constructing to emphasize both the importance and the insufficiency of the text as a determinant of reading comprehension.

Comprehension entails three elements: The reader who is doing the comprehending, the text that is to be comprehended, and the activity in which comprehension is a part (Snow, 2002).

Canal and Swain (1980) developed a communicative competence framework involves four areas as the abilities underlying reading proficiency:

**Grammatical Competence:** It involves the use of grammar rules, knowledge of lexicon or vocabulary, and mastery of mechanics, such as the punctuation of the language to help understand what is being read.

**Sociolinguistic Competence:** The reader needs to be able to get into the mindset of the author of the reading passage to figure out the author's purpose, genre, register, topic, and so on.

**Discourse Competence:** Readers in a foreign language need to be able to read passage of discourse, sometimes very long ones. They need to be able to identify instances in
which the writer of the passage has used cohesive devices, such as references, ellipsis, and conjunction. Readers need to know how and why these devices are used if they are to comprehend the meaning of the reading passage. They also must recognize markers indicating coherence in the development, balance, continuity, and completeness of a piece of writing.

**Strategic Competence:** It refers to possessing a set of useful strategies for compensating for missing knowledge. All of these strategies can be boiled down to the process of guessing using any and all clues available. Clues come from the linguistic context of the sentence or the paragraph, from the reader's background knowledge, from the content, from what has been said earlier or what will be said later in the text, or from any other source the reader can find. Guessing is not only useful in reading; it is indispensable.

### 2.2.4 Model of Reading Process

To understand the content of a particular text, one must go through a process. Understanding what happens from the moment our eye meet the page to the “click of comprehension” (Samuels & Kamil, 1984:185) in Nunan (2003: 70-71). The models can be divided into three categories: bottom-up models, top-down models, and interactive models.

1. **Bottom-up models**

   This models typically consist of lower-level reading process. Students start with the fundamental basics of letter and sound recognition, word recognition, identification of grammatical structures, sentences and longer text. And finally meaning is the order in achieving comprehension. In the bottom-up approach, all reading material is carefully reviewed so that the students are not exposed to vocabulary that is to difficult or that contains sounds that they have not yet been introduced to.

2. **Top-down models**
This model is begin with the idea that comprehension resides in the reader. The reader uses background knowledge, makes predictions, and searches the text to confirm or reject the prediction that are made. In the top-down approach, the teacher should focus on meaning generating activities rather than on mastery of word recognition.

3. Interactive models

This models are accepted as the most comprehensive description of the reading process. This type is combines the elements of bottom-up and top-down models. In interactive approach to reading would include aspects of both intensive and extensive reading.

2.2.5 The Purpose of Reading

Reading is an interactive process that goes on the between the reader and the text, that resulting in comprehension. The text presents letters, words, sentences, and paragraphs that encode meaning. The reader uses knowledge, skills, and strategies to determine what that meaning. Reading is an activity with a purpose. (http://www.nclrc.org/essential/reading/reindex.htm).

Mahmoud (1992, p. 103) stated that there are five main purpose for comprehensive of reading, as follows: a) Reading for Specific Information:

- Reading for Application
- Reading for Pleasure and Entertainment
- Reading for Ideas
- Reading for Understanding

Based on the statement above the general purpose of reading to gain information or verify existing knowledge or in other hand the purpose of reading also determines the appropriate approach to reading comprehension. So, reading comprehension for students also has purpose itself especially in comprehending the text. According Wahyuni (2010), there are several features of comprehension that students need to know, they are as follow:
Then, the students also need to know the components contained in reading text, according to King and Stanley (1998) in Wahyuni (2010) they are:

- **Finding Factual Information**

  Finding factual information requires readers to scan specific details. One of all types is through making questions to find factual information such as reason, purpose, result, comparison, means identify, time and amount in which most of the answer can be found in the text. The question usually appear with 5W+H question.

- **Finding Main Idea**

  Finding main idea of paragraph consisting of many sentences and selects the idea not only in the beginning of paragraph but also in the middle and at the end of paragraph.

- **Finding the Meaning of Vocabulary**

  It can be done by guessing it in the context or open dictionary to be sure that vocabulary meaning is correct and appropriate with the word origin or basic meaning, then it can understand position of structure and function word in context.

- **Identifying Reference**
In order to avoid repeated words or phrases, the author used reference words and being able to identify the word or phrases to which they refer will help the reader understand the reading passage.

- **Making Inference**

Inference is skill where the reader has to be able to read between line to draw logical and make accurate prediction.

By the explanation above, it can be conclude that reading comprehension is a process where readers try to reconstruct message encode in graphic language delivered by the writer.

**Strategies for Teaching Reading Comprehension**

There are some strategies for teaching reading comprehension, they are: identify the purpose in reading, use grammar rules and patterns to aid in bottom-up decoding (especially for beginning level learners), Use efficient silent reading techniques for relatively rapid comprehension (for intermediate to advanced levels), skim the text for main ideas, scan the text for specific information, use semantic mapping or clustering, guess when you aren’t certain, analyze vocabulary, distinguish between literal and implied meanings, capitalize on discourse markers to process relationships (Brown, 2001,p. 292).

A reading comprehension strategy is a cognitive or behavioral action that is enacted under particular contextual conditions with the goal of improving some aspect of comprehension. It means that in learning reading comprehension need strategy to help students so that the students able understanding and remember of the material that explained by teacher. The research suggest an active comprehension before, during and after reading. Before reading the students may define their goals for reading and consider what they already to know about the tittle, topic sentence, mind idea, and
structure of the text. During reading they make connection among main ideas, each purpose of paragraph and try to resolve any comprehension difficulties that arise. After reading, they may re-read it, skim the passage and summarize it, or take a note. A good reader according Junanto (2014:14) often continue to reflect on the meaning of the text long after they have read it and a good reader use a strategies flexibly depending on the type of text they are reading and the purpose of read it.

There are many strategies for reading comprehension one of all is according the National Reading Panel (2000) in Slavin (2006:30) examined 16 categories of comprehension instruction including: {1} Comprehension Monitoring, {2} Cooperative Learning, {3} curriculum incorporates the teaching of comprehension strategies, {4} graphic organizer use, {5} listening actively in read aloud situation, {6} using mental imagery, {7} utilizing system of memories, {8} use of multiple strategies, {9} activating prior knowledge, {10} use of psycholinguistics, {11} question answering, {12} question generation, {13} attention to story structure, {14} summarization, {15} teacher preparation that focuses on teaching comprehension strategies, and {16} utilizing vocabulary comprehension relationships. However, these 16 categories, 8 appeared to have a firm scientific basis for effective use in classroom instruction. They were: 1) comprehension monitoring, 2) cooperative learning, 3) graphic organizer use, 4) question answering, 5) question generating, 6) attention to story structure, 7) summarization, and 8) use of multiple strategies. From many strategy above, the teacher could choose good strategy to be used in teaching and learning process. The students or readers need a good strategy to improve their reading ability.

2.2.6 Classification of reading strategies

Researchers classified reading strategies into three stages: before, during, and post reading strategies as follows:

1- Before reading strategies

These strategies are used to activate students' background knowledge and connect what they already know with what they are learning in school. They help students identify the structure and the organization of ideas in the text (D'Arcangelo, 2002).
pre-reading, the readers need to apply specific strategies, including scanning and guessing, to survey the type of text they are going to read and to recognize its difficulties. They then read the title, link it to their schemata, and predict the content. These strategies help them create a narrow picture of the text and check whether their prediction is right or wrong (Cohen, 1998, Mejang, 2004).

2-During reading strategies

These strategies are used to allow students monitor their comprehension and keep moving forward through their reading. To assist students in applying these strategies during reading, students can complete graphics organizers, make marginal notes, and draw pictures. In the while reading stage, the learners also need strategies such as self-questioning, self-monitoring, and problem-solving (Allen, 2003, Cohen, 1998).

3-Post reading strategies

These strategies are used to help students interpret, analyze and deepen their understanding. They help students to solidify and remember ideas presented in the text (Pesa & Somers, 2007). In addition, Scharlach (2008), identified the following eight comprehension strategies: (1) predicting / Inferring, (2) visualizing, (3) making connections, (4) questioning, (5) determining main idea, (6) summarizing, (7) checking predictions, and (8) making judgments. Additionally, Hock and Mellard (2005), suggested the following reading comprehension strategies and their sub-strategies.

Table (2.1): Hock and Mellard’s Reading Comprehension Strategies (Hock and Mellard, 2005, P.194).

<table>
<thead>
<tr>
<th>Reading comprehension strategies</th>
<th>Sub-Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Identifying the main idea</td>
<td>Determine what the author think is more important in a paragraph. Select some information .Delete some information. Condense some information .Integrate some information into a paraphrase</td>
</tr>
</tbody>
</table>
2.2.7 Evaluation of Reading

According to Orstein and Hunskins (2009), Evaluation is a process that we carry out to obtain data to determine whether to make changes, to make modifications, eliminations, and or accept something in the curriculum in Fuaida (2012). In the other hand, Evaluation is the process of analysing, reflecting upon, and summarising assessment information, and making judgements and or decisions based on the information collected. ([http://www.ed.gov.nl.ca/edu/k12/curriculum/guides/english/primary/studentaccess.pdf](http://www.ed.gov.nl.ca/edu/k12/curriculum/guides/english/primary/studentaccess.pdf)).

Foundation for the Atlantic Canada English Language Arts Curriculum defined assessment and evaluation as a follow:

“Assessment and evaluation are essential components of teaching and learning in English language arts. Without an effective evaluation program it is impossible to know whether students have learned, whether teaching has been effective, or how best to address student learning needs. The quality of the assessment and evaluation in the educational process has a profound and well-established link to student performance. Research consistently shows that regular monitoring and feedback are essential to
improving student learning. What is assessed and evaluated, how it is assessed and evaluated, and how results are communicated results send clear messages to students and others about what is really valued what is worth learning, how it should be learned, what elements of quality are most important, and how well students are expected to perform.”

(http://www.ed.gov.nl.ca/edu/k12/curriculum/guides/english/primary/studentaccess.pdf)

From the statement above, it was clearly explained that assessment and evaluation are needed to know how far the students have learned, is the teaching and learning process has been effective or how to convey the students’ needs in a best way. In other word, assessment and evaluation are an important things in teaching and learning. The teacher can find which is wrong or not appropriate with the students’ needs, so the teacher can fix it or make it better in the future. According to Alderson (2000) in Andarbeni (2010) it should be understand that there is no one ‘best method’ for testing reading. No single test method can fullfill all the varied purposes for which we might test. In Brown (2004, pp.67-68) He stated that the description of IELTS Test of Academic Reading Illustrates the range of techniques that are now being employed in the testing of reading.

A variety of questions are used, chosen from the following types:

- Multiple-choice
- Short answer questions
- Sentence Completion
- Notes/ Summary/ Diagram/ Flow Chart/ Table completion
- Choosing from a heading bank for identified paragraph/ sections of the text.
- Identifications of writer’s view/ attitudes/ claims/ yes/no/ not given
- Classification
- Matching Lists
- Matching phrases.
Multiple choice questions used to be by far the commonest way for assessing reading. According to Brown (2004: 67) there are two principles that stand out in support of multiple-choice formats, of course, practicality and reliability, with their predetermined correct responses and time saving scoring procedures. Multiple-choice offer overworked teachers the tempting possibility of an easy and consistent process of scoring and grading.

Table (2.2): Scoring Rubric

<table>
<thead>
<tr>
<th>No</th>
<th>Aspects</th>
<th>score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The answer is correct, the sentence constructed in good grammar and appropriate vocabulary.</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>The answer is correct, the sentence is constructed by making a little mistake in grammar but it does not influence the meaning.</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>The answer is correct, the sentence is constructed by making a little mistake in both grammar and vocabulary but they do not influence the meaning.</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>The answer is correct, the sentence is constructed by making a little mistake in both grammar and vocabulary but they influence the meaning.</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>The answer is wrong.</td>
<td>0</td>
</tr>
</tbody>
</table>

2.3 Third Part: Reflective Thinking

Though important it is to learn and remember basic facts and skills, they must go beyond memorization to understanding and thinking. Understanding means transferring and using knowledge, skills and ideas appropriately. Which are complex thinking skills. Different aspects of thinking include transfer of learning, problem solving, metacognition and study skills. Nayak and Rao (2004) argue:
Critical thinking may be included as a focus of schooling. Because the movement to the information age has focused attention on good thinking as an important element of life success. Old standards of simply being able to score well, though still appropriate, cannot be the sole means by which the academic success of students be judged. (p108)

According to Kumar (2006, p.75), theories like social learning, constructivism situated cognition and cognitive learning have common themes about the context and process of learning. Learning is most meaningful and is enhanced when students face a situation in which the concept is immediately applied. This type of learning involves problem solving and critical thinking in situated context. Gelder (2010, argues “when we talk about “higher order thinking skills”, we are concentrating on the top three levels of Bloom’s Taxonomy, that is analysis, synthesis and evaluation” (p. 1). Moon (2008 p.25) is of the view that it is clear that critical thinking is something to do with process p.25) is of the view that it is clear that critical thinking is something to do with process of learning. He says that critical thinking would seem to be a gathering of various processes such as understanding, analysis, synthesis and evaluation, (such as those described by Bloom 1956) and termed tools of manipulation of knowledge

Supporting learners in learning how to learn, understand and think is the main goal of education. According to Krishnamurti (2006) “all the thinking is between what is convenient, what is not convenient, what is beneficial, what is worthwhile-It is always within that field” (p.117). Creative and critical thinking are higher order skills and are necessary for a balanced productive personality (Rusbulk, 2001, p.1). Higher order thinking skills is a very common feature of outcomes based education reform Wikipedia, 2010). Fisher (2008) says “creative and critical thinking is needed to make sense of knowledge in any subject area” (p. 3).

In the view of Horghenhahn (2005, p.281), learning that is based on understanding is the product of creative and reflective thinking.
2.3.1 Creative Thinking

Creative thinking is absolutely an internal mental process and an important component of one’s cognitive behavior. It involves divergent thinking instead of the routine and fixed type of convergent thinking. Mangal (2005) holds that “creative thinking is not restricted by any pre-established rules. The creative thinker explores new areas and makes new observations, new predictions and new inferences” (p.362).

According to Fisher (2008, p.4), a good thinker is someone who is always trying to find out new things. Creative thinking is an important kind of creativity. It is the process of generating ideas that are new, useful, productive and appropriate. Teacher can stimulate creative thinking by encouraging their students to think divergently by generating ideas that are open-ended and multidirectional (Kim, 2006, p. 251-259). Advocates of critical thinking argue that alternative solutions are often not given, they must be produced or thought. Critical thinkers must also be creative thinkers and generate generating possible solutions so as to find the best solution. Rusbult (2001) argues that “the creative thinking is combining of divergent generation and convergent evaluation in a strategy of creative problem solving” (p. 1).

Divergent thinking depends partly on its oposite convergent thinking, which focuses on, logical reasoning about ideas that lead to specific right solutions. Convergent thinking has the strange effect of making student’s creative or divergent thinking possible (Sternberg, 2003, p.5; Runco, 2004, p. 47-62 and Cropely, 2006 , pp.291-404). Divergent thinking happens when teachers specially encourage students to use it, and in general convey to students that they value it. “Critical and creative thinkers are made, not born” (Feldman, 1999, p. 275). According to Fisher (2008 ,p.108), the thinking skills are not automatic, but they can be developed .

