

Abou El Kacem Saadallah, University of Algiers 2

Faculty of Foreign Languages

Department of English



**The Effect of Cooperative Learning on
EFL First Year Students' Reading
Comprehension: A Gender-Based Case Study
at the University of Algiers 2**

**Thesis Submitted in Fulfillment of the Requirements for the Degree of Doctorate in
Applied Linguistics and TEFL**

Submitted by:

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Prof. Fatma Zohra NEDJAI

Examination Board

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Academic Year: 2020- 2021

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Declaration

I hereby declare that the substance of this thesis is entirely the result of my investigation and that due reference or acknowledgement is made, whenever necessary, to the work of other researchers.

I am duly informed that any person practicing plagiarism will be subject to disciplinary sanctions issued by university authorities under the rules and regulations in force.

Date: 22/07/2021

Signed: Mohammed Akhrib

Abstract

Gender is salient when Cooperative Learning (CL) is implemented in reading instruction, evoking further variability in students' reading strategy use and achievement; this gender variance requires thorough investigation taking into account the reader, task and text variables so as to support previous studies examining the impact of CL on gender variance in English as Foreign Language (EFL) reading comprehension. The aim of this study, then, is to investigate gender differences in EFL reading comprehension. It explores how gender differences in the sources of text based interest, perceived interest or personal interest, and familiarity with texts, account for the variance in EFL reading comprehension. This study examines the impact of Collaborative Strategic Reading (CSR) on EFL reading comprehension of males and females. To fulfill these aims, 100 EFL first year students at the University of Algiers 2, including 40 males and 60 females, were purposively selected and assigned into four groups within a factorial design (2X2). To collect data, different tools were conceived: a questionnaire of cooperative learning preferences, pre and post tests including the survey of reading strategies adapted from Shoerey and Mokhtari (2001) and three reading comprehension tests, including male-, female-oriented and neutral texts. Besides, three questionnaires of the sources of interest, perceived interest adapted from Brantmeier (2006) and familiarity followed the reading comprehension pre tests. By the end of the experiment, the study groups' participants replied to a questionnaire of cooperative learning principles and an interview. To analyze data, descriptive and inferential statistics were deployed for the tests and the questionnaires; besides, the learning logs and the interview were respectively analyzed utilizing content and thematic analysis. Findings revealed significant gender differences in reading comprehension of the male passage, and gender affected support and global strategy use; moreover, males revealed higher degrees of cohesion than females in the female passage. For the male passage, significant gender differences were found in perceived interest, familiarity and all the sources of interest except emotiveness. These significant differences did not account for the variance in their reading comprehension tests;

while, little gender variance in prior knowledge, ease of recollection and perceived interest in the female text caused the variation in the reading comprehension test. Furthermore, CSR enhanced females reading comprehension in all tests and increased their global and support strategies use owing to their positive interdependence and individual accountability. For males, CSR promoted only reading comprehension of the male passage and elevated global and problem solving strategies for their individual accountability and social skills in cooperative groups. In short, CSR is effective for EFL low reading achievers once having males and females positively interdependent, and taking into account gender related variables in terms of reading materials and tasks.

Key words

EFL reading comprehension; reading strategies; gender; collaborative strategic reading; cooperative learning

Dedication

To my **FATHER** and my **MOTHER**

To my brothers: Badis and Ishak

To my sisters: Khadidja, Amel, Dalel, Kaouther and Amel

To my nieces and nephew: Douaa, Houda, Youcef, Sara, Alaa, Israa and Meriem El-Batoul.

To my uncle Ismail Laimouche, all my uncles, aunts, all “Akhrif” and “Laimouche” wherever they are, Nabil Benzidane and Riadh Hadji.

In memory of my grandparents: Fodil, Said, Meriem and Aicha.

In memory of my aunt Malika Laimouche and my uncles Kheireddine and Mustapha Laimouche

To the teachers and employees in the English department at the University of Algiers 2

To my cherished teachers: Mrs Mazouz-Djahnit, Dr Fellahi, Dr Moussaoui, Dr Kichou, Dr Mirza, Dr Mosbah and Dr Aziz.

To my PhD fellows of applied linguistics at the University of Algiers 2

To Abdelhak Benhizia and Walid Imad Abbas

To my friends: Boubaker Katit, Issam Kassir, Dhia Bali, Zineddine Djouadi, Khaled Rahal and Dali Yousfi

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To all those who teach reading and writing with the process approach

To my country

To myself

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I am indebted to my family members for their endless help, support, patience and understanding. Without their constant help, I would have a null effect. “Thanks for making me statistically significant!”.

Thanks to everyone who helped me, even with a smile.

List of Abbreviations

- EFL:** English as a Foreign Language
- ESL:** English as a Second Language
- L2:** Second Language Learning
- RC:** Reading Comprehension
- SORS:** Survey of Reading Strategies
- SI:** Sources of Interest/ Situational Interest
- PI:** Perceived Interest
- CL:** Cooperative Learning
- CSR:** Collaborative Strategic Reading
- SD:** Standard of Deviation
- ANOVA:** One-way Analysis of Variance
- ANCOVA:** Univariate Analysis of Covariance
- RT:** Reciprocal Teaching
- ESP:** English for Specific Purposes
- STAD:** Student Teams Achievement Division.

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GENERAL INTRODUCTION

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Introduction

Reading is an essential component for learners' academic development. It allows them to possess the necessary skills to comprehend different genres. (Koda & Zehler, 2008). Reading Comprehension (R.C) is a challenging task for EFL learners who receive instruction and employ a variety of comprehension strategies. (El- Koumy, 2004). There is a complex interplay between a number of constructs including comprehension instruction, gender reading strategy use and cooperative learning. (Duke & Pearson, 2002; Bernhardt, 2011).

Gender, as an intrapersonal variable, is likely to be prominent while implementing Cooperative Learning (C.L) in EFL reading classes. (Shaaban, 2006). The latter intertwined with gender requires careful examination. (Van der Silk, Van Hout & Schepens, 2015; Pae, 2004). In reading strategy instruction, the role of CL in promoting students' comprehension would be questioned especially when EFL students' RC achievement is unsatisfactory (King, 2007; Fusch & Fusch, 2007).

1. Statement of the Problem

At the University of Algiers 2, English as a Foreign Language (EFL) first-year male and female students receive instruction in RC. Along the first semester, they are expected to develop comprehension skills in terms of previewing, predicting, inferring meaning, skimming and scanning. Besides, teachers provide explicit instruction in reading strategies and paragraph writing for three hours per week. During the second semester, students are assigned to intensive and extensive reading sessions in which materials are relatively long texts.

As these students receive instruction for half a semester, they acquire extended knowledge on the aforementioned reading strategies. Consequently, they are tested on RC in order to obtain an account of their level and progress in the syllabus; however, students' RC achievement in the midterm tests seems to be low. (Appendix I). This may be related to several factors. That is, learners' proficiency in text comprehension tends to be positively related to reading

strategies instruction (Young & Oxford, 1997) and the use of the strategies they receive from the instruction.

Considering text comprehension, EFL male and female readers' background knowledge may considerably affect their comprehension of texts' with diverse content and orientations (Jalilehvand & Samuel, 2012). Besides, gender differences in EFL students' RC achievement may be perceived due to the students' familiarity and accountability with texts content and whether they are male or female oriented (Sotoudehnama & Assadian, 2011). Furthermore, EFL male and female students' frequency and use of reading strategies may vary (Phakhiti, 2003). This may, in turn, affect students' RC. (Mokhtari & Sheorey, 2001).

Similarly, students' use of the strategies received from the instruction may be also related to RC with respect to the duration of instruction that could be up to a semester. In this concern, comprehension strategy instruction would be important for both teachers and learners (Fan, 2010). This may raise male and female students concerns about reading strategies taught for EFL first-year students, and whether they apply the strategies they receive from the instruction. Indeed, EFL first-year students study in large classes, and teachers may not be able to teach considering each one's level and heterogenous preferences along pre, during and post-reading stages. That is, students' level of reading achievement may differ according to gender (Carrell & Wise, 1998; Bernhardt, 2011) due to their interest in the genre and content of reading passages (Brantmeier, 2003a; Nordin & Eng, 2017)

The instructional context, then, affects in a way or another RC proficiency (Alqarni, 2015). This promotes the extensive need for RC instruction which regards multiple reading strategies and applies CL principles. (Grabe, 2009). To consider the latter would raise another issue about whether teachers introduce CL in their RC instruction.

Considering reading classes as social contexts for learning, CL appears as salient in EFL reading classes and opposed to teacher centred approaches. (Fan, 2010). Accordingly, questions would be raised about the effectiveness of

implementing this medium of instruction and its impact on EFL male and female students' RC. (Jalilifar, 2010; Karafkan and Aghazadeh, 2015).

Teachers through implementing CL obtain a clear view of their students' performance and prescribe the remedies for promoting their RC. (Grabe, 2009). To account for the fact that CL would enhance students' RC, it seems more appropriate for the case of EFL male and female first-year students who achieve low in RC tests (Appendix I) and use a limited number of reading strategies from the explicit instruction.

2. Aims of the Study

This research aims to investigate whether there are gender differences in EFL students' RC of gender oriented passages and in reading strategy use. Besides, it explores gender differences in Sources of/ Situational Interest (SI), Perceived interest (P.I) and familiarity, and how these differences account for variance by gender in RC. Using collaborative strategic reading, a cooperative learning technique, and gender oriented texts, the effect of CL on EFL male and female students' RC is examined as well. Thereby, four main research questions are formulated in this concern,

It is important to consider whether EFL first year students' gender affects their RC achievement. As an individual difference, gender may be inclusive in the process of comprehension. Furthermore, it may be plausible to consider how EFL first year male and female students' RC varies. In this way, the first main research question can be as follows:

1. How does EFL male and female students' RC differ?

This main question has sub-questions; the first one explores whether there are gender differences in EFL students RC. The first sub-research question and its non-directional hypotheses are:

1.1. Are there gender differences in EFL students' RC?

H1: There are gender differences in EFL students' RC.

H0: There are no gender differences in EFL students' RC.

As long as the texts implemented for testing RC are gender oriented, EFL male and female students may reveal different perceptions and attitudes about the

structure and content of texts. This may be mainly due to the formal and content schemata possessed by each gender. These schemata for the texts' structures and content tend to afford different levels of SI, PI and familiarity across genders.

Variance by gender in EFL RC, considerable or small, may be related to other variables, which could have been also affected by gender, largely or slightly as well. In this case, any possible gender differences in RC can be explained as long as variance by gender in SI, PI and familiarity is measured from gender oriented passages. In this concern, SI, PI and familiarity may be regarded as covariates, once controlling gender, affecting RC of different reading passages. To examine whether gender differences in SI, PI and familiarity account for variance by gender in RC, three sub-research questions with their sets of null and alternative hypotheses are formulated below.

1.2. To what extent does situational interest affect both EFL male and female students' RC?

1.3. To what extent does perceived interest affect both EFL male and female students' RC?

1.4. To what extent does familiarity affect both EFL male and female students' RC?

H1: Situational interest affects both EFL male and female students' RC.

H0: Situational interest does not affect both EFL male and female students' RC.

H1: Perceived interest affects both EFL male and female students' RC.

H0: Perceived interest does not affect both EFL male and female students' RC.

H1: Familiarity affects both EFL male and female students' RC.

H0: Familiarity does not affect both EFL male and female students' RC.