Whether in school or out, creative thinking flourishes when the creative activity contains its own internal reward. It is likely to be creative when the creator enjoys the creative activity itself, and does not worry about how others may think of the activity (Brophy, 2004, p. 4). Our own problems arise out of our own activity, and they seem worthwhile and real that arouse the curiosity of children (Hughes and Hughes, 2003 , p.155). Claxton and Edwards et al., (2006) found:
The requirement of producing creative students can sometimes pose a challenge for teachers. Because not only are teachers supposed to evaluate student’s learning of particular ideas or skills, but they often have to do so within the restricted time limits of a semester or school year. In spite of these constraints, thought provoking activities can be encouraged in classrooms at least some of the time through application of student centered strategies of instruction and through cooperative learning. (pp. 57-61)

The education of a morally autonomous person requires the teaching of critical thinking because it helps to form intelligent judgments on public issues and thus contribute to the solution of problems. The aim is to develop in children the critical consciousness and intellectual virtues and dispositions such as to attend, concentrate, cooperate, organize, reason, imagine and enquire (Fisher, 2008, p.5).

2.3.2 Critical Thinking

According to Downs (2008) “critical thinking is skillful, responsible thinking that is conducive to good judgment because it is sensitive to context, relies on criteria, and is self-correcting” (p. 60). At present, critical thinking is an important subject in education. All teachers take interest to teach critical thinking to their students. Gelder (2010) posits that “critical thinking involves logical thinking and reasoning such as comparison, classification, sequencing, cause/effect, patterning, webbing, analogies, deductive and inductive reasoning, forecasting, planning, hypothesizing and critiquing” The above view is supported by Huitt (1990, p. 1) that critical thinking involves analytical thinking for sake of evaluating read material. Mayer & Goodchild (1990, p.4) are also of the view that critical thinking is an active and systematic process to understand and evaluate the material. The concept of critical thinking is explained in stronger way by Scriven and Paul (1992) who argue that “critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action” (p. 1). Critical thinking, in view of Ennis (1992, p. 1), is a reasonable thought process that concentrates on what is to believe and/or do. Lipman (1995) holds that critical thinking is skillful, responsible thinking that facilitates good judgment because it relies upon criteria, is self-correcting, and is sensitive to context” (p. 146
Crowl et al., (1997, p. 170) argue that critical thinking includes the thinker’s conscious process of monitoring and evaluating his or her own thinking. Hughes (2003 p. 165) states that recent investigations with children have shown that much of their thinking is carried on at subconscious level by mean of images. According to Huit (1998) “it is necessary to include development of creative thinking and practice in using both sets of competencies to solve problems and make decisions in a wide variety of situations” (p. 5).

Nayak and Rao (2004) say that “as result of critical thinking, a previously held belief is confirmed or a new belief is established” (p. 112). Mangal (2005, p. 363) argues that the process of critical thinking is thoughtfulness which leads a person to new events of knowledge and understanding. Huit (1998) explains critical thinking as “the disciplined mental activity of evaluating arguments or proposition and making judgments that can guide the development of beliefs and taking action” (p. 3). While supporting this idea, Moon (2008, p. 21) says that critical thinking is the ability to consider a variety of information derived from many different sources, to process this information in a creative and logical manner, challenging it, analyzing it and arriving at considered conclusions which can be defended and justified. Moon (2008, p. 54) again explains that critical thinking is more than a collection of skills and processes and there are many different skills and actions that may be involved in critical thinking.

2.3.3 The definition of reflective thinking skills:

The study demonstrates that reflective thinking is the process of logical decisions on educational topics, then evaluating the effects of those decisions. According to Fischer and Pruyne (2003) reflective thinking is a complex form of cognition exclusively associated with adult development.

Abu Nimer (2017) defines reflective thinking as a conscious mental process through which the student explores and evaluates his/her prior experience and decisions in order to reach new understanding, appreciations, solving problems, and judgments.
Dewey (1960) was the first to introduce the concept of reflection; he considered it to be an active and deliberative cognitive process that involves sequences of interconnected ideas that take into account underlying beliefs and knowledge.

Dewey started the premise that teachers should be encouraged to become thoughtful and alert students of education, and argued that both students and teachers should continue to grow in reflection. He thought the idea of reflection can be equated to the force scientific inquiry: how to identify problems, systematic, thinking disciplined and create meaning as a result of past experiences. According to Dewey, reflective thinking is identified as a key to trigger the process reasoning, reflect and anticipate the questions the direction of a teacher and a successful science student. In fact, reflective thinking is the process of recalling an event in the mind and gives it serious and thorough consideration of these events.

Schön (1991) expanded upon Dewey’s notion of reflection. He suggested that students should frame and reframe the complex problems that they face, and modify their actions accordingly. He argued that the truly reflective practitioner must augment technical expertise with personal insights and artistry and referred to professional artistry as “the kinds of competence that practitioners sometimes display in unique, uncertain and conflicted situations of practice.

Schön (1991) introduced the concepts of reflection-on-action and reflection-in-action. Reflection-on-action implies looking back upon action sometime after it has taken place. Reflection during the teaching sessions carried out is the “reflection-in-action”. The term is often used to describe spontaneous behaviour and is correlated with expressions such as “thinking on your feet” and is being adapted to suit the situation and respond accordingly. While the reflection after the lesson called “reflection on-action”, reflection done to reflect the actions that have been implemented.
Table (2.3): The difference between reflection in action and reflection on action

<table>
<thead>
<tr>
<th>Reflection in action</th>
<th>Reflection on action</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Experiencing</td>
<td>• Thinking about something that has happened</td>
</tr>
<tr>
<td>• Thinking on your feet</td>
<td>• Thinking what you would do differently next time</td>
</tr>
<tr>
<td>• Thinking about what to do next</td>
<td>• Taking your time</td>
</tr>
<tr>
<td>• Acting straight away</td>
<td></td>
</tr>
</tbody>
</table>

2.3.4 Characteristics of activities that develop the reflective thinking

(Abu Shaqra) 2019, shows some characteristics that can develop reflective thinking:

1. The teacher provides enough wait-time for students to reflect in the learning tasks.
2. The teacher provides effectively environment in the classroom.
3. The teacher prompts the reviews of the learning situations, what is known, what is not yet known, and what has been learned.
4. The teacher provides authentic duties involving ill-structured information to activate reflective thinking during learning activities.
5. The teacher improves learners' reflection by asking questions that aim causes and evidence.

2.3.5 The importance of reflective thinking

Al-Atrash (2015) thinks that reflective thinking is very important because it assists apply new knowledge to the complicated situations of daily activities and also throughout learners' future life. Reflective thinking also helps learners to develop higher order thinking skills by prompting them to relate new knowledge to prior understanding, and understand their own thinking and learning strategies. The researcher summed the importance of reflective thinking in the following points:
1. The reflective thinking helps learners on developing strategies to implement new knowledge in daily exercises.

2. The reflective thinking helps learners to improve higher order thinking skills.

3. The reflective thinking helps the learners in their transition from one stage of development to another through change in intellectual, emotional, social and physical development.

4. The reflective thinking helps the learners to modify their understanding based on new information and experiences and transfer their learning to other situations.

5. The reflective thinking helps the learners to identify the ways that build the knowledge they need to solve the problem.

6. The reflective thinking helps the learners to improve their learning progress.

2.3.6 Reflective Thinking Steps:
Steps of reflective thinking differ according to the presented situation and now we're going to display some of those systematic ones:-

Afana & Obaid (2003) as cited in Abu Shaqra (2019) stated that those steps are:

1- Feeling problem itself.

2- Understanding the different sides and links composing the target problem.

3- Proposing and categorizing solutions.

4- Eliciting the expected results when applying the proposed solutions.

5- Investigating those proposes practically.

6- Accepting or rejecting the result.

2.3.7. Reflective thinking skills
Afana & Al-Lolo (2002), indicated that there are five basic reflective thinking skills as follow:
a. Observing:

Ability to present the consisting sides of the problem and getting recognized with its components either through drawing, making a diagram or via visualizing.

b. Contrasting:

Ability to find gaps in the current problem through specifying some misconceptions or other unfamiliar mistakes included in the task.

c. Inferring:

Ability to deliver logical relations or connections composing the whole situation besides inferring convincing findings.

d. Reasoning:

Ability to get others convinced with the produced meanings or the final results the learner got through his/her deep thinking and past experience.

e. Proposing:

Ability to produce logical steps to solve the presented problem, moreover those steps should be based on expected mental portrays of the learner himself.

2.3.8 Developing reflective thinking

The researcher clarifies that the main thinking skills and a supportive environment are essential for transferring the reflective thinking into learning teaching process. In order to enhance this style of thinking, it is necessary to use imagination, group discussions, analyzing and improving teaching programs that should include some methods or techniques which can be utilized to develop reflective thinking skills. These methods are explained in Abu Shaqra( 2019).

1. Writing learning texts
The study reveals that learning texts are known as reflective writing. They are materials in which an individual saves his/her personal reaction, questions, feelings, changing views, thoughts, and information about the learning process and content. In these writings, experiences cannot only be described but explanation, analysis and reflections are also included. Students gain the ability to reflect because they think of the learning process while they are writing learning texts. Moreover, students learn more effectively in this process. Teachers can get feedback from students learning texts. Teachers can plan activities related to process more accurately. Like students, teachers can make reflections by writing texts related to own practices, and they can develop themselves by this way.

2. Preparing portfolio:

The study state that preparing portfolio is one of the tools to improve reflective thinking skills. A portfolio is primarily created by the students and allows them to select, to examine, to make reflections on completed projects and to review the old products. A portfolio includes knowledge which is meaningful for only the student and helps to plan his/her current and future requirements; it is collected to demonstrate the student's progress towards his/her development goals. Through portfolios, students can evaluate their practices and develop their reflective thinking skills by questioning their practices.

3. Constructing concept maps:

The study explains that the concept map is a visual design which exposes events, facts, ideas and explains relationships between them. The concept maps aim to establish relationships between concepts in the form of suggestions. While concepts are taught with visual ways by concept maps, the level of learning concepts can also be used for learning purposes. Concept maps prepared by students are also important in the evaluation process. Students must have knowledge about the subject to prepare a concept map.

4. Asking Question:
The researcher demonstrates that asking questions has a very important role in the development of thinking skills. Open-ended questions posed to the students at the teaching process will increase their awareness. Higher-order thinking questions of students and teachers develop reflective thinking. Questions developing reflective thinking should be prepared before the course. Different questions for different purposes should be chosen and they should be prepared at different cognitive stages. In short, the activity of asking questions should be carried out in a conscious way. Teachers stimulate students' reflective thinking by asking questions such as the following:

- How did you carry out/do this task?
- What were you thinking of when you did it?
- Why did you choose this approach/method, etc.?
- Can you explain all the steps you followed in this task?
- What kind of changes would you make if you did it again? Why?

5. Self-questioning:

Thus, students evaluate the process with questions, which they ask themselves along their learning process. By these questions, students decide what, when, why and how they have learned and will learn, and also complete their deficiencies. Primarily a teacher should be a model for students by using the strategy of self-questioning aloud at the activities. The following are examples of questions which students can ask themselves:

- What do I know about this subject?
- What do I need to learn about this subject?
- How much time will this subject take?


2.4 Section (B): Previous Studies

Introduction

This chapter includes three sections that aim at reviewing previous studies related to developing reading comprehension and reflective thinking skills via using PQ4R strategy. The first one presents studies related to PQ4R and its role at raising various linguistic skills, particularly reading comprehension skills. The second section explores the studies related to developing and teaching reading comprehension skills which are the essential part of the study, while the last one tackles with reflective thinking skills.

2.4.1 First Section: Studies Related to using PQ4R Strategy.

This Section explores the independent variable of the current thesis which is PQ4R Strategy.

Bawy (2019):

The study aimed at: To identify the effectiveness of PQ4R metacognitive strategy in developing some higher thinking skills and retention on biology achievement of the first secondary grade students in Libya. The study used the analytical descriptive and experimental approach. Teaching the two determination units (Nutrition in Mammals and Nutrition in Plants) for the research sample, the experimental group studied the two unit’s via PQ4R metacognitive strategy, while the control group studied the same units using the traditional teaching method. The results of the study: included effectiveness of metacognitive strategy in developing some higher thinking skills and retention on biology achievement of the first secondary grade students in Libya.

Tyastuti (2019)

The objectives of this study: to find out the effectiveness of PQ4R strategy to improve the students’ reading comprehension skill of narrative text at the first grade of senior high school. The research design used in this study was pre-experimental design with quantitative approach. The population of this study was all first grade students at MA Darul Hikmah Tulungagung, and the samples in this study was the first grade of A science class which consist of 22 students. The research instrument was a teacher-
made test with multiple choice form. The data analysis was using Paired sample T-Test. The result of this study shows that the mean of the student’s reading comprehension on pretest is 66.18, and that in the posttest is 83.09. In consequence, the mean score has risen. The computation result is computed by using Paired Sample T-test, the p-value or Sig (two tailed) was 0.000. It means the above mentioned data indicates that is less than significant level 95% (\(\alpha=0.05\)). It shows \(0.000 < 0.05\). It can be concluded that the student’s reading comprehension after being taught using PQ4R technique is better than before being taught using the technique. As a result PQ4R is believed to be effective towards the student’s reading comprehension. Finally, PQ4R technique can be used as a technique to teach reading comprehension for the first grade of senior high school students.

**Nur ‘Ebes (2019)**

In this study researcher used preview, question, read, reflect, and recite, review (PQ4R) reading strategy which makes students easier to comprehend analytical exposition text. Hence, the researcher conducts this study in order to know significant different of students’ reading scores by implementing PQ4R reading strategy. The experimental study used pretest-posttest group design which are chosen by randomized sampling is implemented to conduct the study. The subjects are students of 11th grade in Science major of SMA Darul ‘Ulum 1 Peterongan Jombang. There were pretest and posttest which aims to find out the significant difference after implementing the PQ4R Strategy as the treatment of the study to the experimental class. After the data has been gained, the researcher analysed the data statistically using SPSS 20. The result showed experimental class has the higher mean scores 78.64 (SD = 7.210) than controlled class. XI – IPA 8 73.94 (SD = 9.500). Moreover, the result of Independent sample t-test shows that there is a significant difference between the two groups by the indication of sig value (p value) is 0.027 which is lower than 0.05. The eta squared result is 0.07 which has meaning that the implementation of the treatment gives moderate effect to the improvement of the students’ reading comprehension ability.

**Al-Mobbayed (2017)**
This study aimed to identify the impact of using PQ4R strategy on improving mathematical problem-solving skills among the 9th grade female students in Gaza. 

Study tool and materials: Designing the Teacher's Guide based on PQ4R strategy, and testing mathematical problem solving skills in this regard. Study sample: The sample consisted of 80 female students of the 9th grade in the primary school of Badr (A), where the experimental group consisted of 40 students, and the control group consisted of 40 students too. Study methodology: The study was based on the experimental method. Main results of the study: 1. There were statistically significant differences at a significance level of $\alpha=0.05$ between the mean scores of the students in the experimental group and the scores of their peers in the control group in the test of mathematical problem solving skills in favor of the experimental group. 2. There were statistically significant differences at a significance level of $\alpha=0.05$ between the average ranking of the students who have high grades in the experimental group and the average ranking of their peers in the control group in the test of mathematical problem solving skills in favor of the experimental group. 3. There were statistically significant differences at a significance level of $\alpha=0.05$ between the average ranking of the students who have low grades in the experimental group and the average ranking of their peers in the control group in the test of mathematical problem solving skills in favor of the experimental group.

Atiyah (2016)

The research aims to find out of the students reading competence before using PQ4R method, to find out of students reading competence after using PQ4R method, and to find out the influence of PQ4R method on students reading competences in narrative text. This research method used quantitative research is quasi experimental. This research the researcher used two groups such as pre test and post test. Then, this research is analyzing two main types of quantitative research design and experimental designs. Moreover, to get the data the researcher will used of instrument for the collecting data that will be appropriated for the problem statement in the test and observation. The research finding showed that the pre test, the sigma mean of experimental class was 49.6939 but in control class were 41.4286. It was show the experimental class had higher sigma mean the control class. In the pos test, the sigma
mean of the experimental class was 75.8163 and the control class got 57.2449. The result of the pos test from the experimental class is higher than result of the pos test in control class. Then, the find of gain experimental class was 0.51293 and for control class was 0.26157.

Fatima Siti. (2016)

The objective of this study is to find out profile and ability whether PQ4R method can improve students’ reading comprehension at the students of MAN Salatiga. The methodology of this study is Classroom Action Research which uses Pre-Test and Post-Test to know students’ score before and after PQ4R implemented. Most students are difficult to understand the structure of the text, find the aim of the text, and sometimes do not to read also do not answer question from the teacher. They need method to guide them in teaching reading text. Data of the two cycles show that T- Test/T0 is 5.52. It means that T-Test’s score is higher than T-Table; 2.719 (significance level of 0.5%). Almost 97.29% students can pass the standard minimum score of English language (70), and 2.70%. it means that PQ4R method was success.

Al-Qawabeh & Aljazi (2011)

The study aimed at recognizing the effective of using (PQ4R) Strategy in teaching reading comprehension in Arabic Subject among Ninth Basic grade Students achievement in Jordan. To achieve this aim, a survey was used. The sample consisted of (104) male and female students distributed as (52) male student and (52) female student, chosen randomly in two experimental groups and two control groups consisted of (26) male students and (26) female students in each one. An achievement test for reading comprehension was used as an instrument for the study. The results indicated that there are statistical significant differences in favor of the experimental group which used (PQ4R). The results also showed that there are significant differences in favor of
female students. The study recommended that (PQ4R) strategy should be adopted as an effective teaching method.

**Sayed (2010)**

The aim of this study was to investigate the effectiveness of using the PQ4R strategy in developing EFL reading comprehension skills among first year secondary stage students. The subject of this study included (31) first year secondary stage students at Tah shoubra secondary school (quesna), Menoufia governorate. They were assigned to one experimental group. To achieve the objectives of the study, the researcher prepared a list of reading comprehension skills and a reading comprehension Test 1. In addition, a reading comprehension test 2 was used to measure the effectiveness of the suggested program. The pq4R program was designed to develop EFL reading comprehension skills among first year secondary stage students. The program consisted of twelve sessions. The time allocated for each session was 50 minutes. T-test was used for the statistical analysis of data. Results indicated that the suggested program was effective in enhancing the first year secondary stage student’s ability to determine the meaning of words from context, recognize the main idea, and identify supporting details. In addition, results indicated that the suggested program was effective in enhancing the first year secondary stage students’ ability to recognize the author’s purpose, and to identify relationship between sentences. Results also showed that the suggested program proved to be effective in enhancing first year secondary stage students’ ability to deal with total reading comprehension skills. Thus, the suggested program is effective in developing EFL reading comprehension skills among secondary school student.

**2.4.2 Second Section: Studies Related to Reading Comprehension Skills.**

**1. Al-Zahadany (2018)**

This study aimed at investigating the effect of a suggested program based on CLIL (i.e., content and language integrated learning) on gifted secondary school students’ EFL reading and writing skills. The problem of the study was determined, in the light of interviews and pertinent literature, in a need for designing enrichment programs for
gifted secondary grade students in EFL to meet their special abilities and to help them reach out the highest possible level, particularly in reading and writing skills. Twenty-five gifted students were selected as the participants of the study. They were selected according to Renzulli’s three ring traits which include three scales; namely, Raven Test, Torrance Test and Task Commitment Inventory. Participants were also selected according to their scores on third-year preparatory school. Then, they took a pre-test of EFL reading and writing.

After implementing a program based on CLIL (9 sessions), they took a post-test of EFL reading and writing. Data were analyzed to compare the mean scores of students in the pre and post-test to examine the effectiveness of the suggested program with the use of Wilcoxon signed-rank test. Study findings showed a significant difference between the pre and post-test scores in favor of the latter. Implications of CLIL program could be influential for gifted students in reading and writing skills.

Heba Mahmoud (2017)

This study investigated the effectiveness of using the six thinking hats strategy for developing secondary stage students’ reading comprehension skills in English. Eighty students from Mahmoud Shehab Secondary School in Bossat Karim El-Din, Sherbine Educational Administration were incorporated in this research. The study adopted the quasi-experimental design using eighty students divided into two groups. The experimental group was taught the six thinking hats strategy while the control group received the conventional instruction as prescribed by the Ministry of Educational in Egypt. The main instrument of the study was a reading comprehension test. Analysis of the results revealed that the experimental group achieved a significantly higher level in their reading comprehension skills in comparison with those of the control group. In the lights of the obtained results, it can be concluded that the six thinking hats strategy is effective in developing the first secondary students’ reading comprehension skills of secondary stage student.

Wilson and Kim (2016)
The purpose of the study is to investigate the effects of concept mapping on mastery goal orientation and academic self-efficacy in a collaborative learning environment. The current study employed a randomized controlled pretest-posttest group design to examine if learning strategies such as concept mapping can help students with both reading comprehension achievement and intrinsic motivation of wanting to master a task at high level. 42 5th grade students at Hishin Elementary School in South Korea participated in this study. The experiment group (n=22) has undergone concept mapping training while the control group (n=20) has not. All students were required to fill out questionnaires based on mastery goals. Performance goals and academic self-efficacy. The results indicated that concept mapping did not increase mastery goals and mastery goals had no effect on test scores. In addition, the interaction effect between academic self-efficacy and condition did not increase mastery goals and had no effect on test scores. In conclusion, the reduced number of samples may have caused a potential source of instability considering the statistical procedure chosen.

Bakheet (2016)

This study aimed at investigating the impact of using a website on 10th graders’ English vocabulary, retention and reading skills. To achieve the study objectives, the researcher adopted the experimental approach on a purposive sample of (84) tenth graders from Osama Bin Zaid secondary school for Boys who were randomly assigned to equal control and experimental group. To achieve the study aims, the researcher used three instruments to gather data: a checklist for teachers to determine the most important five reading comprehension skills, a reading comprehension and vocabulary pre, post and retention test. The Website was used in teaching the experimental group, while the traditional method was used in teaching the control one in the first term of the scholastic year 2015-2016. The experiment lasted for five weeks during which the researcher implemented the experiment and the study tools to measure the effect of the use of the website on the study dependent variables.

The results revealed that there were statistically significant differences at (α≤0.05) between the scores of the control group and those of the experimental one on the reading comprehension posttest and the vocabulary of the study revealed that using the
Website was effective in developing reading comprehension, vocabulary and its retention as they showed post and retention test in favor of the experimental group, which was attributed to the effectiveness of using the website. Based upon the previous findings, the study recommended that EFL Palestinian teachers should adopt the use of websites so as to develop student’s reading comprehension, vocabulary and its retention.

Keshta (2016)

This study aimed to investigate the impact of using Jigsaw Strategy on improving Reading Comprehension and Communication skills among Eleventh Graders in Rafah. The researcher adopted the experimental approach and employed a sample of (76) EFL female learners studying at Al- Quds secondary school in Rafah. The researcher chose two classes of six ones: one class was as an experimental group consisting of (36) students and the second one was as a control group consisting of (40) students. The traditional method was used in teaching the control group, while the jigsaw strategy was used with the experimental one in the first term of the school year (2015-2016). The researcher used three tools: a questionnaire to determine the degree of importance of the reading comprehension skills, an achievement test (Pre& post-test) and an observation card to measure the communication skills among students. The collected data were analyzed and treated statistically with SPSS, T-test and the effect size equation was used to measure the effect size of jigsaw strategy on the experimental group in each domain of the test.

The results: The findings of the study revealed that there were significant differences in learning English reading comprehension and communication skills between both groups: the experimental and the control ones, in favor of the experimental group due to using the jigsaw strategy.


The aim of this study was to investigate the effect of using scaffolding strategies on EFL students' achievement in reading comprehension. The researchers used the experimental method to achieve the aims of this study. The sample of the study consisted of (22) students in which they divided equally into two groups, experimental...
and control from College of Education for Women/Department of English. The implementation took place in the first term of scholastic year (2013-2014). The researchers designed and applied achievement test (pre and posttest) to achieve the purpose of his study. Results indicated that there is a statistically significant difference in favour of the experimental group. This indicates that teaching by scaffolding strategies is more effective than the presentation practice production teaching or the Lecture Method teaching.

**Hassan (2015)**

The aim of this study was to investigate the effect of teaching reading comprehension strategies on Iraqi EFL college learners' reading comprehension performance and on the development of their reading comprehension strategies use. The researcher used the experimental method to fulfill the aims of this study. The sample of the study consisted of (400) students in which they divided equally into two groups, experimental and control. The researcher designed and applied achievement test (pre and posttest) to achieve the purpose of his study. The study results assured that the experimental group subjects' performance in reading comprehension has been found to be better than that of the control group subjects on the reading comprehension post-test and that the experimental group subjects show statistically significant increases in the use of reading strategies on the post – administration of the reading comprehension strategies survey.

**2.4.3 Third Section: Studies Related to Reflective thinking.**

**Abu Shaqra (2019)**

The current study aimed at investigating the effectiveness of using literature circles strategy for Developing Reading Comprehension and Reflective Thinking Skills for Eleventh Graders. To achieve this aims, the researcher adopted the quasi-experimental approach. The sample of the study consisted of 74 students enrolled in the first semester 2018-2019; from Al-Haj Mohammed Al-Najjar secondary school in Khan younis where the researcher already works. The sample’s ages ranged between 16-17 years old. The sample was randomly assigned into two groups, the experimental group
(N=37) and the control group (N=37). Students of the experimental group received training through the literature circles while students in the control group received regular instruction. The instruments of the study included: (a) A checklist of reading comprehension skills to be developed for eleventh graders, (b) A checklist of reflective thinking skills to be also raised for 11th graders (c) pre-post reading comprehension skills test to measure reading comprehension skills before and after implementing the strategy, (d) pre-post reflective thinking skills test to measure reflective thinking skills before and after implementing the strategy. The researcher taught the experimental group using literature circles during the first term of (2018).

A t-test was used to statistically analyze the results of the test as well as Eta square to examine the effect size of the literature circles. Findings of the study revealed that that there were statistically significant differences at 0.05 level between the mean scores of the control and the experimental groups on the post- test in favour of the experimental group in overall reading comprehension as well as statistically significant differences at 0.05 level between the mean scores of the control and the experimental groups on the post- test in favour of the experimental group in overall reflective thinking.

Khamees (2018)

This research aims at discovering the effectiveness of two designs of information presentation (narrative-based and case-based) in virtual museums (VM) in developing 2nd year Ed. Tech. female students’ cognitive achievement (CA) and reflective thinking skills (RTS). Thus, the researcher used the developmental research method and selected the course”Digital image production and processing”. He carried out content analysis of this course to identify both cognitive and practical aspects. Then, he prepared and refereed a list of design standards and their indicators for the two designs of information presentations in educational VM environment. These two designs were developed by applying Elgazzar (2014) ISD model and refereed them to meet those design standards. Research tools were prepared and validated to be valid and reliable. The research sample consisted of (15) female students in a two experimental groups design with pre and post testing. The researcher conducted the
research experiment according to the experimental design. Data was processed and appropriate Non-parametric statistical methods using the SPSS V.20 were implemented to test hypotheses. Results of the research revealed that there no differences between the two designs of information presentation (narrative-based and case-based) of the educational VM in both cognitive achievement (CA) and reflective thinking skills (RTS), while there were significant effects of these two designs on both cognitive achievement (CA) and reflective thinking skills (RTS). Effectiveness of these two designs were verified also when using M.G.R of both McGugian and Blake. The thesis report includes Appendices, Recommendations, list of further researches, and reference.

Rashwan (2018)

The current study aimed at preparing a list of reflective thinking skills necessary for Hearing–Impaired Preparatory-Stage students, and identifying the effectiveness of visual thinking networks (VTN) in developing hearing–impaired preparatory-stage students’ reflective thinking skills. A group of 33 hearing-impaired second year professional preparatory students at Al-Amal School for the Deaf and Hearing Impaired, Assiut Directorate of Education, Assiut

A theoretical background chapter has been prepared on visual thinking networks (VTN), reflective thinking skills, the hearing-impaired characteristics, the programs of the hearing-impaired, and how VTN are used in teaching mathematics for those hearing-impaired. Additionally, study tools and materials have been constructed including a list of reflective thinking skills for hearing-impaired second year professional preparatory students, student workbook and exercise sheets, a teacher’s guide based on VTN strategy, and a test of reflective thinking skills. Upon the administration of such materials and instruments, and use of appropriate statistical equations, the following findings have been obtained:

1- The study has come down to a list of reflective thinking skills necessary for hearing-impaired second year professional preparatory students.
2- The effectiveness of using VTN strategy in developing for hearing-impaired second year professional preparatory students’ reflective thinking skills since there is a statistically significant difference at (0.01) level of significance between mean scores of the pre-post administrations of reflective thinking skill test, favoring the post-administration where eta squared effect size regarding reflective thinking skills was 0.92 and regarding the sub-skills it ranged from (0.61) to (0.86).

Abu Nimer (2017)

This study aimed to investigate the effectiveness of advance organizers to develop tenth graders' English reading comprehension skills and reflective thinking skills. The researcher used the experimental method to achieve the aims of this study so, he randomly chose Al- Haj Mohammed AL- Najar Secondary School for Boys in Khanyounis. He randomly chose two tenth grade classes out of the six classes in the school and randomly assigned one class consisting of (43) students as an experimental group and the other consisting of (43) students as a control group. The traditional method was used in teaching the control group, while the advance organizers strategy was used with the experimental one in the first term of the school year (2017-2018). The researcher used two tools, a checklist to determine the suitable reading comprehension and reflective thinking skills for the tenth graders, and pre-posttest in the reading comprehension and reflective thinking skills. The checklist was implemented before the pre-test to identify the most important skills used in the test.

The study results indicated that there were significant differences between the mean scores attained by the experimental group and those by the control group in favor of the experimental group. This was because of advance organizers activation before reading a text and before activities of reflective thinking.

Mohamed (2016)

This study aimed to investigate the effectiveness of a training program based on exploration in the development of reflective thinking skills among students. The sample of the study consisted of (14) students of first grade secondary school. The researcher used the experimental method to fulfill the aims of this study. The researcher design
and applied (program and the measure of reflective thinking) to achieve the purpose of his study. The study results indicated that there are statistically significant differences in favor of the experimental group.

**Al-Atrash (2016)**

This study aims at identifying the efficiency of a proposed program based on multiple intelligence for developing the reflective thinking and mathematical communication skills of the ninth-grade pupils in Gaza. To achieve the objectives of the study, the researcher used a program based on multiple intelligences, and applied a test for reflective thinking, and another test in mathematical communication. The two tests were applied before and after the study on both groups of the study sample; the control group and the experimental group. The researcher used statistical processes such as the T-test for two independent samples, Eta Anova and Cohen’s d value to identify effect size of the differences resulting from T-test. The researcher adopted the experimental methodology to reach the following findings: 1. There are statistically significant differences at the level of significance (α = 0.01) between the mean scores of the experimental group students and their peers in the control group in the post reflective thinking test. The differences are in favor of the experimental group. 2. There are statistically significant differences at the level of significance (α = 0.01) between the mean scores of the experimental group students and their peers in the control group in the post mathematical communication test. The differences are in favor of the experimental group

**Seifeddin & Ahmed & Ebrahim (2015).**

The aim of this study as to investigate the effect of a program based on English digital stories on second-year preparatory pupils' writing performance and reflective thinking. The researchers used the experimental method to fulfill the aims of this study. The researchers designed and applied achievement test (pretest and posttest) as well as a reflective thinking test. The sample of this study consisted of (62) students from El Sadat Prep school for Girls. The study results indicated that there are statistically
significant differences in favor of the experimental group in writing performance posttest and reflective thinking posttest.