Students' reading comprehension is not only related to their achievement but also to their reading strategy use. More importantly, it may be assumed that gender would direct students' use of reading strategies which, in turn, might affect their reading comprehension achievement. The second main research question and hypotheses are,

2. Are there gender differences in EFL students' reading strategy use?

H1: There are gender differences in EFL students' reading strategy use.

H0: There are no gender differences in EFL students' reading strategy use.

Since language classrooms are regarded as social contexts for learning, CL in reading classes has become indispensable, a major trend and one of the alternatives that teachers could resort to. There is an extended need to consider the complex interplay between learner-centered approaches of teaching reading, individual differences, and RC. In other words, it is worth exploring the impact of gender on students' RC while implementing cooperative learning.

To confirm the aforementioned assumptions, this research encompasses an examination of the impact of Collaborative Strategic Reading as a CL technique on EFL students' RC and on their reading strategy use. In this research, it is important to note that Collaborative Strategic Reading is used interchangeably with CL. In addition, it looks for any gender differences in the students' RC and their reading strategy use which may be caused due to CSR. Accordingly, two research questions and their hypotheses stem from these aims.

3. Does Collaborative Strategic Reading impact both EFL male and female students' RC?

4. Does Collaborative Strategic Reading affect both EFL male and female students' reading strategy use?

The hypotheses are non-directional including alternative and null-hypotheses

H1: There are gender differences in reading strategy use among EFL students using Collaborative Strategic Reading.

H0: There are no gender differences in reading strategy use among EFL students using Collaborative Strategic Reading.

H1: There are gender differences in reading comprehension among EFL students using Collaborative Strategic Reading

H0: There are no gender differences in reading comprehension among EFL students using Collaborative Strategic Reading.

The main concern of this investigation is gender, CL in RC and reading strategy use. It may be plausible to narrow the scope of inquiry beforehand via exploring gender effect on EFL students' reading, and what moderating as well

as mediating variables might direct its presumed impact. These variables would be SI, PI and familiarity

Moreover, it cannot be asserted or taken for granted that CL is being applied in the context of the study, or that teachers use CL as a medium of instruction with particular explicit instruction of a number of reading strategies with respect to students' gender. Through examining the explicit implementation of CL in reading classes, it is also important to revisit the impact of gender on students' RC in this study.

3. Definitions of Terms

Gender: Eckert and McConnell-Ginet (2003) viewed the construct of gender in terms of the differences between males and females. They stated: "...learning to be male or female involves learning to look and act in particular ways, learning to participate in particular ways in relationships and communities, and learning to see the world from a particular perspective" (p. 30)

Reading Comprehension: Assuming that foreign language reading ability is a process with different components, Grabe (2009) argued that the formers are intertwined with working memory processes which are divided into low and high-level processes. Low level processes tend to be skill-oriented and mostly linguistic in terms of lexical access, syntactic parsing and semantic proposition formation, while high level processes are strongly linked to comprehension processes requiring linguistic processes and encompassing text model of comprehension, situation model of reader's interpretation, background knowledge use, inferencing and executive control processes.

Reading Strategies: Graesser (2007) defined comprehension strategies: "a cognitive or behavioural action that is enacted under particular contextual conditions, with the goal of improving some aspect of comprehension" (p. 6).

Shoerey and Mokhtari (2001) classified L2 reading strategies in terms of three categories: cognitive, metacognitive and support.

Situational Interest/ Sources of Interest: "Situational interest refers to interest caused by situational variables, such as the text and test." (p. 91). The sources of

interest are six: cohesion, prior knowledge, engagement, ease of recollection and emotiveness. (Brantmeier, 2006).

Perceived Interest: “Individual interest, or personal interest, has been described as an association or a deep-seated investment in a specific topic, object or event (i.e. avocational or vocational pursuits).”(Alexander, 1997, p. 221). In other words, it involves what students prefer to read in terms of topics, and this willingness and desire are idiosyncratic and exist with or without reading any text (Brantmeier, 2006).

Familiarity: Familiarity appears as dichotomous as with schematic knowledge. It is whether the text is novel or the reader is familiar with the topic, or it is novel (Carrell, 1983) and surpasses to the rhetorical patterns of texts including formal and content schema (Carrell, 1987).

Cooperative Learning: Johnson, Johnson and Smith (2013) defined CL as: “the instructional use of small groups so that students work together to maximize their own and each other's learning. It may be contrasted with **competitive** [.....] and **individualistic** learning.” (p. 3).

Collaborative Strategic Reading: “[...] designed CSR by combining modified reciprocal teaching with cooperative learning. Through a number of research trials, CSR has been refined and currently consists of four comprehension strategies that students apply before, during, and after reading in small cooperative groups. These reading strategies are: (a) preview (before reading), (b) click and clunk (during reading), (c) get the gist (during reading), and (d) wrap up (after reading).” (Bremer et al, 2002, p. 1).

4. Research Methodology

According to the rationale of the study, there are two phases: pre test and experimental. The research method adopted for the experimental phase is the factorial design. In addition to dividing the sample into experimental and control groups, there is a further division according to gender. The sample is split into four groups: female study, male study, female control and male control. Moreover, a triangulation was conceived through including both qualitative and quantitative research tools.

4.1. Population and Sampling

The population of this study consists of EFL first year students at the University of Algiers 2 for the academic year 2019-2020. The students were cumulating an approximate total of 1010 distributed along (20) groups and taught by different teachers of reading and writing, yet the number of first year students is usually decreasing before end term examinations as many of whom withdrew their English courses.

Due to the researcher's inability to have a total control over the population, the sampling procedure was non-random. That is, the researcher could only exploit the two groups he taught himself as an experimental group and utilized two other groups taught by another teacher. The experimental group contained 106 participants with 20 males and 86 females, while, the control group comprised 91 students, including 21 males and 70 females. The sampling procedure, in this case, was to have been convenient.

In order to assign the participants in the experimental group into mixed level- and gender-groups, there was a further division. Only participants who opted for mixed gender peers were considered for analysis and assigned in groups of five participants consisting of two males and three females. Thus, the number of the experimental group was reduced to 50, 20 males and 30 females. On the other hand, the control group was also randomly reduced to 50 with the same ratio of males to females. In this way, the total number of the sample became 100 participants, which represents around 15% of the whole population. This small number of participants is due to the ratio of male to female participants in the population. The sampling procedure, then, was purposive.

4.2. Data Collection Instruments

In this study both quantitative and qualitative research tools were implemented; the quantitative means were RC tests, the Survey of Reading Strategies (S.O.R.S), the questionnaires of SI, PI and familiarity, the questionnaire of CL preferences and the questionnaire of CL principles. The qualitative research tools consisted of an interview and learning logs.

The questionnaire of CL preferences served at collecting data about gender, first language, marital status and the male and female peers with whom participants prefer to work in group. This questionnaire led to drawing a sociogram for group members on the basis of friendship in addition to their reading achievement in the pre test.

RC tests were administered before and after the treatment. The tests were of three types. Each of which included respectively in the first, second and third tests: female, male and neutral texts. The tests commonly measure six abilities namely, predicting, identifying the main idea, finding out supporting details, inferring meaning of difficult vocabulary, making inferences and summarizing.

For each passage in the three RC pre tests, a questionnaire of SI, PI and familiarity was administered. Although the items in this questionnaire collect data for numerous variables, they were arranged in one questionnaire to facilitate the task for participants since each questionnaire was administered directly after the completion of each test. The SI variable includes 16 items divided into five categories: cohesion, prior knowledge, engagement, ease of recollection and emotiveness. For PI, there are nine items, and in familiarity, four items were generated.

The SORS measured reading strategy use of participants before and after the experiment. The questionnaire contains thirty items distributed along three sets: global, support and problem solving strategies. By the end of the experiment, the questionnaire of CL principles was administered. It contains 19 items distributed along the five principles of CL: positive interdependence, individual accountability, promotive interaction, social skills and group processing.

To support the confirmation of the experiment findings, an interview was administered congruently with the questionnaire of CL principles. The interview collected data for three main sections. The first section corresponds to “Perceptions and Attitudes towards Collaborative Strategic Reading”. The second section collected data about “Mixed Gender Peers and Cooperative Role”s, and the last part is about “the elements of CL”. Besides, personal and

group learning logs of CSR were deployed as tools to report the extent to which male and female participants are individually accountable and positively interdependent.

4.3. Procedure

This study included three essential parts. First, the pre test, including the three RC tests with the SORS, was administered to the participants. Congruently, experimental group participants answered the questionnaire of CL preferences. Then, according to the findings in the RC pre tests and the questionnaire of CL preferences, male and females in the experimental group were assigned into mixed gender and level groups. Taking a specific order, a sociogram was designed. The factors taken into account were primarily RC achievement, high or low, friendship in addition to age and first language.

Once the participants had been assigned to mixed gender groups, they received an explicit instruction on reading strategies to use in CSR. These strategies are previewing, predicting, identifying the main idea, inferring the meaning of difficult words and summarizing. Besides, using cue sheets (Appendix VII), the teacher-researcher explained the roles of group members in CSR. Then, group and personal logs were provided. The method of utilization of the personal logs was carried out considering the roles, the strategies to deploy and the cue sheet. Teaching the strategies and the method of implementing CSR lasted for three sessions of three hours.

In the four week, participants were taught RC with CSR. There was a variety of texts in terms of gender orientation and genre. The six passages were equally classified into male, female and neutral texts, and the genres were expository, narrative and argumentative. After six weeks of studying RC with CSR, both experimental and control group participants sat for the RC and SORS post tests, and the experimental group participants replied to the questionnaires of CL principles and the interview.

4.4. Methods of Data Analysis

The methods of analysis were dependent on the collected data, whether qualitative or quantitative. For the qualitative data, the scripts of recorded interviews had been coded into categories through a thematic analysis. Then, the frequencies of the categories for each gender were presented in figures to facilitate the comparison in each reported theme. Furthermore, qualitative data analysis encompassed content analysis of personal and group logs. The content analysis was to obtain the frequency of correct and wrong answers of the questions in the logs of males and females. Then, personal logs of males and females were compared with the group logs using Pearson Chi-Square test of independence to seek possible differences.

The analysis of the quantitative data encompassed descriptive and inferential statistics. In the descriptive statistics, the mean, the standard of deviation, minimum and maximum values were computed for all RC tests, SORS and the questionnaire of CL principles. The latter concerned the experimental group after the treatment. Besides, the descriptive statistics of the tests and the SORS categories were for all males and females, irrespective of the assigned groups, in the pre test. Then, figures of frequencies across the categories of RC tests were presented in bar charts in percentages of correct answers.

The same descriptive statistics were applied to the questionnaires of SI, PI and familiarity in addition to the male and female study and control groups in the pre and post tests of RC and SORS categories. Besides, the frequencies of correct answers in the items of the RC pre and posts were presented in bar charts.

In the inferential statistics, for the pre test data, one-way analysis of variance-ANOVA was run for gender differences between males and females in the three RC tests, categories of the SORS and the questionnaires of SI, PI and familiarity. For the experiment data, the differences between pre and post tests scores RC and SORS categories were computed through paired samples t tests for the male study group, female study group and male control group and female control group.

5. Significance of the Study

This study provides clear insights about EFL students' individual differences in reading comprehension tasks. It examines early assumptions about linking foreign language reading to the language proficiency level and provides more support to the linguistic interdependence hypothesis. Drawing upon this claim, this study attempts to explain why males and females differ in EFL RC, and the factors accounting for any possible variance. In addition, it draws attention on the importance of gender related perceptions of texts implemented in EFL reading classes, and the extent to which gender perceptions across different cultural contexts are alike or distinct.