Ostaz (2011)

This study aimed at recognizing the level of ability of reflective thinking of educational problems which facing the science teachers in the basic stage in UNRWA and Governmental schools. The implementation took place in the first term of scholastic year (2008/2009). The researchers used the analytical descriptive method to fulfill the aims of this study. The sample of the study consisted of (108) teachers of science. The researcher designed reflective thinking skills consisting of nine educational problems on a sample by applying. The study results found that the level of reflective thinking was less than (70%). In addition, the results showed that there are no significant differences in the level of reflective thinking of science teachers attributed to gender, scientific qualifications and the educational institution. On the other hand, there are significant differences in the level of reflective thinking of science teachers attributed to educational experience in favor of long experience.

2.4.4 Comments on the previous studies:

Aim:


In addition, some studies suggested techniques and procedures as mentioned above to develop reading comprehension or reflective thinking skills as in Hassan (2015), Abdul-Majeed & Muhammad(2015), Seifeddin& Ahmed& Ebrahim(2015), Al-Atrash (2016), Al-Zahadany (2018), Keshta(2016), Mahmoud(2017), (2017),
Khamees(2018), **Rashwan (2018)** , **Abu Nimer (2017)** & Abu Shaqra (2019). While the study of Ostaz (2011) aimed at recognizing the level of ability of reflective thinking of educational problems which facing the science teachers in the basic stage in UNRWA and Governmental schools.

Whilst the current study is going to investigate the effectiveness of using PQ4R in developing Seventh Graders' reading comprehension and reflective thinking skills, therefore this study can be considered as a distinctive one in the field of instruction and curricula.

**Methodology:**


**Research design:**

This study will adopt the experimental design consisting of two equivalent groups, one is experimental which is going to be taught using PQ4R strategy, and the second is the control which is going to receive the traditional teaching method.

**Instrumentation:**

Different instruments were applied in previous studies in order to gather the needed data. The numbers of tools varied from one study to another. Pre-posttest can be considered the most crucial tool at examining the collected information as implemented in most of the previous experimental studies as in Hassan (2015), Abdul-Majeed & Muhammad (2015), Al-Atrash (2016), Mohamed (2016), Heba Mahmoud (2017), Al-Zahadany (2018), Al’a Keshta (2016), Khamees (2018), Abu Nimer (2017), Idrees (2017), Tyastuti (2019) & Abu Shaqra (2019). Concerning about Ostaz (2011), the study used a questionnaire as a main tool.

This research will develop a pre-posttest for reading comprehension skills as well as preparing another one for reflective thinking ones to gather the needed data of his study.

**Location:**

Concerning about the above mentioned studies, the focus was on the use of the PQ4R strategy in addition to other educational techniques into how to develop English learning-teaching generally.


This current study will be conducted at Mosa Ibn Al-Nuseer School in East Gaza governorate.

**Sample:**

Besides that it is noteworthy that study subjects of the previous studies differed in number, gender and age. It is noticeable that the sample number was 70 in Abu Shaqra (2019), while Al-Zahadany (2018) was just 25, and Khamees (2018) included 15. Others differed in number from 40 to 80 as in Al-Mobbayed (2017) & Heba Mahmoud which involved 80. Hassan (2015) was 400, Abdul-Majeed & Muhammad (2015) was 22, Seifeddin & Ahmed & Ebrahim (2015) was 62 and others as mentioned in details above in the related studies.


The researcher chose the school purposively – Mosa Ibn Nuseer School for Boys, where he works as a teacher of English. Two classes are going to be assigned randomly as a sample from the school- seventh grade, and then the researcher will divide them into two groups, an experimental group consisting of (36) learners and the other control consisting of (36) learners.

**Findings**

Most previous studies showed that the positive effect of PQ4R on improving reading skills, social skills and various kinds of thinking or participation as in Atiya (2016), Al-Mobbayed (2017), Sitti (2016), Al-Qawabeh & Al-Jazi (2011), Bawy (2019), Nur 'Ebes (2019), Sayed (2010) & Tyastuti (2019). Also, Mohammed Salem
(2017) & Eldoda (2016) assured the effectiveness of this strategy in enhancing the creative writing skills of the preparatory and secondary stage pupils.


The results of Ostaz (2011) the results showed that there are no significant differences in the level of reflective thinking of science teachers attributed to gender, scientific qualifications and the educational institution. On the other hand, there are significant differences in the level of reflective thinking of science teachers attributed to educational experience in favor of long experience.

Whilst the current study is going to investigate the using PQ4R strategy in developing Seventh Graders' reading comprehension and reflective thinking skills, therefore this study can be considered as a distinctive one in the field of instruction and curricula.

**Statistical analysis:**

Different statistical tests and methods were used to analyze the collected data. Some results of the pre and posts tests statistically analyzed using T-test paired sample only to measure the differences between the performance of the experimental group in the pre and the posttest as in Mohamed (2016), Sitti (2016), Sayed (2010), Tyastuti (2019) and others.

T-test independent sample was used to measure the differences between the performance of the experimental groups and the control ones as in Abdul-Majeed & Muhammad (2015), Hassan (2015), Roohani & Asiabani (2015), Abu Shaqra (2019),

All the experimental studies applied Eta Square to ensure that the size effect of the PQ4R (Independent Variable) haven’t happened accidently.

The researcher will implement T-test Independent sample to measure the statistical differences in means between the experimental and control group in the result of the post test.

Moreover, Eta Square will be applied to calculate that the size effect of the PQ4R and its effectiveness.

2.4.5 Summary

From the previous studies, the researcher concluded the following:

1. The majority of the previous studies assured that there is a strong relationship between PQ4R, and reading comprehension skills as well as reflective thinking skills.

2. The previous studies revealed the presence of a public weakness in reading comprehension skills, and reflective thinking skills in all levels which uphold the need for this study.

3. The previous studies increase the necessary scaffolding and motivation for learners to either learn new and unfamiliar material or to combine and recall new information into relatively familiar information.

4. The previous studies assured that reading comprehension could be developed by implementing the methods and the activities based on the adopted strategy.

5. The previous studies concentrated on the positive effect of the reflective thinking skills in improving students' performance and achievement.
6. The previous studies concentrated on the vital and important role of the teacher in improving teaching reading comprehension, and reflective thinking skills through using various methods and activities of metacognitive strategy.

7. The recommendations of previous studies highlighted the importance of using procedures and techniques based on PQ4R in improving the students' achievements and developing reading comprehension and reflective thinking skills.
Chapter Three
Methodology
Chapter 3
Research Design

3.1. Introduction:

This chapter covers the procedures followed throughout the study. It introduces a complete description of the methodology of the study, the population, the sample, the instrumentation, the pilot study and the research design. Moreover, it introduces the statistical treatment of the study findings.

3.2. Type of research design:

The study will adopt the quasi experimental approach which requires two groups of students an experimental group and a control one.

The PQ4R Strategy will use in Developing Reading Comprehension and Reflective Thinking Skills of the experimental group, while the traditional method will use in the control group.

![Diagram of the quasi-experimental design of the study](image)

Figure (3.1): The quasi-experimental design of the study
3.3. Population:

The population of the study consists of all the seventh graders at Governmental schools in East Gaza Directorate enrolled in the first semester of the academic year (2019-2020).

3.4. Sample:

The researcher will use a purposive sample from Mosa Ibn Nuseer School in Gaza city. The sample will consist of (72) male students. The researcher will choose two classes which I am teaching: one class as an experimental group consisting of (36) students and the other as a control group consisting of (36) students.

Both groups were all in the first level aged nearly (12-13) years old. They were equivalent in their general achievement in accordance with the statistical treatment of their results in the first term exam of the scholastic year 2019-2020 and so, naturally, all classes were equivalent in their achievement as they were distributed according to their achievement in equivalent classes by the school administration beforehand. A pre-test was used to check the equivalence of achievement between the two groups.

<table>
<thead>
<tr>
<th>Table (3.1): The distribution of the sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>control group</td>
</tr>
<tr>
<td>experimental group</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

3.5. The variables of the study:

The study included the following variables:

1-The independent variables:

Level (1): PQ4R strategy.

Level (2): The traditional method in teaching.
2-The dependent variables:

Level (1): Students’ performance of reading comprehension skills after applying the post test.

Level (2): Students' performance of reflective thinking skills after applying the post test

3.6 The instrumentations of the study:

The researcher will use the following instruments to achieve the aim of the study:

1- Pre and posttest in the reading comprehension and reflective thinking skills.

2- Pre and posttest in reflective thinking skills.

3.7. The EFL Reading Comprehension Test:

A pre- post reading comprehension test was constructed and administered by the researcher. It was used prior to the strategy implementation to make sure that students of both groups were at the same reading comprehension level before starting the experiment, and hence the progress achieved by the experimental group could be attributed to the experiment they have been exposed to. As a post-test, it was to investigate the effectiveness of PQ4R strategy in developing the selected literal, inferential, critical aesthetic and creative reading comprehension skills.

Constructing the test items

The test was constructed in the light of the following resources:

1. Reviewing previous studies concerned with language tests, especially those tackling the topic of how to develop reading comprehension tests.

2. Identifying the skills to be measured by the test through consulting experts in this field

3. The targeted content itself (unit 2) in English for Palestine 7th grade.

The following points were taken into account when writing the test items:

1. The words and sentences used in the items were simple, clear and familiar to the students.

2. The items were relevant to the objectives of the test in a balanced manner.

3. Using different types of items instead of sticking only to one type.
4. Presenting the items according to the degree of their difficulty so that they ranged from easy to difficult items determined through difficulty indices.

5. Distributing the distractors in an unsystematic way, not to be easily recognized by students through guessing.

**Items of the Test:**

The test has six main questions:

**The first question:** Choose the correct answer

Multiple –choice which consists of 9 items, the student has to choose between a, b, c or d to get the correct answer. (9 points)

**The second question:** in this question students have to match each subtitle with the correct paragraph of the text. (3 points)

**The third question:** in this question students have to tick (T) next to the right answer and (F) next the wrong answer. (5 points)

**The fourth question:** Answer the following questions which consists of 10 items that need to be answered according to their understanding of the story. (10 points)

**The fifth question:** Find from the passage:

In this question students have to scan the text trying to get specific information from the text as required. (5 points).

**The sixth question:** complete from the passage:

In this question students have to fill the missing parts of the sentences with correct words or phrases from the text they have read so as to make them meaningful. (3 points).

**Table (3.2): Distribution of questions in the test of the reading comprehension skills**
The four main skills differ in their relative weight due to various aspects as the content itself, students' level, referees' modifications and nature of the study. It's noteworthy to say that the creative one was the lowest in weight, simply because it is a high-level skill which address a limited number of students in this stage, moreover this skill is still not clearly stated in their textbook adequately. As a result of a deep investigation, long consultations with specialists in the field of English Methodology and based on the prior factors, the researcher tried hard to make a balance between those main skills in the test as much as possible.

3.8 The pilot study:

The test was applied on a random sample of (40) students from Mosa Ibn Nuseer School in Gaza city, who have the same characteristics of the sample of the study. The results were recorded and statistically analyzed to assess the validity and reliability of the test, as well as, the time needed. The items of the test were modified in the light of the statistic results.

3.9 The validity of the test:

Al Agha (1996, p.118) states that "a valid test is the test that measures what it is designed to measure". The study used the referee validity and the internal consistency validity. The study used the referee validity and the internal consistency validity.
3.10 The referee validity:

The test was introduced to a jury of specialists in English language and methodology in Gaza universities, Ministry of Education in addition to experienced supervisors and teachers.

3.11 The internal consistency validity:

Al Agha (1996, 121) asserts that the internal consistency validity indicates the correlation of the score of each item with the total average of the test. It also indicates the correlation of the average of each domain with the total average. This validity was calculated by using Pearson Formula. Table (3.3) shows the correlation coefficient of every item of the writing achievement test.

Table (3.3): Correlation coefficient of every item of the Reading comprehension test

<table>
<thead>
<tr>
<th>No.</th>
<th>Literal</th>
<th>Pearson Correlation</th>
<th>No.</th>
<th>Pearson Correlation</th>
<th>No.</th>
<th>Pearson Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Creative</td>
<td>**0.648</td>
<td>10</td>
<td>**0.770</td>
<td>1</td>
<td>**0.795</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>**0.685</td>
<td>11</td>
<td>**0.749</td>
<td>2</td>
<td>**0.667</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>**0.702</td>
<td>12</td>
<td>**0.617</td>
<td>3</td>
<td>**0.611</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>**0.735</td>
<td>13</td>
<td>**0.674</td>
<td>4</td>
<td>**0.661</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>**0.705</td>
<td>14</td>
<td>**0.579</td>
<td>5</td>
<td>**0.697</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>**0.609</td>
<td>15</td>
<td>**0.513</td>
<td>6</td>
<td>**0.697</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>**0.735</td>
<td>16</td>
<td>**0.711</td>
<td>7</td>
<td>**0.425</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>**0.533</td>
<td>17</td>
<td>**0.718</td>
<td>8</td>
<td>**0.711</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>**0.760</td>
<td>18</td>
<td>**0.425</td>
<td>9</td>
<td>**0.626</td>
</tr>
</tbody>
</table>

* *r table value at df (39) and sig. level (0.05) = 0.273
** **r table value at df (39) and sig. level (0.01) = 0.354

The table shows that correlations of the test items were significant at (0.01) which indicates that there was a consistency between the items and this means that the test was highly valid for the study.
As shown in the table (3.4), there is a relation correlation between the scopes and the total degree and each scope with the other scopes at sig. level (0.01, 0.05) that shows a high internal consistency of the Reading comprehension test which reinforces the validity of the test.

### 3.12 Reliability of the test:

The test is regarded reliable when it gives the same results in case of applying it again for the same purpose in the same conditions (Al-Agha, 1996, p.120). The reliability of the test was measured by the Spilt- half technique.

#### 3.12.1 Split-Half Method:

The reliability of the test was measured by KR20 and the Spilt- half techniques. Table (3.5) shows (KR20) and Split half coefficients of the Reading comprehension test.