Moreover, this study explains how gender differences may promote and contribute in EFL students' reading comprehension while implementing CL in reading classes. This study serves at providing evidence for the effectiveness of the reading strategy instruction model that could help low achievers, females or males, enhancing their RC achievement and strategy use and overcoming possible low achievement across genders via directing both genders to be positively interdependent on each other, to be accountable on themselves and to be able to interact with each other. All of these combined with reading strategy use and gender oriented materials would, certainly, help males and females acquire reading strategies and successfully utilize them in reading different EFL materials.

6. Organization of the Thesis

This thesis is divided into seven chapters, corresponding to the main steps of conducting researches in applied linguistics, and which are reviewing the literature, research methodology, findings and discussions.

The first chapter is devoted for an extended review of the literature. It tackles the conceptualization of EFL reading with different models explaining the reading process. As long as the study is gender based, the second part of this chapter unveils the gender based studies in EFL/L2 RC and demonstrates how other factors in terms of interest and familiarity may explain variance in foreign language RC. Each of these is correlated with schema theory and the text

variable. The last part provides an account of studies examining gender differences in reading strategy use among EFL students.

The second chapter tackles cooperative learning, gender and EFL RC. First, definitions and principles of CL are discussed with respect to the concept of gender, and a critical review of previous literature in techniques and methods of setting CL in classes from the perspectives of teachers and learners. Then, the chapter ends with CL models in RC and a review of empirical research examining the effect of CL on gender in RC, with more emphasis on CSR.

The third chapter deals with the research methodology adopted in this study. A detailed description is provided for the methods adopted, population and sampling, research tools, procedure, methods of analysis and discussion of validity and reliability issues. The fourth chapter is related to the analysis of the findings of collected data in the pre test phase, and the fifth chapter is devoted to the analysis of the experiment data, the pre and post test results.

Chapter six is for the analysis of post experiment data. That is, the analysis of the questionnaire of CL principles, the interview, learning logs and the validation of the experiment results. At last, chapter seven is devoted to the discussion of the major findings of this study, pedagogical implication, limitations and recommendations for future research.

**CHAPTER ONE:
THEORETICAL
CONSIDERATIONS ON
READING
COMPREHENSION AND
GENDER**

CHAPTER ONE: THEORETICAL CONSIDERATIONS ON READING
COMPREHENSION AND GENDER

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Introduction

This chapter provides an account of Reading Comprehension (RC) and its various models. This study is gender-based and takes into consideration gender in RC. Therefore, the variables related to RC with respect to gender are explored in this chapter. Referring to the task, text and the reader variables in RC, the second section of this chapter provides an account of the choice of test type, interest and familiarity in reading passages. Since RC is a polymorphous term, to review gender studies in reading strategy use and instruction unveils the factors left to investigate in RC. Reporting background research in the aforementioned constructs enables to elucidate RC and the factors associated with gender differences in RC.

1.1. Nature of EFL/L2 Reading

In the early 1990s, the term literacy referred to reading and writing connections: meaning that any individual can read and understand non- and printed texts (Bernhardt, 2011). This prior literacy experience is likely to affect second language reading regardless learners' different L1 backgrounds (Koda & Zehler, 2008). In this concern, there has been a growing interest in second language reading research. Becoming an important subfield of foreign language learning and applied linguistics, second language reading and acquiring high literacy skills have been the main concern of teachers and learners (Bernhardt, 2011).

Reading in a foreign language was introduced by Alderson (1984) who investigated whether foreign language reading is a language problem related to first and foreign language proficiency, or a reading problem confined to skills, processes and strategies used by readers. He concluded that both aspects are involved including first language, but proficiency in the foreign language appears at high rate. Likewise, two prominent hypotheses were introduced to provide a clear-cut assert about the L1 and foreign language/ L2 reading (Martinez, 2013; Bernhardt, 2011).

The Linguistic Threshold Hypothesis or Short Circuit Hypothesis indicates that a language ceiling or a necessary amount of L2 proficiency is necessary so

that L1 skills and strategies necessary for reading would be applied in reading L2 foreign language texts (Clark, 1980). Nevertheless, The Linguistic Interdependence Hypothesis entails that L1 reading processes can be transferred to L2 reading provided that a reader possesses a complete proficiency of L1 preceding L2 learning (Cummins, 1979). Finally, what matters most when investigating foreign language or L2 reading is not cross-linguistic differences, but rather how the process of reading is unitary across languages (Clark, 1980; Cummins, 1979; Alderson, 1984).

1.2. Definition of Reading Comprehension

Despite the differences between L1 and L2 reading ability, the latter tends to be fused and very alike at very advanced stages of L2 learning (Grabe & Stoller, 2013). Similarly, Perego and Boyle (2001) asserted that researchers found that the reading process either in English as first or second language is almost the same. Furthermore, there has been a scarcity of research in L2 reading as well as the instructional innovation compared to L1 reading (Grabe, 2009).

This is to anticipate, however, reading as a complex skill involving sub-skills and components (Koda & Zehler, 2008), either in first or second language, can be defined as the process of utilizing background knowledge and reading strategies along with linguistic knowledge including graphphonics, syntax and semantics in order to arrive at an interpretation and a realization of the reading purpose (Perego & Boyle, 2001). Yet, the reading, more technically, RC, has been characterized by inconsistent and inaccurate use of some terminology such as style, skill, strategy, process and product (Williams & Moran, 1989). Likewise, Koda (2005) defined reading as:

“[...] a complex, multifaceted pursuit requiring the continuous deployment and integration of multiple operations. A long-standing conviction holds that adept reading is a constellation of interfaced capabilities, ranging from the mechanical mapping to more sophisticated manipulations such as reasoning and inference.” (p.227).

This entails that reading is no longer less precise, based on guessing and good control over language structure and concepts as being given by Goodman (1967),

or obtaining meaning from the printed and interpreting the information adequately (Grabe & Stoller, 2013). Moreover, EFL reading style, subject to reading purpose and background knowledge, basically refers to skimming, scanning, intensive and extensive reading used as behavioural responses to a particular text (Williams & Moran, 1989).

Essentially, reading depends on three factors namely, retrieving visual information, cumulating more information and combining both text-meaning and background knowledge. These components contribute in a better comprehension of texts (Koda, 2005). In this way, while considering reading subskills such as speed, fluency, efficiency, word recognition and formulating general ideas, it is important to consider RC as a component of the reading skill necessitating the implementation of interrelated subskills (Hedgcock & Ferris, 2009). In other words, regarded as a process, RC is building and sorting-out instantly the meaning of written language via interaction and engagement with the text. This requires a dynamic interaction of crucial elements namely, the reader, the text, the activity or reading purpose and the larger socio-cultural context (RAND Reading Study Group, 2002).

Therefore, RC can be generally explained as a number of processes in terms of interpreting information via background knowledge which, in turn, leads to constructing a representation in the reader's mind about the text (Kendeou et.al, 2007). Subsequently, Grabe and Stoller (2012) contended that RC is a set of combined processes explained in the following figure,

- | | |
|---------------------------|----------------------------|
| 1. a rapid process | 6. an evaluating process |
| 2. an efficient process | 7. a purposeful process |
| 3. an interactive process | 8. a comprehending process |
| 4. a strategic process | 9. a learning process |
| 5. a flexible process | 10. a linguistic process |

Figure 1.1. Processes Involved in Fluent Reading Comprehension (Grabe & Stoller, 2013).

Assuming that reading ability is a complex process with different components, Grabe (2009) argued that the formers are embarked within working

memory processes which are divided into low and high-level processes. Low level processes tend to be skill-oriented and mostly linguistic in terms of lexical access, syntactic parsing and semantic proposition formation, while high level processes are strongly linked to comprehension processes requiring linguistic processes and encompassing text model of comprehension, situation model of reader interpretation, background knowledge use, inferencing and executive control processes. In few words, RC can be understood as: “the process of making meaning from text. The goal, therefore, is to gain an overall understanding of what is described in the text rather than to obtain meaning from isolated words or sentences.” (Woolley, 2011, p. 15)

However, viewing RC as a process appeals to working memory processes and disregards long-term memory in reading (Hedgcock & Ferris, 2009). For the product view advocators, comprehension happens when information is stored in long term memory and the text’s content can be retained as long as long language chunks are clearly decoded (Koda, 2005). This assumption may not be effective as text cues are subject to different interpretations of readers interacting with same text, who might have different reading styles which are regarded as low-level constructs, dominated by interest and motivation, including skimming, scanning, intensive and extensive reading (Williams & Moran, 1989).

Attempting to explain foreign language RC, Bernhardt (2005) provided a compensatory model in which she argued that comprehension is divided into three portions including L1 and L2 processes, the overall memory and reading skills as well as styles. The first part is 20% of comprehension of L1 literacy, while the second portion is L2 language knowledge, about 30%, which includes grammar, vocabulary, cognates and L1- L2 distances. Finally, ‘unexplained’ variance includes all variables that were idiosyncratic and do not have a clear-cut identification in terms of comprehension strategies, engagement, content, domain, knowledge, interest, motivation.

Similarly, RAND Reading and Study Group (2002) provided an account for variability in RC in terms of variability in readers, text, activity and context which go beyond unexplained variance. Variability in readers comprises a set of

factors namely, sociocultural influences, inter- and intra-individual differences. The latter refers to diversity in readers' interests and competences, while, the former includes

“(1) vocabulary and linguistic knowledge, including oral language skills and an awareness of language structures; (2) non-linguistic abilities and processes (attention, visualization, inferencing, reasoning, critical analysis, working memory, etc.); (3) engagement and motivation; (4) an understanding of the purposes and goals of reading; (5) discourse knowledge; (6) domain knowledge; and (7) cognitive and metacognitive strategy development.” (p.22).

Furthermore, in addition to reading subskills, reading interest and high-level processes are indicators of good and variability in RC (Williams & Moran, 1989; Grabe & Stoller, 2013; Bernhardt, 2005). To sum-up, Snow (2010) concluded that RC is a complex topic necessitating knowledge about the reader, the task, the text and the sociocultural context where the reading takes place.

1.3. Reading Comprehension Models

There have been several attempts to provide theoretical frameworks and models for the processes involved in RC and to explain the results of research carried in this concern (Grabe, 2009). Besides, these models of RC are subsumed under theoretical underpinnings specifying different views about RC (Tracey & Morrow, 2006). Along with this division, there have been some assumptions indicating that Psycholinguistic Guessing Game Model (Goodman, 1967) is a Top-down model (Hedgcock & Ferris, 2009).

Yet, Top-down model and Psycholinguistics Guessing Game were regarded as distinct models as the first reflects how comprehension works while the latter represents research findings (Grabe & Stoller, 2013; Grabe, 2009). Furthermore, Tracey and Morrow (2006) assumed that Top-Down and Psycholinguistic Guessing Game Model are respectively related to Information/ Cognitive Processing View and Constructivist Views of RC theories.

1.3.1. Constructivist view

The basic notion behind constructivism is that learners are actively engaged in the learning process in which they assimilate existing knowledge with the new one (Tracey & Morrow, 2006). This learning theory clarifies how knowledge and meanings are constructed via interaction with social environment. In this case, learners are required to hold balance between the newly acquired experienced in the immediate social context and the already stored knowledge in the long-term memory (Unrau & Alverman, 2013)

1.3.1.1 Schema theory

The concept of schema in reading was first introduced by Bartlett (1932) in his early attempts to conceptualize remembering. He contended that schemata are organized models of individuals, which modify impressions coming from the sensory input so that these new impressions would be figured out in relation to past ones. The latter are registered in the sensory cortex. In this concern, Bartlett (ibid.) stated: “Schema refers to an active organization of past reactions, or of past experiences, which must always be supposed to be operating in any well-adapted organic response.” (p.201).

Furthermore, in specifying processes involved in the development of schemata, Rumelhart (1980) identified three modes of learning in the schema system namely, accretion, tuning and restructuring. First, accretion refers to setting comprehension traces in memory when new information is learnt as a given text or event is understood. These memory traces are the same as schemata, but they differ in the way the original scenes are substantiated. Second, Tuning includes the modification and constant evolvement of existing knowledge. Third, Restructuring refers to the creation of new schemata different from the old one.

Accordingly, investigating schema in reading, Anderson and Pearson (1984) affirmed: “reader's schema is a structure that facilitates planful retrieval of text information from memory and permits reconstruction of elements' that were not /earned or have been forgotten.” (p. 67). On the assumption that there are schemata representing all sorts of concepts (Rumelhart, 1980), it can be assumed that, in the reading process, there are at least three types of schemata leading to

variation in comprehension between readers. These schemata are content schema such as objects and places, reading processes schemas in terms of inferencing, skimming, summarizing and decoding and the last type is schemas for different text structures like the expository and argumentative.

In L2 contexts, readers are likely to reveal different types of schemata in reading a specific text. First, linguistic schemata provide the basic threshold to commence reading a text which, within and between sentences, comprises symbols, morphemes, phrases and coherence markers. Besides, Formal schemata include knowledge of text macrostructures or how the text is structured and organized. Finally, content schemata refer to the reader's background knowledge about the content of the text (Hedgcock & Ferris, 2009).

Research of schemata in reading referred mostly to the interactions between the reader and print and how different component of texts can trigger the reader's memory chunks to reflect on the text (Tracey & Morrow, 2006), yet there are further assumptions surpassing the schema theory by regarding as a constellation of mental processes and operations in the reader's mind. In this way, early research paid a closer attention to the cognitive processes in RC. (Grabe & Stoller, 2013)

1.3.2 Information/ Cognitive processing view

For cognitive processing view advocators, reading is viewed as an abstract mental process, confined to a number of operations ranging from receipt of information, processing it, memorizing it and reflecting upon. (Tracey & Morrow, 2006). There is a wide range of models undergoing this view.

1.3.2.1 Bottom-up models

Bottom-up models imply that reading moves onwards from basic text structures from graphemes, morphemes and words to larger structures in terms of phrases, sentences, paragraphs and discourse chunks in order to construct meaning from texts (Hedgcock & Ferris, 2009). With little interference of background knowledge, reading undergoes a mechanical process in which

readers create word by word and sentence by sentence mental representations of the information provided in the text (Grabe & Stoller, 2013; Grabe, 2009).

Likewise, Gough (1972) suggested an information processing model of reading which became known as bottom-up model. Gough's Model (1972) as shown in (Figure 1.2) indicates that graphemic information is retrieved from print thanks to the *visual* and stored in the *icon* as an image. The latter is held briefly in the *scanner* so as to be identified via the *pattern recognition* attachment which recognizes letters in the image. These letters are kept in the character register. As the letters were identified, the *code book* in the *decoder* strings each letter with the corresponding phonemes. In this way; these phonemes are transmitted to the *phonemic tape* and then put together in the *librarian* which attaches meaning provided by the *lexicon* for any word. Words getting meaning are turned into sentences in the *primary memory*. This is at the surface structure; however, these sentences acquire a deep structure, which is meaning, in the *merlin* with the aid of *semantic and syntactic rules*. Eventually, this deep structure is transmitted to *TPMSGWTAU* when sentences are understood.

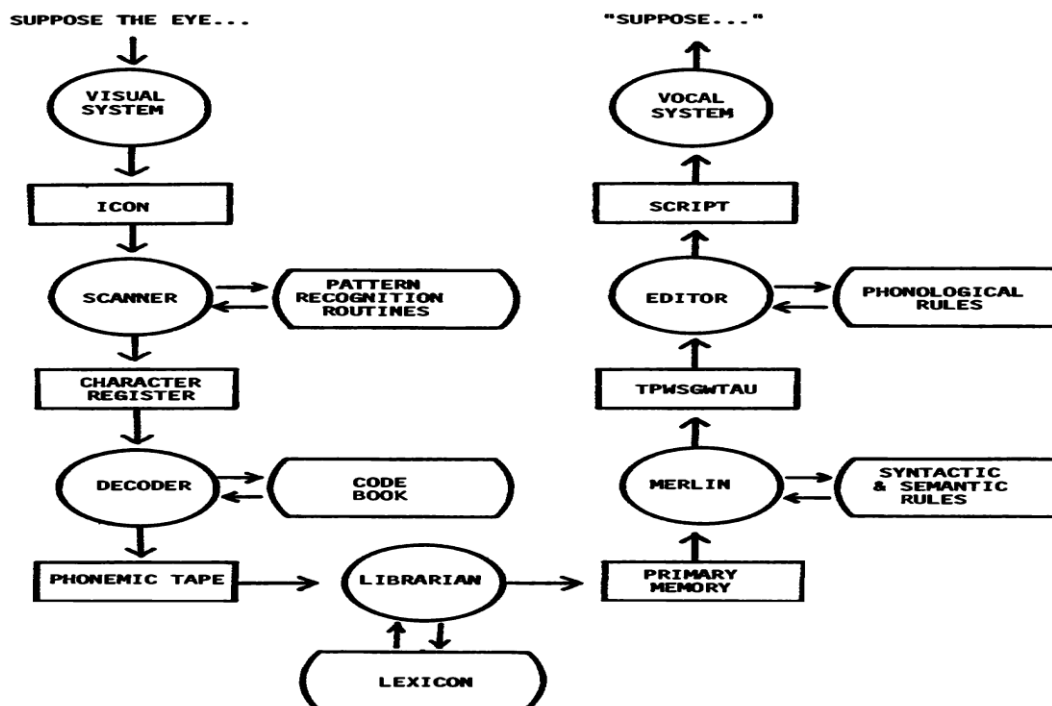


Figure 1.2. Gough's Reading Model (p. 345, 1972)

However, Rumelhart (2013) contended that Gough's model ranges from sensory information to high order processes without providing room for

interaction between processes within the model. That is, interaction between processes can occur at any point along the process. In this concern, Hedgcock and Ferris (2009) asserted: “Gough’s bottom-up model suffers from several weaknesses, including its equation of reading with speech, its narrow focus on “sentences” (rather than propositions or texts), and its reliance on ill-defined (and untestable) processing mechanisms.” (p. 19). This model, then, was reviewed and modified by Gough and Tunmer (Tracey & Morrow, 2006).

Subsequently, Laberge and Samuels (1974) introduced Information Processing Model for the sake of helping struggling and beginning reader achieving accuracy and automaticity in RC. In Figure 1.3, this model appears to have included five main components namely, Visual Memory (V.M), Phonological Memory (P.M), Episodic Memory (E.M), Semantic Memory(S.M) and Attention. That is, sounds corresponding to characters taken in the VM are stored in the PM. While EM stores contextual information related to the act of reading, SM includes word, phrase and sentence meaning, phonological and visual word codes. As for attention, it is divided into internal and external. In contrast to the latter, internal attention is not visible and divided into three facets: alertness, selectivity, and limited capacity (Tracey& Morrow, 2006).

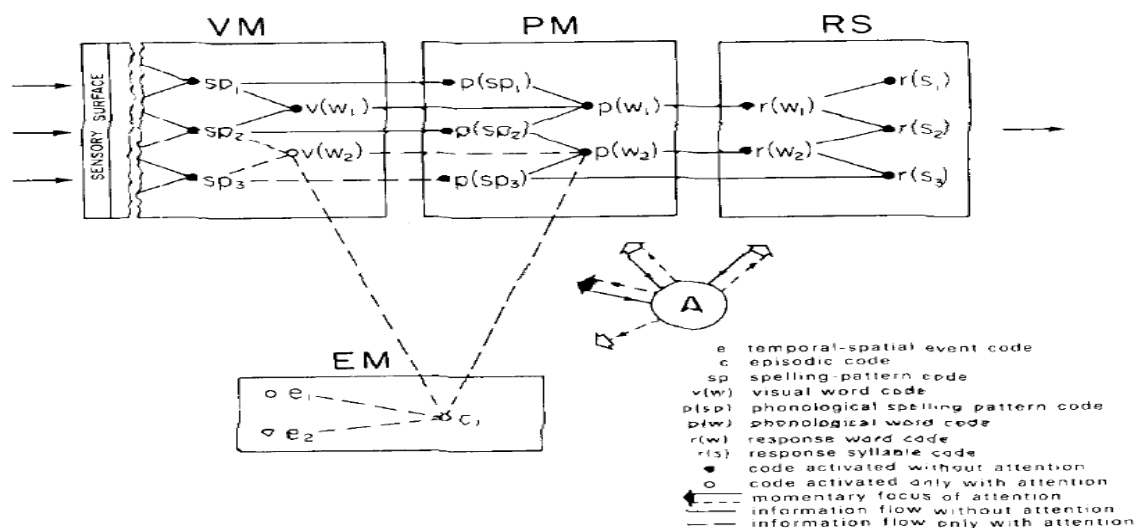


Figure 1.3. Automatic Information Processing Model (Laberge & Samuels, 1974, p.302)

Gough and Tunmer (1986) proposed Simple View of Reading model. This model explains RC as being equivalent of two processes namely, decoding and

language comprehension. First, decoding refers to deciphering processes of phonemes, graphemes, and word recognition while language comprehension or linguistic comprehension accounts for interpreting processes of discourse, sentences and lexis are interpreted. Viewing this model, Kendeou et al. (2016) contended that it identifies two component of RC instead of explaining fully the concept of RC.

Nevertheless, information processing model tends to pay more attention to visual and phonological memories than any other type (Hedgcock& Ferris, 2009). Though the model promotes automaticity, it neglects other factors in terms of sources of knowledge, attitudes, motivation and reading purposes (Grabe& Stoller, 2013).

1.3.2.2. Top-down models

On the assumption that reading is directed by purposes and expectations, top-down models appear to demonstrate the reader as constantly seeking to confirm or reject his expectations (Grabe, 2009; Hedgcock & Ferris, 2009). Grabe and Stoller (2013) contended that readers tend to generate these expectations through a general monitoring mechanism. They added that background knowledge and inferences are fundamental to top-down models.

1.3.2.2.1. Psycholinguistic guessing game

Drawing on psycholinguistic theory in reading, Goodman (1967) argued for reading as a psycholinguistic guessing game in which readers make prediction about the content of the text and attempt to construct meaning. To achieve this, readers tend to hypothesize and predict using several cues namely graphophonic, syntactic and semantic cues. In some cases, the text does not comply with the readers hypothesis which slows down reading fluctuance. In this way, readers are likely to proceed following bottom-up processing.