#### Table (3.5) :( KR20) and Split half coefficients of the Reading comprehension test domains

<table>
<thead>
<tr>
<th>Skill</th>
<th>No. of items</th>
<th>KR20</th>
<th>Split half coefficients of the test domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literal</td>
<td>9</td>
<td>0.846</td>
<td>0.818</td>
</tr>
<tr>
<td>Inferential</td>
<td>14</td>
<td>0.932</td>
<td>0.938</td>
</tr>
<tr>
<td>Critical</td>
<td>9</td>
<td>0.820</td>
<td>0.734</td>
</tr>
<tr>
<td>Creative</td>
<td>3</td>
<td>0.610</td>
<td>0.669</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>0.955</td>
<td>0.944</td>
</tr>
</tbody>
</table>

The results showed that the Spilt-half coefficient is (0.944) and KR20 is (0.955) and this indicates that the reliability of the test was high and strong.
### 3.13 Difficulty coefficient of the test:

Difficulty coefficient is measured on the pilot study by finding out the percentage of the wrong answers of each item made by the students (Abu Nahia, 1994:308). The coefficient of difficulty of each item was calculated according to the following formula for the pilot study which counted (40):

\[
\text{Difficulty Coefficient} = \frac{\text{No. of students who gave wrong answers}}{\text{the total number of students}} \times 100
\]

Table (3.6): Difficulty coefficient for each item of the Reading comprehension test

<table>
<thead>
<tr>
<th>No.</th>
<th>Difficulty coefficient</th>
<th>No.</th>
<th>Difficulty coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.32</td>
<td>19</td>
<td>0.55</td>
</tr>
<tr>
<td>2</td>
<td>0.55</td>
<td>20</td>
<td>0.36</td>
</tr>
<tr>
<td>3</td>
<td>0.50</td>
<td>21</td>
<td>0.73</td>
</tr>
<tr>
<td>4</td>
<td>0.64</td>
<td>22</td>
<td>0.59</td>
</tr>
<tr>
<td>5</td>
<td>0.41</td>
<td>23</td>
<td>0.77</td>
</tr>
<tr>
<td>6</td>
<td>0.64</td>
<td>24</td>
<td>0.55</td>
</tr>
<tr>
<td>7</td>
<td>0.68</td>
<td>25</td>
<td>0.64</td>
</tr>
<tr>
<td>8</td>
<td>0.64</td>
<td>26</td>
<td>0.68</td>
</tr>
<tr>
<td>9</td>
<td>0.45</td>
<td>27</td>
<td>0.68</td>
</tr>
<tr>
<td>10</td>
<td>0.27</td>
<td>28</td>
<td>0.55</td>
</tr>
<tr>
<td>11</td>
<td>0.50</td>
<td>29</td>
<td>0.77</td>
</tr>
<tr>
<td>12</td>
<td>0.45</td>
<td>30</td>
<td>0.73</td>
</tr>
<tr>
<td>13</td>
<td>0.64</td>
<td>31</td>
<td>0.59</td>
</tr>
<tr>
<td>14</td>
<td>0.68</td>
<td>32</td>
<td>0.68</td>
</tr>
<tr>
<td>15</td>
<td>0.55</td>
<td>33</td>
<td>0.77</td>
</tr>
<tr>
<td>16</td>
<td>0.41</td>
<td>34</td>
<td>0.64</td>
</tr>
<tr>
<td>17</td>
<td>0.64</td>
<td>35</td>
<td>0.41</td>
</tr>
<tr>
<td>18</td>
<td>0.64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
|     | **Total difficulty coefficient** | **0.58** |**
3.14 Discrimination coefficient:

That means that the test is able to differentiate between the high achievers and the low achievers. The discrimination coefficient was calculated according to the following formula:

\[
\text{Discrimination Coefficient} = \frac{\text{No. of the student who has the correct answer from the high achievers}}{\text{No. of high achievers students}} - \frac{\text{No. of the student who has the correct answer from the low achievers}}{\text{No. of low achievers students}}
\]

Table (3.7) shows the discrimination coefficient for each item of the test:

**Table (3.7): Discrimination coefficient for each item of the Reading comprehension test**

<table>
<thead>
<tr>
<th>No.</th>
<th>Discrimination coefficient</th>
<th>No.</th>
<th>Discrimination coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.64</td>
<td>19</td>
<td>0.73</td>
</tr>
<tr>
<td>2</td>
<td>0.73</td>
<td>20</td>
<td>0.73</td>
</tr>
<tr>
<td>3</td>
<td>0.45</td>
<td>21</td>
<td>0.55</td>
</tr>
<tr>
<td>4</td>
<td>0.73</td>
<td>22</td>
<td>0.64</td>
</tr>
<tr>
<td>5</td>
<td>0.64</td>
<td>23</td>
<td>0.27</td>
</tr>
<tr>
<td>6</td>
<td>0.73</td>
<td>24</td>
<td>0.73</td>
</tr>
<tr>
<td>7</td>
<td>0.64</td>
<td>25</td>
<td>0.73</td>
</tr>
<tr>
<td>8</td>
<td>0.73</td>
<td>26</td>
<td>0.45</td>
</tr>
<tr>
<td>9</td>
<td>0.73</td>
<td>27</td>
<td>0.64</td>
</tr>
<tr>
<td>10</td>
<td>0.55</td>
<td>28</td>
<td>0.73</td>
</tr>
<tr>
<td>11</td>
<td>0.64</td>
<td>29</td>
<td>0.45</td>
</tr>
<tr>
<td>12</td>
<td>0.73</td>
<td>30</td>
<td>0.36</td>
</tr>
<tr>
<td>13</td>
<td>0.73</td>
<td>31</td>
<td>0.64</td>
</tr>
<tr>
<td>14</td>
<td>0.64</td>
<td>32</td>
<td>0.64</td>
</tr>
<tr>
<td>15</td>
<td>0.73</td>
<td>33</td>
<td>0.45</td>
</tr>
<tr>
<td>16</td>
<td>0.64</td>
<td>34</td>
<td>0.73</td>
</tr>
<tr>
<td>17</td>
<td>0.73</td>
<td>35</td>
<td>0.64</td>
</tr>
</tbody>
</table>

**Total Discrimination coefficient** 0.63

Table (3.7) shows that the discrimination coefficient wobble between (0.27 -0.73) with total average (0.63), that means that each item is acceptable or in the normal limit of discrimination according view of point of assessment and evaluation specialist.
3.15 The Reflective Thinking Test

A pre- post reflective thinking test was utilized prior to the strategy implementation to make sure that students of both groups were at the same reflective thinking level before starting the experiment, and hence the progress achieved by the experimental group could be attributed to the strategy they have been exposed to. As a post-test, it was to explore the effectiveness of the PQ4R strategy in improving the observing, contrasting, inferring, reasoning and proposing which are the selected skills for the reflective thinking, the second dependent variable.

Constructing the test items

The test was constructed in the light of the following resources:
1. Reviewing previous studies concerned with language tests, especially those tackling the topic of how to develop reflective thinking tests.
2. Identifying the skills to be measured by consulting specialists and experts in methodology and English curricula.
3. The targeted content itself (unit 2) in English for Palestine for the 7th grade.

The following points were taken into consideration when writing the test items:
1. The words and sentences used in the items were simple, clear and familiar to the students.
2. The items were relevant to the objectives of the test in a balanced manner.
3. Using different types of items instead of sticking only to one type.
4. Presenting the items according to the degree of their difficulty so that they ranged from easy to difficult items determined through difficulty indices.
5. Distributing the distractors in an unsystematic way, not to be easily recognized by students through guessing.

Items of the Test

The test has seven main questions:

The first question: Choose the correct answer

Multiple-choice which consists of 10 items and the student has to choose between a, b, c or d to get the correct answer. (10 points).
**The second question:** Answer the following questions
Which consists of 5 items that need to be answered according to their understanding of the story. (5 points)

**The third question:** Complete the diagram using words and phrases in the box
In this kind of questions students should understand the concept map in order to be able to complete it correctly and meaningfully. Test items varied in their target skills as presented in the following table. (6 points)

**The fourth question:** Complete the sentences with words from the box. Then match the sentences with the pictures.
Firstly, students have to fill the spaces with the correct word to make it have sense then they have to match each statement with its related picture which describes its meaning. (5 points)

**The fifth question:** Correct the underlined mistakes in this question students have to correct the mistakes in each sentence by writing the right ones. (4 points)

**The sixth question:** Match A with B to make meaningful mini-dialogue. In this question there are group of everyday situations used in English in the first column while on the second column there are the specific responses for each one. (3 points)

**The seventh question:**
Students have to choose the best communication way to use besides justifying their option logically.

**Table (3.8): Distribution of the questions in the reflective thinking skills. (2 points)**

<table>
<thead>
<tr>
<th>Skill</th>
<th>Question A</th>
<th>Question B</th>
<th>Question C</th>
<th>Question D</th>
<th>Question E</th>
<th>Question F</th>
<th>Question G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing</td>
<td>1.2</td>
<td>1.2.3.4.5.6</td>
<td>1.2.3.4.5</td>
<td></td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Contrasting</td>
<td></td>
<td></td>
<td></td>
<td>1.2.3.4</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Inferring</td>
<td>4.7.8.10</td>
<td></td>
<td></td>
<td></td>
<td>1.2.3</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Reasoning</td>
<td>3.5.6.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.2</td>
<td>6</td>
</tr>
<tr>
<td>Proposing</td>
<td>1.2.3.a.b.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>10</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
3.16 The pilot study

The test was applied on a random sample of (40) students from Mosa Ibn Nuseer Preparatory School in Gaza, who have the same characteristics of the sample of the study. The results were recorded and statistically analyzed to assess the validity and reliability of the test, as well as, the time needed. The items of the test were modified in the light of the statistic results.

3.17 The validity of the test

Al Agha (1996, p.118) states that "a valid test is the test that measures what it is designed to measure". The study used the referee validity and the internal consistency validity. The study used the referee validity and the internal consistency validity.

3.18 The referee validity

The test was introduced to a jury of specialists in English language and methodology in Gaza universities, Ministry of Education and experienced supervisors.

3.19 The internal consistency validity

Al Agha (1996, 121) asserts that the internal consistency validity indicates the correlation of the score of each item with the total average of the test. It also indicates the correlation of the average of each domain with the total average. This validity was calculated by using Pearson Formula. Table (3.9) shows the correlation coefficient of every item of the Reflective thinking test.
Table (3.9): Correlation coefficient of every item of the Reflective thinking test

<table>
<thead>
<tr>
<th>No.</th>
<th>Pearson Correlation</th>
<th>No.</th>
<th>Pearson Correlation</th>
<th>No.</th>
<th>Pearson Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>0.729</strong></td>
<td>1</td>
<td><strong>0.630</strong></td>
<td>1</td>
<td><strong>0.404</strong></td>
</tr>
<tr>
<td>2</td>
<td><strong>0.676</strong></td>
<td>1</td>
<td><strong>0.824</strong></td>
<td>2</td>
<td><strong>0.754</strong></td>
</tr>
<tr>
<td>3</td>
<td><strong>0.665</strong></td>
<td>2</td>
<td><strong>0.854</strong></td>
<td>3</td>
<td><strong>0.740</strong></td>
</tr>
<tr>
<td>4</td>
<td><strong>0.791</strong></td>
<td>3</td>
<td><strong>0.905</strong></td>
<td>4</td>
<td><strong>0.476</strong></td>
</tr>
<tr>
<td>5</td>
<td><strong>0.696</strong></td>
<td>4</td>
<td><strong>0.395</strong></td>
<td>1</td>
<td><strong>0.680</strong></td>
</tr>
<tr>
<td>6</td>
<td><strong>0.619</strong></td>
<td>2</td>
<td><strong>0.670</strong></td>
<td>5</td>
<td><strong>0.678</strong></td>
</tr>
<tr>
<td>7</td>
<td><strong>0.782</strong></td>
<td>2</td>
<td><strong>0.457</strong></td>
<td>6</td>
<td><strong>0.599</strong></td>
</tr>
<tr>
<td>8</td>
<td><strong>0.604</strong></td>
<td>3</td>
<td><strong>0.745</strong></td>
<td>7</td>
<td><strong>0.671</strong></td>
</tr>
<tr>
<td>9</td>
<td><strong>0.597</strong></td>
<td>4</td>
<td><strong>0.734</strong></td>
<td>8</td>
<td><strong>0.763</strong></td>
</tr>
<tr>
<td>10</td>
<td><strong>0.665</strong></td>
<td>5</td>
<td><strong>0.502</strong></td>
<td>9</td>
<td><strong>0.728</strong></td>
</tr>
<tr>
<td>11</td>
<td><strong>0.712</strong></td>
<td>6</td>
<td><strong>0.573</strong></td>
<td>10</td>
<td><strong>0.651</strong></td>
</tr>
<tr>
<td>12</td>
<td><strong>0.870</strong></td>
<td>7</td>
<td><strong>0.573</strong></td>
<td>11</td>
<td><strong>0.651</strong></td>
</tr>
<tr>
<td>13</td>
<td>0.665</td>
<td>8</td>
<td></td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

*<sup>r</sup> table value at df (38) and sig. level (0.05) = 0.273

**<sup>r</sup> table value at df (38) and sig. level (0.01) = 0.354

The table shows that correlations of the test items were significant at (0.01) which indicates that there was a consistency between the items and this means that the test was highly valid for the study.
Table (3.10): Pearson Correlation coefficient for every skill in the Reflective thinking test

<table>
<thead>
<tr>
<th>Skill</th>
<th>Pearson Correlation</th>
<th>Sig. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing</td>
<td>0.974</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td>Contrasting</td>
<td>0.862</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td>Inferring</td>
<td>0.910</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td>Reasoning</td>
<td>0.895</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td>Proposing</td>
<td>0.899</td>
<td>sig. at 0.01</td>
</tr>
</tbody>
</table>

*value at df (39) and sig. level (0.05) = 0.273
**value at df (39) and sig. level (0.01) = 0.354

As shown in the table (3.10), there is a relation correlation between the scopes and the total degree and each scope with the other scopes at sig. level (0.01, 0.05) that shows a high internal consistency of the reflective thinking test which reinforces the validity of the test.

3.20 Reliability of the test

The test is regarded reliable when it gives the same results in case of applying it again for the same purpose in the same conditions (Al-Agha, 1996, p.120). The reliability of the test was measured by the Spilt-half technique.

3.20.1 Split-Half Method

The reliability of the test was measured by KR20 and the Spilt-half techniques. Table (3.11) shows (KR20) and Split half coefficients of the reflective thinking test.

Table (3.11) : (KR20) and Split half coefficients of the reflective thinking test domains

<table>
<thead>
<tr>
<th>Skill</th>
<th>No. of items</th>
<th>KR20</th>
<th>Split half coefficients of the test domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing</td>
<td>13</td>
<td>0.912</td>
<td>0.821</td>
</tr>
<tr>
<td>Contrasting</td>
<td>4</td>
<td>0.818</td>
<td>0.785</td>
</tr>
<tr>
<td>Inferring</td>
<td>7</td>
<td>0.799</td>
<td>0.842</td>
</tr>
<tr>
<td>Reasoning</td>
<td>6</td>
<td>0.694</td>
<td>0.826</td>
</tr>
<tr>
<td>Proposing</td>
<td>5</td>
<td>0.712</td>
<td>0.699</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>0.957</td>
<td>0.948</td>
</tr>
</tbody>
</table>
The results showed that the Spilt-half coefficient is (0.948) and KR20 is (0.957) and this indicates that the reliability of the test was high and strong.

3.21 Difficulty coefficient of the test
Difficulty coefficient is measured on the pilot study by finding out the percentage of the wrong answers of each item made by the students (Abu Nahia, 1994:308). The coefficient of difficulty of each item was calculated according to the following formula for the pilot study which counted (40):

\[
\text{Difficulty Coefficient} = \frac{\text{No. of students who gave wrong answers}}{\text{the total number of students}} \times 100
\]

Table (3.12): Difficulty coefficient for each item of the Reflective thinking test

<table>
<thead>
<tr>
<th>No.</th>
<th>Difficulty coefficient</th>
<th>No.</th>
<th>Difficulty coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.59</td>
<td>19</td>
<td>0.59</td>
</tr>
<tr>
<td>2</td>
<td>0.64</td>
<td>20</td>
<td>0.68</td>
</tr>
<tr>
<td>3</td>
<td>0.36</td>
<td>21</td>
<td>0.77</td>
</tr>
<tr>
<td>4</td>
<td>0.59</td>
<td>22</td>
<td>0.59</td>
</tr>
<tr>
<td>5</td>
<td>0.59</td>
<td>23</td>
<td>0.50</td>
</tr>
<tr>
<td>6</td>
<td>0.55</td>
<td>24</td>
<td>0.45</td>
</tr>
<tr>
<td>7</td>
<td>0.50</td>
<td>25</td>
<td>0.68</td>
</tr>
<tr>
<td>8</td>
<td>0.59</td>
<td>26</td>
<td>0.64</td>
</tr>
<tr>
<td>9</td>
<td>0.64</td>
<td>27</td>
<td>0.68</td>
</tr>
<tr>
<td>10</td>
<td>0.41</td>
<td>28</td>
<td>0.73</td>
</tr>
<tr>
<td>11</td>
<td>0.27</td>
<td>29</td>
<td>0.59</td>
</tr>
<tr>
<td>12</td>
<td>0.68</td>
<td>30</td>
<td>0.41</td>
</tr>
<tr>
<td>13</td>
<td>0.45</td>
<td>31</td>
<td>0.50</td>
</tr>
<tr>
<td>14</td>
<td>0.59</td>
<td>32</td>
<td>0.50</td>
</tr>
<tr>
<td>15</td>
<td>0.64</td>
<td>33</td>
<td>0.64</td>
</tr>
<tr>
<td>16</td>
<td>0.59</td>
<td>34</td>
<td>0.59</td>
</tr>
<tr>
<td>17</td>
<td>0.64</td>
<td>35</td>
<td>0.55</td>
</tr>
<tr>
<td>18</td>
<td>0.77</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total difficulty coefficient 0.58