Goodman and Goodman (2013) argued for labelling the phenomenon as miscues which occur when the expected response does not correspond to the observed response obtained through different cues existing in the text. Besides, they contended that miscue analysis requires some conditions as the recency of

the text for the reader as well as the amount of time necessary for guessing and predicting, and that some miscues could be disregarded as they do not distort the overall meaning of the text.

In the light of schema theory, two types of miscues were identified schema-forming and schema-driven miscues. The first refers to the accommodation of existing schema to fit a new language experience, while, the second reveals the assimilation of the existing schema with new language experience. Therefore, schema theory and miscues analysis can be effective in language learning. (Unrau&Alvermann, 2013).

1.3.2.2.2. Whole language theory

As a response to early assumptions explaining reading through sound/ letter correspondences and phonic rules, whole language appeared to identify reading as a holistic activity with more emphasis on meaning and viewing reading as unified skill. (Morrison, Mosser, 1993). This assumption has theoretical underpinnings as Norris and Damico (1990) asserted that whole language lies under four principles. First, language exists for comprehension and communicating meaning. Second, language is a set of integrated systems such phonology and morphology, which are interrelated and simultaneously interacting. Third, context or communicative event is fundamental in language use. Forth, learning is knowledge construction process including refining and assimilating new knowledge with the background information. This could occur with reference to social interaction and to intrapersonal variables.

Advocating a whole language approach in reading, Goodman and Goodman (1982) contended whole language in RC is based on cognitive psychology and psycho-socio-linguistic views of learning and language development in learners. Besides, they revealed the key principles of the holistic approach in the reading process. These principles emphasised the integration of the four skills, construction of meaning during listening and reading, expression and comprehension of meaning in written and oral mediums. Yet, relied heavily in setting these principles on Psycholinguistic Guessing Game (Goodman, 1967) from which they kept prediction, hypothesising, three cues and miscues.

However, the whole language approach in teaching reading has been criticised by bottom-up proponents especially in the United States of America (Hedgcock & Ferris, 2009). For instance, under the heading of Great Debate, Chall (1992/1993 as cited in Smith, 2004) argued for explicit instruction of reading opposed to whole language proponents' views about reading as natural process and equating it with speaking. She added that there could be many illiterate people needing direct instruction of reading including phonics, word recognition, decoding and sound-symbol relations.

Goodman (1992/1993 as cited in Smith, 2004), concurrently, contended that Whole Language is philosophy and cannot be restricted to a method that is equivalent to bottom-up approaches. He added that Chall had political purposes aiming at undermining public schools in the states. In this concern, Smith (2004) stated: "Advocates of whole language tend to see phonics and direct instruction as rigid, mindless, authoritarian, unfeeling, and unnecessary procedures, and the whole language philosophy is seen by its opponents as unrealistic, unscientific, romantic, and anarchistic idealism." (p. 317). Finally, this debate may not be ending as far as the means of investigation and research are evolving. (Hedgcock& Ferris, 2009)

1.3.2.3. Interactive models

As a result of the aforementioned debates of top-down and bottom-up models, there have been a third category which is likely to conceptualize clearly reading performance than do those models since it synthesises simultaneously different sources of information. (Stanovich, 1980). In this way, good aspects from both models are fused to obtain an effective model. Yet, this might lead to a contradictory model for the incompatibility of automatic processes across model such as word recognition and control monitoring (Grabe& Stoller, 2013)

1.3.2.3.1. Rumelhart's interactive model

The interactive model of Rumelhart tends to demonstrate interaction between high and low order reading processes. In addition, this model reflects real-life phenomena. (Tracey & Morrow, 2006). Thereby, reading is the

simultaneous application of both sensory and non-sensory sources of knowledge (Figure 1.4). Rumelhart (2013) asserted that reading occurs when graphemic information is kept in a Visual Information Store (V.I.S). Then, a feature extraction device sorts-out critical features from the VIS to utilize it as sensory input for a pattern synthesizer. The latter has also non-sensory sources of knowledge to provide the most probable interpretation. These sources include orthographic structure of language, lexical items of the language, syntactic possibilities, semantics of the language and pragmatic information.

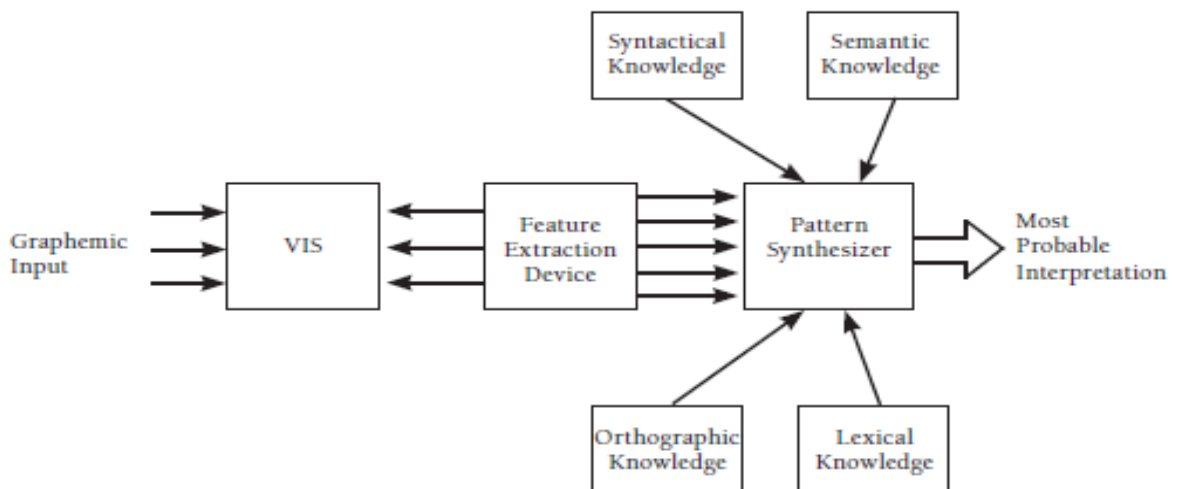


Figure 1.4. Rumelhart's Interactive Model (Rumelhart, 2013, p. 732)

1.3.2.3.2. Stanovich's interactive compensatory model

Regarded as an extension of Rumelhart's model (1977), Stanovich (1980) contended that the interactive model indicates that the input is synthesized based on concurrent analysis of information from different knowledge sources, while, interactive-compensatory model reveals that any lack or flaws in knowledge resources is compensated by another source despite its rank along the process. For instance, poor readers in word recognition rely heavily on contextual factors. Besides, he introduced the notion of individual differences and variance in reading ability through comparing between poor and good readers at the level of using contextual facilities and prior knowledge.

1.3.2.3.3. Construction integration model

In construction integration model, Kintsch (2013), revisiting the model constructed early with Van Dijk, argued that text comprehension is the result of mental representations namely, perceptual, verbal and semantic and the textbase as well as situation model representation of texts. Textbase includes two levels microstructure and macrostructure, which can respectively refer to textual features and discourse. Whereas, situation model is the image provided by the author's text. As a matter of fact, comprehension is likely to occur when the textbase is turned into macro-propositions attempting to determine the gist of the text. Then, schemata triggers inferences which would complete the task of integrating the appropriate gist of the given text.

In her Compensatory Model of L2 reading, Bernhardt (2005) asserted that 50% of reading remains as unexplained variance such as interest and motivation. Subsequently, Bernhardt (2011) introduced the concept of intrapersonal variables or individual differences explaining the reader's complexity including attitudes, interest and gender. The latter appears to be a controversial subject of investigation whenever it is considered with EFL/ L2 RC. (Martinez, 2014; Pae, 2004).

1.4. Gender-Based Studies and Reading Comprehension

Exploring L2 reading studies, Koda (2005) identified two types of individual differences related studies. First, single-focus studies explain how several factors are related to successful comprehension without providing a clear explanation of a particular element affecting performance, while, component skills studies treat each variance separately and explain how these variables correlate with RC.

Similarly, Duke and Pearson (2002) provided a description of what they called "Balanced Comprehension Instruction" in which they argued for a supportive classroom context including the use of different genres, authentic texts and promoting decoding and interpretations skills. Besides, they introduced a model of instruction which serve at promoting students reading strategy use. However, this model, considering the choice of text and motivation to read, is

restricted to the use of strategies and how readers' awareness of relevant strategies is stimulated through text choice.

Yet, in ESL/ EFL classrooms, teachers are required to take into account further factors whenever they attempt to select the instructional materials including gender in designing any task and in particular reading passages. These factors might embark different orientations about gender roles, gender equality, topical interest and mutual acceptance in the light of different ideologies and perceptions of learners (Deckert, 2004). Thereby, to investigate the effect of gender in EFL/ ESL RC, it is, then, worth exploring to consider how to assess reading and how to implement appropriate classroom activities so as to promote comprehension achievement. (Brantmeier, 2003a; Pae, 2004).

1.4.1. Reading comprehension classroom and gender

Language learners are characterized by diversity in their classrooms. This entails that they tend to bring different orientations and perceptions about gender beliefs which are embedded in their cultural background. (Deckert, 2004). Reading classes in this case would implement other factors beyond linguistic knowledge (Brantmeier, 2001). In this way, teachers' role may be important as they are required to adhere to certain principles when they select their reading materials (Hedgcock & Ferris, 2009). However, some teachers might disregard gender in their selection of authentic texts due to cultural norms in the language classroom as there might be some topics which are not appropriate to be discussed in mixed-classes. (Belaid & Murray, 2015).

Learners may be restricted with their beliefs and perceptions about gender roles with a particular cultural framework. (Deckert, 2004), and they might be faced with issues related to cultural unfamiliar and uninteresting reading materials. (Nordin & Eng, 2017). This may be due to gender imbalance in English textbooks which are generally written on the male norm as writers expect females to read about male characters while the reverse is not (Sunderland, 1992). Thus, gender representations of males and females were intended to serve the social construction of gender in society. (Lowe, 2013). However, reading tends to alter gender identity and subverts certain gender norms of the reader's

cultural context (Nedjai-Mebtouche & Bia, 2010). Therefore, authentic materials are likely to be appropriate in order to overcome the issue of not only gender differences but also students' interest, language proficiency and cultural differences. (Belaid & Murray, 2015).

Similarly, teachers are required to consider learners' cultural background knowledge in designing their reading tasks and to teach their students the rhetorical organizations so that they facilitate the reading task. (Carrell, 1987). This assumption has been validated by Nordin and Eng (2017) who investigated the implementation of genre and content preferences among 132 EFL Malaysian students in designing teaching materials for RC.

Carrell and Eisterhold (1983) suggested some practices related to classroom activities in which the reader and task variables were manipulated so as to overcome the issue of variation in background knowledge and specifically cultural background. At the text, for beginning readers, they introduced the Language Experience Approach of Rigg to control vocabulary, structure and content. In this approach, students' ideas and words are exploited in the selection of materials with guidance of the teacher.

In this way, the issue of content unfamiliarity would be neutralized. Besides, Carrell and Eisterhold (1983) suggested also Narrow Reading of Stephen Krashen. This approach is based on selecting texts from the same topic or author so that to facilitate comprehension of the same context and specialized vocabulary. In this way, schema is always activated and constantly evolving as explained in Rumelhart (1980).

The last two approaches are Paulston and Bruder's, and Sustained Silent Reading. The first approach is confined to implementing texts of specialized low-frequency vocabulary and local places. These texts are about interesting local settings for students in the form of brochures, pamphlet or any article related to the students' countries. In Sustained Silent Reading, students tend to be interested in texts that are related to their own background knowledge and proficiency. Students are required to select their own reading materials with reference to length, level of difficulty and content.