Table (3.12) shows that the difficulty coefficient wobble between (0.27 – 0.77) with total average (0.58), that mean that each item is acceptable or in the normal limit of difficulties according view of point of assessment and evaluation specialist.
3.22 Discrimination coefficient:

That means that the test is able to differentiate between the high achievers and the low achievers. The discrimination coefficient was calculated according to the following formula:

\[
\text{Discrimination Coefficient} = \frac{\text{No. of the student who has the correct answer from the high achievers}}{\text{No. of high achievers students}} - \frac{\text{No. of the student who has the correct answer from the low achievers}}{\text{No. of low achievers students}}
\]

Table (3.13) show the discrimination coefficient for each item of the test:

<table>
<thead>
<tr>
<th>No.</th>
<th>Discrimination coefficient</th>
<th>No.</th>
<th>Discrimination coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.64</td>
<td>19</td>
<td>0.64</td>
</tr>
<tr>
<td>2</td>
<td>0.55</td>
<td>20</td>
<td>0.64</td>
</tr>
<tr>
<td>3</td>
<td>0.73</td>
<td>21</td>
<td>0.45</td>
</tr>
<tr>
<td>4</td>
<td>0.45</td>
<td>22</td>
<td>0.64</td>
</tr>
<tr>
<td>5</td>
<td>0.45</td>
<td>23</td>
<td>0.64</td>
</tr>
<tr>
<td>6</td>
<td>0.73</td>
<td>24</td>
<td>0.55</td>
</tr>
<tr>
<td>7</td>
<td>0.45</td>
<td>25</td>
<td>0.45</td>
</tr>
<tr>
<td>8</td>
<td>0.27</td>
<td>26</td>
<td>0.73</td>
</tr>
<tr>
<td>9</td>
<td>0.55</td>
<td>27</td>
<td>0.64</td>
</tr>
<tr>
<td>10</td>
<td>0.64</td>
<td>28</td>
<td>0.36</td>
</tr>
<tr>
<td>11</td>
<td>0.55</td>
<td>29</td>
<td>0.64</td>
</tr>
<tr>
<td>12</td>
<td>0.64</td>
<td>30</td>
<td>0.45</td>
</tr>
<tr>
<td>13</td>
<td>0.73</td>
<td>31</td>
<td>0.27</td>
</tr>
<tr>
<td>14</td>
<td>0.64</td>
<td>32</td>
<td>0.45</td>
</tr>
<tr>
<td>15</td>
<td>0.73</td>
<td>33</td>
<td>0.55</td>
</tr>
<tr>
<td>16</td>
<td>0.64</td>
<td>34</td>
<td>0.45</td>
</tr>
<tr>
<td>17</td>
<td>0.73</td>
<td>35</td>
<td>0.73</td>
</tr>
<tr>
<td>18</td>
<td>0.45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total Discrimination coefficient | 0.57 |

Table (3.13) shows that the discrimination coefficients wobble between (0.27 – 0.73) with total average (0.57), that means that each item is acceptable or in the normal limit of discrimination according view of point of assessment and evaluation specialist.
3.23 Controlling the variables:

The researcher tried to control some variables that might affect the results of the research to ensure valid results and avoid any possible external interference. Mackey and Gass (2005, p.128) emphasized that "it would be important that each group of students be relatively homogeneous. Were they not homogeneous, one cannot be sure about the source of the results".

3.23.1. General English achievement variable:

T-test was used to measure the statistical differences between the groups due to their English and general achievement. The subjects' results in the first term test of the school year (2019-2020) were recorded and analyzed as shown in Table (3.16) below.

<table>
<thead>
<tr>
<th>group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>T</th>
<th>Sig. value</th>
<th>sig. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>English achievement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>experimental</td>
<td>36</td>
<td>15.667</td>
<td>2.084</td>
<td>1.662</td>
<td>0.101</td>
<td>not sig.</td>
</tr>
<tr>
<td>control</td>
<td>36</td>
<td>14.778</td>
<td>2.439</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“t” table value at (70) d f. at (0.05) sig. level equal 2.00
“t” table value at (70) d f. at (0.01) sig. level equal 2.66

Table (3.14) shows that there were no statistical differences at (0.05) between the experimental and the control subjects due to the English achievement variable.

3.23.2. Controlling the Reading comprehension variable:

To make sure that the sample subjects are equivalent in their previous English language achievement, the researcher applied a pre reading comprehension test. The results of the subjects were recorded and statistically analyzed using T-test. Table (3.15) shows the mean and the standard deviation of each group in the pre reading comprehension test. The results analysis indicates that there are no statistical significant differences between the experimental and the control groups at (0.05) level.
Table (3.15): T-test results of controlling Reading comprehension test variable

<table>
<thead>
<tr>
<th>Skill</th>
<th>group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Sig. value</th>
<th>sig. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literal</td>
<td>experimental</td>
<td>36</td>
<td>1.944</td>
<td>1.567</td>
<td>-0.442</td>
<td>0.660</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>2.083</td>
<td>1.052</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inferential</td>
<td>experimental</td>
<td>36</td>
<td>3.306</td>
<td>2.755</td>
<td>-0.467</td>
<td>0.642</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>3.556</td>
<td>1.647</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical</td>
<td>experimental</td>
<td>36</td>
<td>3.944</td>
<td>1.672</td>
<td>-0.209</td>
<td>0.835</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>4.028</td>
<td>1.715</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative</td>
<td>experimental</td>
<td>36</td>
<td>0.889</td>
<td>0.747</td>
<td>-0.425</td>
<td>0.672</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>0.972</td>
<td>0.910</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUM</td>
<td>experimental</td>
<td>36</td>
<td>10.083</td>
<td>5.288</td>
<td>-0.520</td>
<td>0.605</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>36</td>
<td>10.639</td>
<td>3.619</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“t” table value at (70) d f. at (0.05) sig. level equal 2.00
“t” table value at (70) d f. at (0.01) sig. level equal 2.66

3.23.3. Controlling the reflective thinking variable:

To make sure that the sample subjects are equivalent in their previous English language achievement, the researcher applied a pre reflective thinking test. The results of the subjects were recorded and statistically analyzed using T-test. Table (3.16) shows the mean and the standard deviation of each group in the pre Reflective thinking test. The results analysis indicates that there are no statistical significant differences between the experimental and the control groups at (0.05) level.
### Table (3.16) T-test results of controlling Reflective thinking variable

<table>
<thead>
<tr>
<th>Skill</th>
<th>group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Sig. value</th>
<th>sig. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing</td>
<td>experimental</td>
<td>36</td>
<td>2.528</td>
<td>2.223</td>
<td>-0.305</td>
<td>0.761</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>2.667</td>
<td>1.586</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contrasting</td>
<td>experimental</td>
<td>36</td>
<td>1.222</td>
<td>1.149</td>
<td>-0.643</td>
<td>0.523</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>1.389</td>
<td>1.050</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inferring</td>
<td>experimental</td>
<td>36</td>
<td>1.528</td>
<td>1.000</td>
<td>0.939</td>
<td>0.351</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>1.306</td>
<td>1.009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reasoning</td>
<td>experimental</td>
<td>36</td>
<td>2.472</td>
<td>1.108</td>
<td>-1.269</td>
<td>0.209</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>2.833</td>
<td>1.298</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposing</td>
<td>experimental</td>
<td>36</td>
<td>1.889</td>
<td>1.141</td>
<td>1.105</td>
<td>0.273</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>1.583</td>
<td>1.204</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total degree</td>
<td>experimental</td>
<td>36</td>
<td>9.639</td>
<td>4.479</td>
<td>-0.140</td>
<td>0.889</td>
<td>not sig.</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>36</td>
<td>9.778</td>
<td>3.936</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“t” table value at (70) d f. at (0.05) sig. level equal 2.00
“t” table value at (70) d f. at (0.01) sig. level equal 2.66

#### 3.23.4. Age variable:

The researcher recorded the students' ages from the college files for the scholastic year (2019-2020) and made sure that they were all of the same age ranging between [13-14] years old which in turn indicates that both the experimental and the control groups were equivalent in the age variable.

#### Experimentation:

Both groups were exposed to the same reading text. The control group (N=36) was taught by the class teacher who used his normal mode of instruction (traditional method). The experimental group (N=36) was taught by the researcher who employed the PQ4R strategy in handling the same reading passages.

#### 3.24 Procedures of the study:

To achieve the research purpose, the researcher is going to follow these steps:-
1- Review previous studies related to the reading comprehension, reflective thinking skills and PQ4R strategy.

2- Choose the target unit "Unit two: World Languages" for seventh graders.

3- Plan the included lessons during carrying out this study via adopting the (PQ4R strategy).

4- Identifying instruments of the study: pre and posttests for both reading comprehension and reflective thinking skills.

5- Specifying the reading comprehension and reflective thinking skills appropriate for the 7th graders in after consulting experts and specialists in methodology and English Curricula.

6- Preparing the pre - posttest.

7- Checking the validity and the reliability of the test.

8- Consult the specialists and consider their comments and opinions for checking the validity of the instruments.

9- Apply the pre–test on a pilot study to find the validity and reliability of the test.

10- Apply the pre–tests on the sample of the study and computing the results.

11- Implement the experiment according to lesson plan and appropriate materials on experimental group, while the control group will be taught by the traditional method.

12- Apply the post-tests on the experimental and control groups, then record the result.

13- Analyze the data statistically by using appropriate statistical analysis.

14- Interpret the results of the study and give suggestions and recommendations in the light of the study results.

**Procedures of Implementing the PQ4R**

The researcher prepared his experimental group for the PQ4R experience through providing them with following procedures:

1. Providing each PQ4R student with the needed material that contains instructions and lessons for each student as well as some graphics and evaluative sheets to fill in at the end of each chapter of the story.

2. Motivating students to be Involved in the PQ4R experience (e.g. by clarifying the significance and benefit of PQ4R.)
3. Demonstrating various PQ4R techniques in front of the class, showing students the procedures, and the students' roles.

4. Helping them to choose their roles (e.g. by clarifying the responsibilities of each role).

5. Providing time for reading, (e.g. by determining a specific time for performing each PQ4R technique).

6. Encouraging students to discuss the lessons and perform their assigned roles (e.g. the PQ4R students were asked to answer different questions throughout activities and charts).

7. Inviting students to share their roles with the rest of the class.

9. Monitoring students' performance (e.g. observing their interacting patterns, guiding them, facilitating the PQ4R experience for them and assisting them when they need).

10. Evaluating them through administering the tests at the end of each chapter in the story.

### 3.25 Statistical analysis procedures

The data was collected and computed by using Statistical Package for Social Sciences (SPSS). The following statistical techniques were used:

1. **T. Test Independent Samples**: to control the intervening variables and to measure the statistical differences in means between the two groups due to the study variables.
2. **T. Test Paired Samples**: to pre&post experimental the intervening variables and to measure the statistical differences in means between the two groups due to the study variables.
3. **Spearman correlation**: to determine the internal consistency validity of the test.
4. **Pearson correlation coefficient**: to identify the correlation the items of the two tests.
5. **Split-half and KR20 techniques**: were used to the reliability of the scale items.
6. **Eta square**: to assess the effect size.

### 3.26 Summary:

This chapter showed the procedures of designing and applying the instruments, the subjects and the statistical analysis that the researcher adopted in analyzing the results of the pre, post Reading comprehension and pre, post Reflective thinking test. The next chapter presents the data analysis and results for the study hypotheses.
Chapter Four

Results & Data analysis
Chapter Four
Results and Data analysis

4.1. Introduction:
The study aimed at investigating: Using PQ4R Strategy in Developing seventh Graders English Reading Comprehension and Reflective Thinking Skills

This chapter tackles the procedures, the findings of the study regarding the research questions. The researcher used different statistical tests using the statistical program (SPSS) to analyze the collected data results. Tables were also used to present these data with analysis and interpretation.

4.2. Data Analysis
4.2.1. Answer to the first question
The first question was “What are the reading comprehension skills needed to be developed for seventh graders?

To answer the question the researcher depended on different sources to construct a checklist of reading comprehension skills through reviewing literature, previous studies, English for Palestine Curriculum and experts' opinions. The list includes (22) reading comprehension sub-skills that is divided into four main levels of reading comprehension; the literal, the inferential, the critical, and the creative one. Under each main level, there is a list of sub reading comprehension skills, in other words those sub-skills could be considered as indicators for the main ones. The researcher introduced the list to a group of specialists including professors of Methodology at Gaza Universities, supervisors of English language in addition to highly qualified and long experienced seventh grade teachers. Respondents are asked to give their comments and opinions according to their long experience in this field.
<table>
<thead>
<tr>
<th>Main Skill</th>
<th>Sub Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The students are expected to be able to:</td>
</tr>
<tr>
<td><strong>1- Literal comprehension skills</strong></td>
<td>1-Make predictions about reading a text.</td>
</tr>
<tr>
<td></td>
<td>2-Skim the text for the gist (main idea).</td>
</tr>
<tr>
<td></td>
<td>3-Scan the text for specific information.</td>
</tr>
<tr>
<td></td>
<td>4-Understanding explicitly stated information mentioned in the text.</td>
</tr>
<tr>
<td></td>
<td>5-Re-arranging ideas in the /story/written text.</td>
</tr>
<tr>
<td><strong>2- Inferential comprehension Skills</strong></td>
<td>6-Identifying references of words and pronouns</td>
</tr>
<tr>
<td></td>
<td>7-Drawing inferences and logical conclusions related to the text.</td>
</tr>
<tr>
<td></td>
<td>8-Deducing cause and effect relationship.</td>
</tr>
<tr>
<td></td>
<td>9-Inferring vocabulary in context – implied meaning</td>
</tr>
<tr>
<td></td>
<td>10- Getting familiarized with the theme, plot, climax, settings and</td>
</tr>
<tr>
<td></td>
<td>consequence of the story actions.</td>
</tr>
<tr>
<td></td>
<td>11-Identifying the main idea of reading a text.</td>
</tr>
<tr>
<td><strong>3- Critical Comprehension Skills</strong></td>
<td>12-expressing an opinion</td>
</tr>
<tr>
<td></td>
<td>13-Producing judgment and evaluation on the text component</td>
</tr>
<tr>
<td></td>
<td>14-Analyzing the basic elements or components of the short story/written text.</td>
</tr>
<tr>
<td></td>
<td>15-Predicting outcomes</td>
</tr>
<tr>
<td></td>
<td>16-Judging the accuracy/correctness of given information.</td>
</tr>
<tr>
<td></td>
<td>17-Commenting on the author's /mood/tone/bias/ attitude/ dominant emotion /</td>
</tr>
<tr>
<td></td>
<td>viewpoint and literary style.</td>
</tr>
<tr>
<td></td>
<td>18-Differentiating between facts and points of view.</td>
</tr>
<tr>
<td></td>
<td>19-Reflecting the story/written text on the real life.</td>
</tr>
</tbody>
</table>
### Main Skill
The students are expected to be able to:

<table>
<thead>
<tr>
<th>Sub Skills</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20-Suggesting a new title for a text/a story / written texts.</td>
<td></td>
</tr>
<tr>
<td>21-Inventing a new course of actions in (new beginning, climax, consequences, and/or ending.)</td>
<td></td>
</tr>
<tr>
<td>22-Proposing an original solution to the presented problem in the text.</td>
<td></td>
</tr>
</tbody>
</table>

The results agree with most results of the previous studies that assure the importance of these skills and the necessity to be developed as in Abu Shaqra (2019), Al-Zahadany (2018), Abu Nimer (2017), and others. These skills are used as the base for dealing with reading skills.

The five main skills differ in their relative weight due to various aspects as the content itself, students' level, referees' modifications and nature of the study.

As result of deep investigation, long consultations with English Methodology specialists, experienced supervisors and 11th grade teachers, the reading comprehension checklist was validated and accepted.

#### 4.2.2 Answer to the second question:

The second question was “What **are the reflective thinking skills needed to be developed for seventh graders?**

To answer the question the researcher depended on different sources to construct a checklist of reflective thinking skills through reviewing literature, previous studies, English for Palestine Curriculum and experts' opinions. The list includes (19) reflective thinking sub-skills that is divided into five main ones of reflective thinking; (observing, contrasting, inferring, reasoning, and proposing). Under each main level, there is a list of sub reflective thinking skills, in other words, those sub-skills could be considered as indicators for the main ones. The researcher introduced the list to a group of specialists including professors of Methodology at Gaza Universities, supervisors of English language in addition to highly qualified and long experienced eleventh grade teachers. Respondents are asked to to give their comments and opinions according to their long experience in this field.
Table (4.2): The checklist of the reflective thinking skills

<table>
<thead>
<tr>
<th>The main skill</th>
<th>Sub-skills</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1- Observing</strong></td>
<td><strong>The students are expected to be able to:</strong></td>
</tr>
<tr>
<td>1-</td>
<td>Write down some specific details.</td>
</tr>
<tr>
<td>2-</td>
<td>Reflect on pictures, photos and charts included in the story.</td>
</tr>
<tr>
<td>3-</td>
<td>Utilize mind maps and diagrams for clarifying some points and events.</td>
</tr>
<tr>
<td>4-</td>
<td>Get familiarized with main ideas of each chapter of the story.</td>
</tr>
<tr>
<td><strong>2- Contrasting</strong></td>
<td>5- Detect gaps and mysterious aspects affecting the story.</td>
</tr>
<tr>
<td>6-</td>
<td>Modify some misconceptions implied in the story</td>
</tr>
<tr>
<td>7-</td>
<td>Manifest differences in attitudes and ways of thinking</td>
</tr>
<tr>
<td>8-</td>
<td>Realise non-organized ideas, information or events</td>
</tr>
<tr>
<td><strong>3- Inferring</strong></td>
<td>9- Analyse relations and connections composing the story incidents.</td>
</tr>
<tr>
<td>10-</td>
<td>Employ prior knowledge for getting inferences</td>
</tr>
<tr>
<td>11-</td>
<td>Judge the accuracy and correctness of the given information</td>
</tr>
<tr>
<td>12-</td>
<td>Find out cause and effect relationship.</td>
</tr>
<tr>
<td><strong>4- Reasoning</strong></td>
<td>13- Interpret attitudes, opinions, feelings and tones of characters</td>
</tr>
<tr>
<td>14-</td>
<td>Produce logical and sensible interpretations</td>
</tr>
<tr>
<td>15-</td>
<td>Relate observations with conclusions.</td>
</tr>
<tr>
<td>16-</td>
<td>Use information to reveal explicitly stated facts</td>
</tr>
<tr>
<td><strong>5- Proposing</strong></td>
<td>17- Create questions to expect different results.</td>
</tr>
<tr>
<td>18-</td>
<td>Suggest alternative endings.</td>
</tr>
<tr>
<td>19-</td>
<td>Invent new consequences (beginning, events, climax, course of actions)</td>
</tr>
</tbody>
</table>
The results of the checklist agree with most results of the previous studies that assure the importance of these skills and the necessity to be developed as in Abu Nimer (2017), Al-Atrash (2015), Abu Shaqra (2019), Bawy (2019) and others. These skills are used as the base for dealing with reflective thinking skills.

4.2.3. Answer to the third question

The third question was formulated as follows:

Are there statistically significant differences at (α≤0.05) in the reading comprehension posttest mean scores of the experimental group taught by PQ4R strategy and those of the control one taught by the traditional method?

To answer this question, the researcher tested the following null hypothesis:

There are no statistically significant differences at (α≤0.05) in the reading comprehension posttest mean scores of the experimental group taught by PQ4R strategy and those of the control one taught by the traditional method?

To examine the first hypothesis, means and standard deviations of both groups' results on the post-test were computed. Independent Samples T-test was used to measure the significance of the differences. Table (4.3) describes those results.

Table (4.3): T.test independent sample results of differences between the experimental and the control group in the post Reading comprehension Skills test

<table>
<thead>
<tr>
<th>Skill</th>
<th>group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Sig. value</th>
<th>sig. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literal</td>
<td>experimental</td>
<td>36</td>
<td>6.611</td>
<td>1.712</td>
<td>7.678</td>
<td>0.000</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>3.167</td>
<td>2.077</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inferential</td>
<td>experimental</td>
<td>36</td>
<td>11.722</td>
<td>1.936</td>
<td>9.840</td>
<td>0.000</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>5.694</td>
<td>3.124</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical</td>
<td>experimental</td>
<td>36</td>
<td>8.000</td>
<td>1.531</td>
<td>7.888</td>
<td>0.000</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>4.250</td>
<td>2.407</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative</td>
<td>experimental</td>
<td>36</td>
<td>2.306</td>
<td>0.856</td>
<td>3.995</td>
<td>0.000</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>1.417</td>
<td>1.025</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUM</td>
<td>experimental</td>
<td>control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28.639</td>
<td>14.528</td>
<td>4.428</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.428</td>
<td>7.189</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.027</td>
<td>0.000</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“t” table value at (70) d f. at (0.05) sig. level equal 2.00
“t” table value at (70) d f. at (0.01) sig. level equal 2.66

As shown in table (4.3) the T. computed value (10.027) is larger than T. table value in the test, which means that there are significant differences at (α ≤ 0.01) in the total average score of the post-test between the experimental and control group in favor of the experimental group. The mean of the post-test in the experimental group reached (28.639), whereas the mean of the control group was (14.528). This result indicates that using PQ4R strategy is more effective than the traditional method in developing the students' Reading comprehension skills.

To show the extent of PQ4R strategy effect on the experimental group achievement in the Reading comprehension skills, the study applied the "Effect Size" technique (Affana, 2000, p. 42). The researcher computed "η²" using the following formula:

\[
\eta^2 = \frac{t^2}{t^2 + df}
\]

And "d" value using the following formula:

\[
D = \sqrt{\frac{2t}{df}}
\]
Table (4.4): The Table References to Determine the Level of Size Effect ($\eta^2$) and ($d$)

<table>
<thead>
<tr>
<th>Test</th>
<th>Effect volume</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small</td>
</tr>
<tr>
<td>$\eta^2$</td>
<td>0.01</td>
</tr>
<tr>
<td>$d$</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Table (4.4) shows the effect size of PQ4R strategy of the Reading comprehension skills test.

Table (4.5): The Effect Size of PQ4R strategy on the Experimental group in the Post-Test

<table>
<thead>
<tr>
<th>Skill</th>
<th>t value</th>
<th>$\eta^2$</th>
<th>$d$</th>
<th>Effect volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literal</td>
<td>7.678</td>
<td>0.457</td>
<td>1.835</td>
<td>Large</td>
</tr>
<tr>
<td>Inferential</td>
<td>9.840</td>
<td>0.580</td>
<td>2.352</td>
<td>Large</td>
</tr>
<tr>
<td>Critical</td>
<td>7.888</td>
<td>0.471</td>
<td>1.886</td>
<td>Large</td>
</tr>
<tr>
<td>Creative</td>
<td>3.995</td>
<td>0.186</td>
<td>0.955</td>
<td>Large</td>
</tr>
<tr>
<td>Total</td>
<td>10.027</td>
<td>0.590</td>
<td>2.397</td>
<td>large</td>
</tr>
</tbody>
</table>

The results of "$\eta^2$" and "$d" values shown in Table (27) indicate a large effect size of using PQ4R strategy in the post test.

Table (4.5) shows that the effect size of PQ4R strategy is large on students' Reading comprehension skills and it was (0.590). This means that the effect of PQ4R strategy is significant. This large effect may be due to the activities and techniques which are used.
in the PQ4R strategy to develop students' Reading comprehension skills besides the high level of active participation during PQ4R sessions by students.

The development of the students’ reading skills could be due to many reasons. These reasons are discussed in the following lines:

They been developed due to the activities, diagrams, drawings and the questions that were based on this skill was the easiest and the most common for the students.

In addition to the training on guessing unknown words understanding reference, inferring cause and effect relationship, recognizing figurative language and extracting information through the reading assignment questions. Moreover, much exposure to different reading materials, illustrations and comprehensive works might have accustomed them on these skills to better comprehend the texts being read. The students felt that the questions and the activities that are based on the PQ4R are closely related to their attitudes and desires which reflected well in their performance.

This result was in consensus with the majority of the findings of previous studies as Atiya(2016), Al-Mobbayed (2017), Sitti (2016), Al-Qawabeh & Al-Jazi (2011), Bawy (2019), Nur 'Ebes(2019), Sayed(2010), Tyastuti(2019) and others. All of them nearly showed the effectiveness of PQ4R in developing various English language skills especially reading comprehension skills.

4.2.4. Answers of the fourth Question

The fourth question was: Are there statistically significant differences at \(\alpha \leq 0.05\) in the reflective thinking posttest mean scores of the experimental group taught by PQ4R strategy and those of the control one taught by the traditional method?

To answer this question, the researcher tested the following null hypothesis:

There are no statistically significant differences at \(\alpha \leq 0.05\) in the reflective thinking posttest mean scores of the experimental group taught by PQ4R strategy and those of the control one taught by the traditional method?

To examine the second hypothesis, means and standard deviations of both groups’ results on the post-test were computed. Independent Samples T-test was used to measure the significance of the differences. Table (4.6) describes those results.
Table (4.6): T.test independent sample results of differences between the experimental and the control group in the post Reflective thinking skills test

<table>
<thead>
<tr>
<th>Skill</th>
<th>group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Sig. value</th>
<th>sig. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing</td>
<td>experimental</td>
<td>36</td>
<td>9.750</td>
<td>2.862</td>
<td>6.457</td>
<td>0.000</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>5.556</td>
<td>2.645</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contrasting</td>
<td>experimental</td>
<td>36</td>
<td>3.194</td>
<td>1.167</td>
<td>6.389</td>
<td>0.000</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>1.444</td>
<td>1.157</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inferring</td>
<td>experimental</td>
<td>36</td>
<td>5.000</td>
<td>1.821</td>
<td>5.085</td>
<td>0.000</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>2.944</td>
<td>1.603</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reasoning</td>
<td>experimental</td>
<td>36</td>
<td>5.222</td>
<td>1.017</td>
<td>8.972</td>
<td>0.000</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>2.667</td>
<td>1.373</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposing</td>
<td>experimental</td>
<td>36</td>
<td>4.167</td>
<td>1.000</td>
<td>7.223</td>
<td>0.000</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>2.139</td>
<td>1.355</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total degree</td>
<td>experimental</td>
<td>36</td>
<td>27.333</td>
<td>6.663</td>
<td>9.296</td>
<td>0.000</td>
<td>sig. at 0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>36</td>
<td>14.750</td>
<td>4.644</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“t” table value at (70) d f. at (0.05) sig. level equal 2.00
“t” table value at (70) d f. at (0.01) sig. level equal 2.66

As shown in table (4.6) the T. computed value (9.296) is larger than T. table value in the test, which means that there are significant differences at (α ≤ 0.01) in the total average score of the post-test between the experimental and control group in favor of the experimental group. The mean of the post-test in the experimental group reached (27.333), whereas the mean of the control group was (14.750). This result indicates that using PQ4R strategy is more effective than the traditional method in developing the students' Reflective thinking skills.

Table (4.7) shows the effect size of PQ4R strategy of the Reflective thinking skills test.
Table (4.7): The Effect Size of PQ4R strategy on the Experimental group in the Post-Test

<table>
<thead>
<tr>
<th>Skill</th>
<th>t value</th>
<th>$\eta^2$</th>
<th>d</th>
<th>Effect volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing</td>
<td>6.457</td>
<td>0.373</td>
<td>1.544</td>
<td>Large</td>
</tr>
<tr>
<td>Contrasting</td>
<td>6.389</td>
<td>0.368</td>
<td>1.527</td>
<td>Large</td>
</tr>
<tr>
<td>Inferring</td>
<td>5.085</td>
<td>0.270</td>
<td>1.216</td>
<td>Large</td>
</tr>
<tr>
<td>Reasoning</td>
<td>8.972</td>
<td>0.535</td>
<td>2.145</td>
<td>Large</td>
</tr>
<tr>
<td>Proposing</td>
<td>7.223</td>
<td>0.427</td>
<td>1.727</td>
<td>Large</td>
</tr>
<tr>
<td>Total</td>
<td>9.296</td>
<td>0.552</td>
<td>2.222</td>
<td>large</td>
</tr>
</tbody>
</table>

Table (4.7) shows that the effect size of PQ4R strategy is large on students' Reflective thinking skills as it is 0.552. This means that the effect of PQ4R strategy is significant. This large effect may be due to the activities and techniques which are used in the PQ4R strategy to develop students' Reflective thinking skills besides the high level of active participation during PQ4R sessions by students.

The progress of the students’ reflective thinking skills could be due to many aspects. These reasons are discussed in the following:

Most students Reflected well on pictures, photos and charts included in the lessons. They also utilized mind maps and diagrams for clarifying some points and events.

Through my observations during PQ4R sessions, I can say that students training on detecting gaps and mysterious aspects affecting the events and components of the text influenced well in their performance.

Besides modifying some misconceptions implied in the texts, manifesting differences in attitudes and ways of thinking and finally Realizing non-organized ideas, information or events.
Moreover, much exposure to reading materials, and illustrations might have accustomed them on these skills to better think on the text being treated. The students felt that the questions and the activities the most enjoyable. They enjoyed answering the questions and thinking about them reflectively.

The free tension atmosphere prevailed the class besides some scaffolding activities carried out during the implementation of the strategy were so useful to get this skill improved.

This result was in consensus with the majority of the finding of previous studies. All of them nearly showed the effectiveness of PQ4R in developing various thinking skills especially critical and reflective ones as in Al-Mobbayed (2017), Sitti (2016) and others.
Chapter five
Conclusion and recommendations
5.1. Introduction:

This chapter discusses the results of the study. It also concludes the findings and introduces the pedagogical implications from the study results. In addition, it involves suggestion and recommendations for further studies. Such suggestions are expected to be beneficial for course designers, teachers of English seventh grade, supervisors, students, educators. They could help improve teaching English language in general and reading comprehension skills, reflective thinking skills in particular.

5.2. Discussion of the findings:

The research questions were stated in this study to identify 'The impact of using PQ4R on developing reading comprehension and reflective thinking skills for seventh graders'. The results showed that the use of this strategy has an effect on the levels of reading comprehension skills and reflective thinking skills of students for the experimental group (which was taught using PQ4R) compared to the results of the control group (which was taught in the traditional way). The main findings of the study will be reviewed and discussed in the following points:

5.3. Findings

The findings of this study were as follows:

1. There were statistically significant differences at (α ≤ 0.05) level between the posttest average scores of the experimental group taught English reading comprehension skills by using PQ4R and the control one taught by traditional methods.

2. There were statistically significant differences at (α ≤ 0.05) level between the posttest average scores of the experimental group taught reflective thinking skills by using PQ4R and the control one taught by traditional methods.

5.3.1. Discussion of the First Hypothesis Findings:
The first hypothesis was formulated as follows:
There are statistically significant differences at ($\alpha \leq 0.05$) in the mean scores of the control group and those of the experimental one in Reading comprehension Skills in the post-test?

The research investigated the first hypothesis which examined if there are statistically significant differences at ($\alpha \leq 0.05$) in the reading comprehension posttest mean scores of the experimental group taught by PQ4R and those of the control one taught by the traditional method.

Results indicated that the $T$. computed value is equal $T$. table in the test which means that there are significant differences at ($\alpha \leq 0.05$) level between the experimental and control groups in favor of the experimental group. In addition, the mean of the experimental group reach (28.6), whereas the mean of the control one was (14.5) this result indicates the impact of our strategy in developing reading comprehension skills. In addition to that, the effect size was of the PQ4R was clear in the reading comprehension skills. This means that the effect of the PQ4R was significant. This effect may be attributed to the types of techniques and activities, which introduced to the experimental group to develop the reading comprehension skills.