At the reader's level, Carrell and Eisterhold (1983) contended that providing background information about the text and previewing activities promote students' comprehension of the text content and structure. Furthermore, they emphasized the teacher and students interaction in which discussions about the text and cultural problems they may face and react to these issues.

Moreover, in non-English speaking contexts, in reading or listening texts, learners may encounter "gendered" items which can be later turned into questions to the teacher so that they would make assumptions and judgements about these items. The sociocultural contexts of these texts might be problematic as learners might not be able to develop interpretations or even teachers may not be able to explain those items for learners. (Sunderland, 1992)

Therefore, the choice of well-suited texts, focus on teaching a particular genre and the respect of students' motives are important variables to be considered when selecting teaching materials (Duke & Pearson, 2002). In this way, Arias (2007) asserted: "In this important process of selecting the material for a reading class, the teacher cannot neglect the students' level, interests, needs and background knowledge in order to consider text difficulty, content and authenticity."(p.144). In addition, Brantmeier (2001) suggested that it may be important for teachers to consider learners' background knowledge and interest in selecting reading materials.

Despite the persistent efforts of EFL teachers, authentic materials tend to be implementing gender-biased contents and stereotyped representations of gender. In this concern, it may be workable to provide teachers lacking training with a checklist of criteria to avoid the selection of gender-biased materials (Lowe, 2013). This may determine the orientation of texts either male or female, which is likely to affect learners' perceptions of a text as in Winter's (2010) investigation of gender bias in EFL Japanese textbooks. Accounting for linguistic differences between males and females in the texts, she concluded that omission, firstness, roles and occupations and types of adjectives account for the selection, design and selection of gender-oriented texts in EFL classes.

Likewise, Maehara (2010) contended that in the EFL classroom, learners' perceptions and preferences related to gender are an important factor in selecting any text though it is a neutral-text. Maehara explored the use of gender-neutral language in the EFL textbooks. Findings revealed that even with gender-neutral texts, males revealed negative attitudes. This may be explained through early perceptions about text selection which are still rooted in EFL textbook irrespective of the target language culture (Sunderland, 1992, Winter, 2013).

It may be assumed that genre and content preferences are important factors to be regarded in the selection of texts in the FL classroom (Nordin&Eng, 2017). This entails that interest might be at the top of principles in selecting EFL reading texts (Hedgcock & Ferris, 2009; Williams, 1986). In addition to that, consistency and awareness about the genre taught as well as the expected behaviour of students in a particular should be taken into consideration (Duke & Pearson, 2002). The selection is a complex process of inquiry as Arias (2007) stated:

“This text selection process requires some efforts on the instructor. Some form of assessment is crucial in order to compile an appropriate set of reading materials for the class: a survey, an informal discussion, individual interviews, or any other form of inquiry can give the instructors some insight of what type of materials to select for each particular class.” (p. 144).

To sum-up, it may be crucial for teachers to discuss with students the different aspects related to the text in terms of linguistic difficulty, structure of the text, interest, content and background knowledge so that the reading class would comply with individual variance in the language classroom (Carrell & Eisterhold, 1983).

1.4.2. Assessing reading comprehension

For assessing and testing RC, there have been controversial discussions in literature about product against process approaches (Koda, 2005). These approaches reveal variability in comprehension assessment at the level of construct, content and criterion validity. In other words, process and product

approaches differ in testing items, the expected outcome as well as the theoretical grounds from which RC is conceptualized (Hedgcock & Ferris, 2009). In this way, Alderson (2000) identified three variables affecting reading and reading assessment. The first set is the reader variable including the reader's language proficiency, background knowledge and motivation. The second one revolves around the text. The latter involves topic, text type, genre and lexical density. Third, the task variable is related to the structure and the type of questions.

With regards to gender in RC, there had been a continuous debate about whether gender differences or language proficiency affects EFL/L2 learners' RC (Brantmeier, 2003a). In the same vein, drawing upon the linguistic threshold hypothesis (Alderson, 1984), Bugel and Buunk (1996) contended that it is difficult to account for gender differences as learners do not reach the required level of L2 proficiency. They asserted that background knowledge is worth considering at advanced levels than language proficiency. Furthermore, any reading test tends to account for different types of validity comprising face, content and criterion and concurrent validity, which account for their level of proficiency and the previously fulfilled learning objectives (Hedgcock & Ferris, 2009).

Nevertheless, in the interactive compensatory model, it has been revealed that even contextual factors and prior knowledge may be exploited whenever any knowledge source fails at processing the input (Stanovich, 1980). Furthermore, readers may not be able to infer and to skim over texts using their background knowledge without being acquainted with the text base including its microstructures and macrostructures (Kintsch, 2013). These two aspects can be respectively referred to as linguistic and formal schemata (Hedgcock & Ferris, 2009).

Alderson (2000) explained that linguistic knowledge can be measured and controlled as a part of reading ability construct, background knowledge as well as cultural knowledge of the target language controlling all comprehension, and any reading assessment researcher wishes to neutralize this factor. This view confirms early assumptions of Rumelhart (1980) in which he affirmed that

human beings possess schemas for everything in the world, which are frequently changed and modified.

Consequently, drawing upon schema-theoretical views of reading as an interactive process, Carrell (1987) contended that background knowledge and schema are identical as the reader could have a schema related to the content of the text and a formal schema related to the familiarity with rhetorical organizations of different texts. Subsequently, Bugel and Buunk (1996) attempted to measure background knowledge in RC with respect to gender. They stated: “Academic subject choice, age, reading habits, and self-reported knowledge and interest concerning the text topics were used as measures of prior knowledge.” (p. 18). Topic and interest appear as salient factors that go in line with gender differences on RC.

Accordingly, Carrell (1987) introduced in his work the notion of familiarity at both content and formal levels, which has been subsequently elaborated in EFL/ L2 gender related studies. These studies referred to familiarity and to interest at the level of content (Martinez, 2013; Brantmeier, 2003a). More specifically, they investigated gender orientation of the passages provided in tests (Bugel & Buund, 1996; Brantmeier, 2003). Yet, formal schemata were not explicitly stated in these studies though terms such as topics and preferences of genre were regarded as determining factors of interest and content familiarity.

To sum up, Schema Theory tends to be the possible interpretation of gender variance in EFL/ L2 learners’ RC achievement. That is, passage content of reading test triggers content schema of learners so as they could comprehend the reading passage. This content schema may be directly related to readers’ interest and familiarity with the content passage (Brantmeier, 2003a; Bugel and Buunk, 1996). Moreover, linguistic proficiency is likely to determine and to overcome familiarity factors (Martinez, 2013). To explore those factors in reading tests, it may be plausible to explore the nature of items as well as the structure of the test (Pae, 2004).

1.4.2.1. Task variable

In measuring RC either in L1 or FL, it is important to consider the testing technique, which is, in turn, dependent on how the reading constructs are conceptualized. The latter are essentially based on reading models and factors affecting reading (Alderson, 2000). Accordingly, reading models appear to have considered reading from different perspectives from either word and pattern recognition or inferring and predicting (Grabe & Stoller, 2013). In this way, reading tests can be divided into two approaches direct and indirect. The latter measures subskills and components related to the reading ability such as lexical knowledge, while, the former is concerned with embarking the reader with one or more reading subprocesses (Hedgcock & Ferris, 2009).

Similarly, the testing approach or testing type is likely to be related to the nature of items as well as the techniques used in the case with discrete point and integrative point techniques in which the tester wants either to isolate a single component of reading ability or to obtain a global view of the overall performance (Alderson, 2000). This induces a careful consideration of the purpose of assessment from which several assessment forms stem in terms of diagnostic, progress, proficiency, and achievement assessments (Hedgcock & Ferris, 2009). Yet, standardized tests, such as TOEFL, IELTS, TOEIC, DIALANG, appear to be very common and widely used across these different forms yielding different advantages and disadvantages (Alderson, 2000).

Brown (2004) sat a number of advantages and disadvantages of standardized tests. For the advantages, he stated that this kind of test is ready made, previously validated and time saving. Besides, he contended that it is easy for correction as tests including multiple choice questions though it could be submitted to large groups. For the disadvantages, standardized tests may reveal lacks of face validity and content validity. In addition, they may not provide a clear-cut distinction between direct and indirect testing. A good example given in this case can be testing extensive reading using short passages. The use of the latter entails an indirect test for the former.

Similarly, on the assumption that RC tests should account for the way a text is comprehended rather than measuring linguistic knowledge, Alderson (2000) contended that RC standardized tests do not acquire theoretical grounds in schema theory. Furthermore, they do not regard prior knowledge. Moreover, he explained that those tests do not comprise contextual factors as reading components and skills detached from the learners' perceived context. This goes in line with the construction integration model where the situational model indicates the importance of contextual factors in learners' text comprehension (Kintsch, 2013).

As a matter of fact, Brown (2004) suggested some guidelines of how to design classroom tasks with respect to the types of reading performance as well as the genre in which learners are reading. Types of reading performance involve preceptive reading related to bottom-up processing, selective confined to both bottom-up and top-down processing, interactive relevant to negotiating meaning and use of schemata with much use of top-down processing and extensive reading. Yet, in the first two types, he did not specify the genre as preceptive reading attempts to measure learners' literacy, and selective reading tests formal aspects of language or what is known by "textbase". The following (Table 1) is a summary of Brown's (2004).

Table 1.1

Designing Assessment Tasks

Types of Reading Performance	Perceptive Reading	Selective Reading	Interactive Reading	Extensive Reading
Genre	-----	-----	<i>Academic Reading</i> (Excerpts from longer passages, ...); <i>Job Related Reading</i> (questionnaires, memos, announcements, directions); <i>Personal Reading</i> (anecdotes, short narratives and descriptions, questionnaires, recipes)	<i>Academic Reading</i> (essays, books, professional articles, technical reports); <i>Extensive Reading</i> (Short stories, ...)
Testing Method	Reading Aloud, Written Response, Multiple Choice, Picture-Cued Items,	Multiple-Choice, Matching Tasks, Picture-cued Tasks, Editing Tasks, Gap-Filling Tasks	Cloze Tasks, Impromptu Reading Plus Comprehension Questions, Short Answer Tasks, Editing, Scanning, Ordering Tasks, Information Transfer,	Skimming Tasks, Summarizing and Responding , Note-taking and Outlining

Investigating different testing methods allows to classify them into high and low reliability tests. This depends on the extent to which the scorer biases either intentionally or not as he or she may not provide an accurate measurement as in text recalling and summarizing in which the measurement cannot be totally precise. Therefore, multiple choice questions remain more appropriate for testing reading though text recalling is more useful for research (Alderson, 2000).

There are studies examining gender differences in EFL, which have deployed multiple choice tasks. One of the early attempts to investigate gender

differences in RC is that of Bugel and Buunk (1996), who opted for multiple choice questions on the assumption that these questions could reveal micro and macrostructure processes that participants would use. Their claim is that the other techniques such as recognition, cloze and free recalling tests may evoke memory processes. For the length of the passages, they used short passages since there were eleven reading passages, and they utilized a short number of questions. For the nature of questions, they stated:

“ (a) paraphrase questions about the main ideas and the important details; (b) questions requiring a summary statement or the main point of a paragraph; (c) questions about the relations between text elements; and, (d) questions about the tone of the text or the attitude of the author.” (p. 20).