- The teacher is a facilitator, not a group member or an instructor.

Teachers play an important role in affecting students' success of academic learning. The teacher's role here differs from the traditional teacher-led reading discussion. The teacher should serve as a facilitator rather than an instructor in order to facilitate students in developing a number of reading strategies and encourage efficient participation for natural conversation and problem solving. The teacher's work in PQ4R is to help groups to form, visit and observe group meetings, and confer with pupils or groups who struggle, make assessment notes.

- The teacher prepared competitions between groups which improved the students' ability to interact with the text effectively. In addition, this can be due to the types of the accurate photos included in the provided activities of the strategy used to improve the students' reading comprehension. Also, the use of related videos included in the implementation used to develop the students' reading comprehension.

Furthermore, the researcher realized that there was a clear difference between the atmosphere prevailing the classroom of the control group and that of the experimental
group. The classroom of the experimental group taught reading via the PQ4R inside and outside the classroom - had an active and positive atmosphere, which assisted students to express more interest, better participation and involvement. Actually, PQ4R created a relaxed learning for the whole group.


5.3.2. Discussion of the Second Hypothesis Findings:
The Second hypothesis was formulated as follows:

There are statistically significant differences at (α≤ 0.05) in the mean scores of the control group and those of the experimental one in reflective thinking skills in the post-test?

The research investigated the second hypothesis which examined if there are statistically significant differences at (α≤0.05) in the reflective thinking posttest mean scores of the experimental group taught by PQ4R and those of the control one taught by the traditional method.

Results indicated that the T. computed value is equal T. table in the test which means that there are significant differences at (α ≤ 0.05) level between the experimental and control groups in favor of the experimental group. In addition, the mean of the experimental group reach (27.3), whereas the mean of the control one was (14.7) this result indicates the effectiveness of this strategy in developing reflective thinking skills. In addition to that, the effect size of the advance organizers is large in the reflective thinking skills. This means that the effect of the PQ4R was significant. This large effect may be due to the types of the techniques and activities which introduced to the experimental group to develop the reflective thinking skills.

This large effect was attributed to the strategy that had many characteristics that matched the reflective thinking such as: developing students' communication skills, making decision, applying what learnt in new situations, increasing their interaction with the educational materials presented, increasing co-operation among students, developing problem solving and critical thinking skills, enhancing self-evaluation tools, improving
informational search and giving training opportunities which are not found in the traditional method.

This strategy had several advantages such as employing more than one sense as well as addressing the students' different learning styles through variety of the activities, techniques and multi-media which included pictures, texts, and videos. This enhanced students' learning strategies, developed their ways of thinking, improved their achievement, created on-going interactive environment which increased their motivation and interest in learning. The strategy also offered continuous feedback which reflected in students' progress in learning if the answers were right or modifying them if they were wrong.

By the implemented activities in this strategy, students can increase their understanding of what they have read and they can also employ their mind effectively to think properly and reflectively.

PQ4R enabled students to collaborate with their colleagues in a safe learning atmosphere free from criticism where they were able to express themselves positively and received help from their peers. This resulted in positive interaction with the teacher as well as other students. On contrary to traditional methods, this reflected on their achievement level.

The strategy created an interesting, attractive and tension free learning environment that stimulated students, even low achievers, towards participation and interaction using English either inside the class in general or during peer interaction, communication and evaluation.

So that completely agrees with previous that assured the effectiveness of the PQ4R strategy in developing thinking skills among school students.

This indicates that EFL supervisors ought to train teachers to implement that in their classrooms. Thus, it is necessary for ministry of education in Palestine to adopt this strategy in teachers' guide to clarify them to teachers about how to use its activities correctly. Moreover, the researcher thinks that the benefits of this strategy are various. Thus, educators should gather them to proliferate them among researchers, supervisors, teachers and pupils.
5.4 Conclusion

In the light of the study findings, it can be concluded that the current study proved that using PQ4R was highly effective and successful in articulating specific positive changes among seventh graders. Besides, it showed a significant positive transformation in their comprehension and their thinking. Based on the results obtained throughout the current study, it can be concluded that advance organizers:

1. PQ4R is more effective and has superiority over the traditional method in teaching English language in general and reading in particular.
2. This strategy provided students with a better learning environment, which affected their achievement and performance in English.
3. PQ4R promoted a learning environment that provided opportunities for exploring and investigating ways for understanding new concepts.
4. It increased students’ motivation for learning.
5. By applying the Strategy, the students felt relaxed, amused and comfortable and this led to easier learning and acquisition of the language.
6. PQ4R strategy strengthened the relationship between the teacher and the learners and made the teacher like a close friend, which facilitated the process of teaching and learning.
7. The use of PQ4R led to better comprehension and thinking of the text.
8. It is found out that applying this method facilitated students' comprehension and thinking, also work cooperatively in peers or groups.
9. PQ4R strategy allows students to reflect on their own misunderstanding and take ownership of their learning.
10. It is clearly stated that there is a strong link between PQ4R and the development of the identified reading comprehension skills and reflective thinking skills.
11. PQ4R changes students' role from passive recipients into active participants. Mobile Learning Application provides students with enthusiasm and variation which are significant enough to affect their achievement positively.

5.5 Pedagogical Implications:

Several pedagogical implications were drawn from the results of the present study.

First, the results of the study suggest that PQ4R can help learner not only improve their language proficiency, facilitate communication, conversational skills, and
community interaction, change their learning performance and motivation, or self-efficacy toward English language learning in positive learning environment, but also promote their intellectual abilities in adding clarification and higher order thinking skills into their inquiries and replies.

Second, teachers should introduce students to various pleasant techniques of learning a foreign language such as PQ4R strategy which can provide students with opportunity to use their creativity which can help in improving students speaking proficiency and reading comprehension. Finally, an effective way to encourage students to use English outside the class is by establishing an English club in each school. This will give the students more opportunities to practice their English and will help to improve their attitudes towards reading motivation, thus lighten the atmosphere and stimulate their creative thinking.

5.6 Recommendations

Based on the findings and conclusions of the current study, some practical suggestions are presented to meet the concerns of English language teachers, supervisors, educators and parents. Relevant recommendations are also introduced for further studies as follows.

5.6.1. Recommendations to the Ministry of Education.

The Ministry of Education is recommended
1. To conduct workshops and training programs on PQ4R aiming at familiarizing teachers with features of this strategy and using it in teaching all English language skills and areas (e.g. Vocabulary, reading, structure, phonology and functions).
2. Improving and enriching the teacher's guide with activities and techniques, which activate and develop PQ4R through organizing workshop and courses.
3. Supply teachers with instructional material, which improve their awareness of such strategies and their importance in developing reading comprehension skills and reflective thinking skills.
5.6.2. Recommendations to the supervisors:
Supervisors are recommended

1. To conduct workshops that aim at familiarizing teachers with such strategies.

2. To concentrate on the fact that students’ centered activities are not time wasting-activities; instead, they are very important for teaching different aspects of the language.

3. To develop teachers' abilities to implement such strategies by organizing training programs, workshops and short courses.

4. To emphasize the fact that active learning strategies should be used with all English language skills and other school subjects

5.6.3 Recommendations to English language teacher:

1. Teachers should use a various learning sources and techniques that enrich students' experiences and contribute to facilitating their absorption.

2. It is very necessary for teachers to pay attention to the reading comprehension skills and their levels and reflective thinking skills and their levels to enrich their abilities in teaching.

3. Teachers help learners use English language in "Life-like" situation to improve advance organizer strategy.

4. To strengthen the relationship with the students, which creates non-threatening classroom atmosphere and facilitates the learning-teaching process

5. To encourage students to overcome hesitation and psychological factors that affect their competence.

5.6.4 Recommendations for further studies

The researcher suggested the following recommendations for further studies:

1. Investigating the effectiveness of using the PQ4R to develop the other skills (listening, speaking and writing)

2. Conducting studies based on advance organizers to develop English reading comprehension skills and reflective thinking skills for the lower and advance graders.

3. Investigating the effectiveness of metacognitive strategy to develop the following skills (listening, reading, speaking and writing)
4. Investigating the effectiveness of critical reading strategy to develop the following skills (listening, reading, speaking and writing)

5. Investigating the effectiveness of using PQ4R on developing students' critical or creative thinking.

6. The effectiveness of PQ4R in developing reading comprehension skills of drama among students at faculty of education.

7. Investigating the effect of using PQ4R strategy on developing students’ cultural awareness.


9. Inspecting the effectiveness of using PQ4R in developing student' functional writing skills.

10. Investigating the effectiveness of using the PQ4R in developing different creative writing genres, other than essay and short story.
The Reference
The Reference


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Appendices
Appendix

Appendix (1): Pre-post Reading Comprehension Test

The Islamic University - Gaza
Deanery of Graduate Studies
Faculty of Education
Department of Curriculum & Instruction

Subject: An Invitation to Referee a Pre-post Test

Dear referee / …………………………………………………………………………………

The researcher is conducting a study entitled "Using PQ4R Strategy in developing English Reading Comprehension and Reflective Thinking Skills for seventh Graders" to obtain a Master's Degree in curricula and instruction. As the aim of the research is to examine the Reading comprehension skills, the researcher has designed the pre-posttest, which includes six different kinds of questions covering the target unit.

You are kindly required to examine and referee the attached test, and I would be so grateful and thankful for your comments on its suitability, relevance, linguistic correctness and the importance of each procedure. All your contributions are highly valued and appreciated. If you have any comments, please write them down in the space below.

---------------------------------------------------------------------------------------------------------------------------------

Thanks for your cooperation

Researcher
<table>
<thead>
<tr>
<th>The main skill</th>
<th>Sub-skills</th>
<th>Degree of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1- Literal comprehension skills</strong></td>
<td>The students are expected to be able to:</td>
<td>Very important</td>
</tr>
<tr>
<td>1-Make predictions about reading a text.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Skim the text for the gist (main idea).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Scan the text for specific information.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-Understanding explicitly stated information mentioned in the text.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-Re-arranging ideas in the story/written text.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-Identifying references of words and pronouns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2- Inferential comprehension Skills</td>
<td>4-Drawing inferences and logical conclusions related to the text.</td>
<td></td>
</tr>
<tr>
<td>8-Deducing cause and effect relationship.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-Inferring vocabulary in context – implied meaning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10- Getting familiarized with the theme, plot, climax, settings and consequence of the story actions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-Identifying the main idea of reading a text.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3- Critical Comprehension Skills</td>
<td>12-expressing an opinion</td>
<td></td>
</tr>
<tr>
<td>13-Producing judgment and evaluation on the text component</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-Analyzing the basic elements or components of the short story/written text.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-Predicting outcomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-Judging the accuracy/correctness of given information.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-Commenting on the author's mood/tone/bias/Attitude/ dominant emotion / viewpoint and literary style.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-Differentiating between facts and points of view.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29-Reflecting the story/written text on the real life.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4- Creative comprehension skills</td>
<td>20- Suggesting a new title for a text/a story / written texts.</td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>21- Inventing a new course of actions in (new beginning, climax, consequences, and/or ending.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>22- Proposing an original solution to the presented problem in the text.</td>
<td></td>
</tr>
</tbody>
</table>

Other suggestions:

.................................................................................................................................
.................................................................................................................................
.................................................................................................................................
Appendix (2): Pre-post Reflective Thinking Test

The Islamic University - Gaza
Deanery of Graduate Studies
Faculty of Education
Department of Curriculum & Instruction

Subject: An Invitation to Referee a Pre-post Test

Dear referee / ………………………………………………………………………………………………………

The researcher is conducting a study entitled “Using PQ4R Strategy in developing English Reading Comprehension and Reflective Thinking Skills for seventh Graders” to obtain a Master's Degree in curricula and instruction. As the aim of the research is to examine the Reflective Thinking skills, the researcher has designed the pre-posttest, which includes eight different kinds of questions covering the target unit.

You are kindly required to examine and referee the attached test, and I would be so grateful and thankful for your comments on its suitability, relevance, linguistic correctness and the importance of each procedure. All your contributions are highly valued and appreciated. If you have any comments, please write them down in the space below.

-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
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Thanks for your cooperation

Researcher

…………………………
<table>
<thead>
<tr>
<th>The main skill</th>
<th>Sub-skills The students are expected to be able to:</th>
<th>Degree of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Very important</td>
</tr>
<tr>
<td>1- Observing</td>
<td>1- Write down some specific details.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2- Reflect on pictures, photos and charts included in the lessons.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3- Utilize mind maps and diagrams for clarifying some points</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4- Get familiarized with main ideas of each chapter of the lesson.</td>
<td></td>
</tr>
<tr>
<td>2- Contrasting</td>
<td>5- Detect gaps and mysterious aspects affecting components of an activity, a question or etc..</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6- Modify some misconceptions implied in the unit.</td>
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<td>7- Manifest differences in attitudes and ways of thinking</td>
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<td>8- Realise non-organized ideas, information or events</td>
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<tr>
<td>3- Inferring</td>
<td>9- Analyse relations and connections composing the whole text, lesson, unit.</td>
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<td>10- Employ prior knowledge for getting inferences.</td>
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<td></td>
<td>11- Judge the accuracy and correctness of the given information</td>
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<td></td>
<td>12- Find out cause and effect relationship.</td>
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<tr>
<td>4- Reasoning</td>
<td>13- Interpret attitudes, opinions, feelings and tones of the writer or characters</td>
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<td></td>
<td>14- Produce logical and sensible interpretations</td>
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<td>15- Relate observations with conclusions.</td>
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<td>16- Use information to reveal explicitly stated facts</td>
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<tr>
<td>5- Proposing</td>
<td>17- Create questions to expect different results.</td>
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<td>18- Suggest alternative endings.</td>
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Other suggestions:

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## Appendix (3): Referee committee

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Title</th>
<th>Degree</th>
<th>Institute</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Prof. AbdulMouti Al-Agha</td>
<td>Professor</td>
<td>Ph.D.</td>
<td>Islamic University</td>
</tr>
<tr>
<td>2</td>
<td>Prof. Awad Keshta</td>
<td>professor</td>
<td>Ph.D.</td>
<td>Islamic University</td>
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<tr>
<td>3</td>
<td>Dr. Jaber Abu Shaweesh</td>
<td>Associate professor</td>
<td>Ph.D.</td>
<td>Al-Quds Open University</td>
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<td>4</td>
<td>Dr. Majdy Akkel</td>
<td>Associate professor</td>
<td>Ph.D.</td>
<td>Islamic University</td>
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<tr>
<td>5</td>
<td>Dr. Mohammed Sha'at</td>
<td>Assistant professor</td>
<td>Ph.D.</td>
<td>Palestine University</td>
</tr>
<tr>
<td>6</td>
<td>Mr. Reyad A-Farra</td>
<td>Supervisor of English</td>
<td>M.A.</td>
<td>Government schools</td>
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<tr>
<td>7</td>
<td>Mr. Yehya Al-Agha</td>
<td>Supervisor of English</td>
<td>M.A.</td>
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<td>8</td>
<td>Mr. Haider Abu Shaweesh</td>
<td>Supervisor of English</td>
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<td>9</td>
<td>Mr. Majed Salah</td>
<td>Supervisor of English</td>
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<td>10</td>
<td>M. Ashraf Kushail</td>
<td>Supervisor of English</td>
<td>M.A.</td>
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<td>11</td>
<td>Mr. Iyad ALaham</td>
<td>Teacher of English</td>
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<td>Government school</td>
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<td>12</td>
<td>Mr. Yousef Abu Shaqra</td>
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<tr>
<td>13</td>
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<td>Teacher of English</td>
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<td>Government school</td>
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<tr>
<td>14</td>
<td>Mr. Isalm Al-Shami</td>
<td>Teacher of English</td>
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<td>15</td>
<td>Mr. Mousa Abu Laban.</td>
<td>Teacher of English</td>
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