Furthermore, they selected only expository texts. Yet, there were not equal divisions in the number of questions or in their nature although Alderson (2000) claimed that it is effective to vary the type of tasks. In addition, Brantmeier (2003b) added glosses to explain difficult, but for Bugel and Buunk (1996) difficult words were substituted by easier ones.

In L2 context, Brantmeier (2003a) measure the effect of gender and passage content on RC and topic familiarity of intermediate students of Spanish. She used multiple choice questions and written recall as indicators of RC. Preceding the multiple-choice questions task, participants were asked to recall the main idea, supporting sentence and supporting details without looking back at the original text. What is important in this case is the number of ideas units recalled. In this study, Riley and Lee (1996) protocol was used to analyse the written recalls, which was designed for L2 French Students. For multiple choice questions, she designed ten questions, some of them are soliciting inferences, with three distractors for each.

In an EFL context, Pae (2004) investigated the effect of gender on EFL RC of Korean students. To measure gender effect and RC, the researcher used the English subtest of the 1998 Korean National Entrance Exam for Colleges and Universities and Differential Item Functioning. This test included 38 multiple

choice questions with five options as well as a passage of eighty (80) to 100 words for each item.

These items were divided into mood or tone of the reading passage, logical inference, main idea or topic, filling missing words in the passage and other aspects such as graph interpretation, predicting and contextual meaning. This test indicated a high reliability of (0.92) using Cronbach Alpha. Results revealed that females outperformed in items related to mood, tone or impression, whereas, males scored higher in logical inferences questions than their female counterpart.

In another EFL context, Martinez (2014) adhered to Brantmeier's (2003a) methods of measurement through using multiple choice questions and written recall. The two texts were relatively short including 315 and 330 words for each. Yet, she concluded that the use of this kind of tools necessitates further exploration as there were no significant differences found in her research.

1.4.2.2. Passage content

Drawing on early conceptions about schema theory in reading, it explains how a reader could bring his background or prior knowledge to the text (Rumelhart, 1980). This background knowledge might be divided into three components with reference to bottom-up and top-down down processing. The first is prior knowledge about what the text is about, and the second is the use of lexical items and text use to reveal the content area of the text. The third component refers to knowledge and to familiarity about the content of the text (Carrell, 1983).

Similarly, readers could bring to the text knowledge structures referring to the content domain, or to the macrostructures of the text, which respectively refer to content and formal schema (Carrell, 1987). For formal schemata, readers' schemata are activated according to the genre and structure of the text. For instance, a reader could use a particular schema for a recipe or an academic article (Brown, 2004; Alderson, 2000), or launch schemata for text patterns such as expository including its different patterns in terms of cause/effect, problem/solution, and narrative texts (Carrell, 1987).

In content schemata, background knowledge remains an important factor in understanding the content of the passage since it encompasses a number of factors in terms of knowledge of the subject matter or the topic, knowledge of the world and cultural knowledge (Alderson, 2000). Therefore, investigating the effect of these aspects of content or formal schemata on RC requires keeping one of these types constant and manipulating the explored factor (Carrell, 1987).

To narrow down the scope of this inquiry, there have been several studies investigating how passage content with reference to content schema affect gender differences in ESL/ EFL RC (Bugel & Buunk, 1996; Brantmeier, 2003a). In this concern, Chavez (2001 as cited in Brantmeier, 2001) asserted that the topic of RC tests affects gender differences in the scores obtained. She stated: “Both the greater likelihood of prior familiarity with a topic which one finds truly interesting and the added incentive for comprehension when one reads something of personal relevance may raise test scores.” (p. 41). This assumption validates early attempts to explore the effect of topic interest on RC performance of both genders (Bugel & Buunk, 1996).

1.4.2.2.1. Familiarity

Familiarity of the text content tends to be tightly related to one of the important components of background knowledge and prior experience. It appears as dichotomous as a part of schematic knowledge. That is, whether the text is novel or the reader is familiar with the topic or it is novel (Carrell, 1983). However, Carrell (1987) contended that familiarity cannot be simply related to cultural schema, but rather it exceeds to the rhetorical patterns of texts including formal and content schema.

Accordingly, knowledge of the subject matter of the text facilitates comprehension of the text as learners who are familiar with topics of reading tests perform better, however, misunderstanding might occur when learners are tested in tasks requiring the acquisition of new information and to assimilate it with the existing one. (Alderson, 2000). However, on the assumption that any individual possesses knowledge about the world, the process of learning

schemata can be along three essential steps namely accretion, tuning and reconstruction (Rumelhart, 1980).

Exploring how different passages content account for the same difference in the same context seems to be worth considering. Besides, it has become indispensable to implement organizational structures of texts in this type of enquiry (Brantmeier, 2001). Therefore, knowledge about the genre or type of the text enables readers to obtain textual features about particular genres and how to find out relevant information along the text. This could happen thanks to the activated schemata when learners are interacting with the text (Alderson, 2000; Brown, 2004).

Assuming that individual differences account for RC, Brantmeier (2003b) investigated the effect of topic familiarity on RC performance of both (34) male and (52) female L2 intermediate Students of Spanish in addition to other variables in terms of enjoyment and interest. The researcher used the written recall test for two passages, male and female oriented, and a questionnaire for individual differences and five points Likert scale questions for topic familiarity, enjoyment and interest.

In this study, using parametric and non-parametric one-way ANOVA, findings revealed a significant effect of gender on written recalls of passages. That is, males and females scored higher on their annotated passages. Besides, there was a noticeable effect of gender on male-oriented passages as well as female-oriented ones. However, there was no major effect of topic familiarity on male-oriented passages and a significant effect on female-oriented passages.

Congruently, Brantmeier (2003a) argued that topic familiarity tends to affect male and female text comprehension at early stages of language learning, but at an advanced level, language proficiency compensates the deficiency resulted in topic unfamiliarity. To confirm this assumption, she examined the effect of gender and passage content on 29 male and 49 females intermediate L2 students. Results demonstrated a facilitating effect of subject matter familiarity on RC. Moreover, the same results obtained in Brantmeier (2003b) were confirmed in this work.

Subsequently, Al-Shumaimeri (2005 as cited in Martinez, 2013) examined gender differences in RC of gender-neutral texts among high and low-level EFL university students in Saudi Arabia. To assess comprehension, familiar and unfamiliar texts were used with multiple choice questions. To measure familiarity, participants were given pre and post questionnaires to confirm whether they are acquainted with text either through hearing or watching a media about it, and to measure the extent to which the content is new for them using a five-points Likert scale.

Findings revealed that male participants scored higher than their counterpart. Males acquired the required linguistic threshold to comprehend both texts. Besides, content familiarity demonstrated a facilitating effect in comprehending the texts for both genders. Moreover, there were no significant relationship between gender and content familiarity in this study. Therefore, this study confirms the linguistic threshold hypothesis and rejects schema theory in reading.

In another EFL context, Martinez (2013) examined the effect of gender and content familiarity on EFL undergraduate students' RC. Participants were divided into intermediate and elementary using TOEFL. Two gender-neutral expository texts were used. The content of the first was familiar for both genders, but the second was not. For familiarity, a questionnaire of five-points Likert scale was used.

Results confirmed Shumaimeri's (2005) findings which indicated that males outperformed than females in comprehension test concerning both familiar and unfamiliar texts. In addition, gender and content familiarity significantly affected participants' RC performance. Furthermore, Martinez (2013) rejected the linguistic threshold hypothesis as students, regardless of their level, could comprehend both types of texts.

In contrast, she supported Bernhardt's (2005) Interactive-compensatory model. However, she presupposed that the high performance of male might be due to the text type, which researchers should consider in the assessment and

instruction phases. In this way, it is important to view the interaction between formal and content schema with regards to the reader (Carrell, 1987).

Accounting for the aforementioned studies, familiarity intertwined with content and formal schemata yielded controversial findings ranging from accepting the linguistic interdependence hypothesis to advocating the short-circuit hypothesis, taking into consideration the texts and tasks implemented in those studies.

1.4.2.2.2. Interest

Owing to gender differences in RC, referring to interest and reading preferences of both genders has become indispensable in selecting any reading passages for tests (Martinez, 2014). This follows underlying assumptions about the authenticity of texts in reading which call for interest, relevance and meaningfulness of topics for examinees (Brown, 2004). Furthermore, any readable text should be interesting, imaginable and concrete (Alderson, 2000).

On the assumption that people know more about topics that interests them, Bugel and Buunk (1996) conducted a study to examine how prior knowledge and interest could explain gender or sex differences in RC among 2980 EFL intermediate students in Netherlands. In a quasi-experimental design, participants were tested on gender-neutral as well as gender-oriented texts. Besides, they designed three questionnaires to measure prior knowledge and interest though they contended that they are related. The first questionnaire includes five-point items about reading habits related to the topic of the tests. The second questionnaire was divided into two sets in which students replied to sentence summaries of the test passage and asked about their degree of interest and acquaintance. The last questionnaire was about age, subject choice and educational career.

Results demonstrated that there were significant differences in RC scores as males outperformed in all male texts in addition to a female text, while, the rest of texts were highly scored by females. For interest, males appeared to be completely different from females. Females revealed interest in women's matters in terms of magazines, gossip, fashion magazines and romances, but males'

preferences were around newspaper articles and television programs about sports, computers and automobiles. Therefore, the notion of genre and text type can be clearly perceived in this case (Brown, 2004; Alderson, 2000).

In addition, using covariance analysis (ANCOVA), gender differences were caused due to the reading proficiency resulted from reading habits. This is what justifies variance in reading neutral texts. Besides, there were not significant effects of prior knowledge and interest on sex differences in RC. For instance, reading interests for males about football did not help them in reading texts nor did texts for females about female matters in reading how to get beautiful thighs or helmeted angels.

In Brantmeier's (2003b) work, interest was investigated using a questionnaire proceeding the reading of male and female oriented passages. A five-point Likert scale was used to explore the degree of interest. There was an examination of the effect of interest on comprehension recall of the two passages and the effect of gender on interest.

Consequently, findings demonstrated that female participants indicated high interest in the female oriented passage, and males were interested in their annotated passage. Using one-way ANOVA, there were significant effects of gender on both male and female-oriented passages. For comprehension recall of the passages, no significant effects of gender were reported in the study.

Along the previously mentioned studies, there were not specific models providing theoretical frameworks for examining the effect of interest (Bugel & Buunk, 1996; Brantmeier, 2003b). Instead, there were several studies accounting for different components of interest and gender differences in RC for first language learners (Schraw, Bruning, & Svoboda, 1995; Ainley, Hillman & Hidi, 2002). As a matter of fact, Brantmeier (2006) attempted to develop a multicomponent model of interest in L2 reading based on works related to L1 learning.

Schraw et, al (1995) contended that interest in reading is two dimensional including the situational and perceived ones. Situational interest can be also regarded as a source of interest within the text and the task. It is also: "interest

caused by situational variables, such as the text and test.” (Brantmeier, 2006, p. 91). Perceived interest, in turn, is idiosyncratic and sustainable across individuals (Hidi, 2001). It involves what students prefer to read in terms of topics, and this willingness and desire are idiosyncratic and exist with or without reading any text (Brantmeier, 2006).

To measure situational interest, Schraw et. al (1995) used seventeen (17) items of Likert scale distributed along five sections namely, cohesion, prior knowledge, engagement, ease of recollection and emotiveness. As for perceived interest, they used a questionnaire of ten (10) items. The perceived interest questionnaire measures learners’ idiosyncratic overall interest in the text and any evoking issues from the text.

In the sources of interest questionnaire, cohesion retrieves responses on whether the organization and clarity of the text raise interest in participants. In addition, ease of comprehension reports the extent to which the text is easy to remember and to focus on. In prior knowledge, background knowledge about the information before the reading is considered for measurement. Besides, vividness refers to what degree the text is interesting to read. In engagement, the category was defined as follows: “the text was thought provoking, stimulating, and timely” (p. 3). Emotiveness reports any emotional reactions stemming from the text.

Brantmeier (2006), in turn, kept the structure of the questionnaires and adapted some items to comply with the content of her texts. In addition, written recall, multiple choice questions and sentence completion were utilized. All items indicated high reliability except for the section of emotiveness which is revealed (.50) from Alpha Cronbach. Furthermore, regression analysis demonstrated the positive relation of ease recollection with all tasks, positive relationship between engagement sentence completion and multiple-choice questions, cohesion with written recall and prior knowledge with multiple-choice questions. For perceived interest, all items positively correlated with all tests except with written recall.

Means of investigating interest differ across context. Some studies deployed one item scale (Brantmeier, 2006). Bugel and Buunk (1996) viewed reading

habits as part of interest but prior knowledge as a separate component from interest. Moreover, Brantmeier (2006) validated the sources of interest and perceived interest questionnaire in an L2 context, yet no previous study examined gender differences in those variables in an EFL context.

There may have been a scarcity of accurate studies discussing gender, interest and EFL reading. Some studies examined the impact of interest in EFL reading referring to interest as reading habits and subject choice, while, few researches conceptualized interest in relation to the text topic. However, investigating interest in reading should account for the reader and text variables. These variables may be explored using the perceived situational interest questionnaire. In addition, no previous research attempted to explain gender differences in EFL using SIQ, PIQ, and gender-oriented passages.

1.4.3. Reading strategies

RC strategies can be understood as learners' active deliberate and prepared tasks that are undertaken to overcome a cognitive failure (Garner, 1987). In other terms, Grasesser (2007) defined comprehension strategies as: "a cognitive or behavioural action that is enacted under particular contextual conditions, with the goal of improving some aspect of comprehension" (p. 6). Besides, reading strategies are viewed as acts, plans, procedures used by learners to accomplish certain purposes in terms of storing, retrieving and using information in print (Rubin, 1987). In few words, reading strategies are: "acts that are deliberate, goal/problem-oriented, and reader initiated/controlled" (Koda, 2005, p. 205).

In defining and classifying reading strategies, several researches rely heavily on models related to learning strategies (Koda, 2005). This has been clearly stated by Bernhardt (2011): "Distinguishing between and among strategy qua strategy studies and reading strategy studies is not an easy or, perhaps, even a realistic task" (p.47). Zhang (1993) in his review of reading literature identified four reading strategies. First, cognitive strategies include the use of prior knowledge in making predictions and self-questioning.

Second, compensatory strategies are the use of semantic clues to understand difficult or unknown vocabulary and to guess the overall meaning of

the text. Third, memory strategies refer to grouping, story-mapping, creating images and storing information into meaningful patterns. Finally, test-taking strategies are particularly confined to multiple-choice tasks.

Concurrently, Anderson (1991) identified (47) strategies used by L2 learners in reading tasks and in tests under five sets of strategies namely, supervising, support, paraphrasing, establishing coherence in text and test-taking strategies. In addition, Jimenez, Garcia and Pearson (1996) classified reading strategies into three categories text-initiated, interactive and reader-initiated strategies. These strategies may be valid among readers who are L2 users of English. The strategies that are contained within each category are explained in (Figure 1.5)

Text-initiated strategies	Interactive strategies	Reader-initiated strategies
Using text structure	Inferencing	Invoking prior knowledge
Focusing on vocabulary	Questioning	Monitoring
Summarizing	Predicting	Visualizing
Restating the text	Confirming/disconfirming	Evaluating
Paraphrasing		Noticing novelty
Using context		Demonstrating awareness
Rereading		Bilingual strategies*
Decoding		Searching for cognates
		Translating
		Code-switching
		Transferring

Figure 1.5. Classification of Reading Strategies (Jimenez et al, 1996, p. 99)

Yet, Carrell (1989) divided reading strategies into global and local. The latter refer to bottom-up and decoding types of reading strategies. This set includes sound-letter correspondences, semantic, syntactic features and different microstructures features of the text. However, global strategies are restricted to the top-down processes based on prediction, using prior knowledge, text gist and rhetorical organization of the text.

Influenced by the current development of language learning strategies, Shoerey and Mokhtari (2001) classified L2 reading strategies in terms of three categories: cognitive, metacognitive and support. Metacognitive strategies are intended and planned strategies used by students to monitor their reading such as

predicting and previewing. Second, cognitive strategies are while-reading strategies which learners use when dealing directly with the text. Support strategies refer to the tools and techniques used by learners to comprehend the text. Subsequently, Shoerey and Mokhtari's (2002) metacognitive and cognitive strategies were respectively recalled global and problem-solving strategies. Similarly, El Koumy (2004) divided reading metacognitive strategies into three categories namely planning, self-monitoring and self-evaluating.

Grabe and Stoller (2013) discussed the relationship between language proficiency and reading strategies in foreign language. They assumed that the linguistic threshold in L2 might be useful so as to leave some cognitive processes for fluent comprehension. They added that there is not specific measure for determining the required linguistic proficiency. In this way, linguistic threshold varies by task, topic knowledge and the reader prior experience (Alderson, 2000). Therefore, RC strategies are part of processes involved in RC which interact with other processes and compensate any deficiency in reading (Stanovich, 1980; Grabe & Stoller, 2013).

Accordingly, McNamara (2007) contended that reading strategies become effective and efficient in comprehending as long as readers are advancing and developing competence through practice. Assuming that cognitive and metacognitive strategies are related to L2 RC, Phakhiti (2003) explained that cognitive strategies comprise guessing, grammar rules use, linking prior knowledge, predicting, summarizing and translating. These strategies are confined to knowledge in the target language allowing readers to extract meaning and to answer any task properly. Metacognitive strategies include two sets, planning and monitoring. The latter are learners' actions aiming at verifying, managing and assessing their performance and thinking. Planning strategies comprise the overview and the preview of tasks to determine the required act and the manner in order to perform them.

In short, reading strategies can be viewed as acts enabling to comprehend texts. They are indicators of good comprehension. In this study, the classification of reading strategies by Mokhtari and Shoerey (2002) is regarded. It divides

reading strategies into: global-cognitive, problem solving-metacognitive and support strategies.

1.4.3.1. Reading strategy use

RC performance in ESL/ EFL tends to be related to the learners' use of reading strategies (Shoerey & Mokhtari, 2001, 2002; Poole, 2005). It was believed that the distinction between good and poor readers lay in strategic reading since it is interwoven with cognitive abilities such as memory, attention, communication and learning. These cognitive abilities allow readers to evaluate and to organize information inside the text (Carrell et, al, 1998).

This means that the success of reading acts is dependent on the appropriate use of strategies for a particular task, these strategies may be effective solely or in a harmony as shown in the work of Anderson (1991) who investigated reading strategy use among ESL Spanish students. He concluded "It is not simply a matter of knowing what strategy to use, but the reader must also know how to use it successfully and [to] orchestrate its use with other strategies. It is not sufficient to know about strategies, but a reader must also be able to apply them strategically" (p.19).

Therefore, skilled reading is characterized by monitoring and awareness of one' own comprehension processes. This is known as metacognition, which can be perceived as a self-control mechanism and knowledge of the reader's cognition used when experiencing self-regulation and monitoring of comprehension (Mokhtari & Reichard, 2002). That is, the knowledge of thinking is metacognition, and knowledge of reading and how it is fulfilled is also metacognition. This leads to introduce the concept of the metacognitively sophisticated reader, who is familiar with comprehension strategies, how often, when and how to use them (Pressley, 2002).

Carrell (1989) examined reading strategy use among L2 university students. Her sample consisted of two groups: Spanish intermediate students studying English as L2, and English students learning Spanish as L2. Findings revealed that students who are aware about global strategies tend to perform better in multiple-choice tasks than those who are stuck to local strategies. She described

the first category as reflective and the second as impulsive. In this way, Shoerey and Mokhtari (2001) contended that research on reading strategy use and RC revealed that effective readers are typically able to monitor their cognitive processes and select appropriately the adequate strategies for each reading task.

It may be plausible to note that most studies disregarded individual differences as in the study of Anderson (1991) in which language proficiency was the focal point of the study. Besides, some other researches narrowed the variation in reading strategy use to task and text level with respect to different populations and language proficiency levels (Brantmeier, 2002).

Yet, preceding the 21th century, Young and Oxford (1997) explored reading strategy use among 23 males and 26 females of native English university students learning Spanish as L2. They selected three texts: two in Spanish and the other in English from textbooks utilized at the university-level, for written recall tasks. Topics were around history, economics, leisure, and the presence of foreign cultures in work.

In addition, participants ranked their degree of familiarity after reading the passages and reported their use of strategies in a think-aloud protocol. The think-aloud protocol's transcripts were coded into categories namely, global and local. The global theme, identical to top-down processing, comprised anticipating content, using background knowledge, recognizing text structure and integrating information. The local theme included paraphrasing, breaking lexical items into parts, skipping specific unknown words and translating a word or a phrase.

Findings revealed no significant differences in the overall use of strategies between males and females with reference to global and local strategies, but it might be important to notice that the frequency of use of some strategies was not the same across genders as males paraphrased and changed their reading pace in the Spanish passages, while, solving vocabulary problems were more used by females than males. In addition, no significant differences were reported in recall tasks and topic familiarity.

Subsequently, Shoerey and Mokhtari (2001) investigated differences in the perceived use of reading strategies between 152 US native-English and 150 ESL

university students reading academic texts. In this study, they also examined gender differences in reading strategy among native and ESL students. A Survey of Reading Strategies (SORS) questionnaire was used in the study. It comprises three main categories global, problem-solving and support strategies. ANOVA analysis of the responses of the two groups indicated that there were no differences between ESL male and female participants in their use of strategies, except for three strategies with the support category. Nevertheless, the US group of students revealed a significant difference in the frequency of use of strategies between males and females.

In an EFL context, Phakiti (2003) examined gender variation in the use of cognitive and metacognitive strategies in RC tests. The sample of this study comprised 137 male and female 210 Thai students. These students were divided later into low, moderate and high achievers. The researcher used two instruments: a RC test and a reading strategies questionnaire. The reading task includes multiple choice questions and a “gap-filling cloze test”, however, Alderson (2000) was clear in the distinction between these two fused concepts. The questionnaire of cognitive and metacognitive strategies included 35 items divided across categories adapted from different studies in L2 reading, test-taking strategies, learning strategies and items provided in the human information processing model.

Results demonstrated that there were no significant differences between males and females in their RC performance. In addition, the use of cognitive strategies was held constant across the groups in contrast to metacognitive strategies in which males and females indicated significant differences along with the achievement groups since males used more metacognitive strategies than females did. For the overall group, males and females, metacognitive strategies cognitive strategies use remained the same.

Moreover, Poole (2005) explored gender differences in reading strategy use between 138 male and 110 female undergraduate ESL American students. Participants in this study were from different ethnic backgrounds. The researcher used the SORS designed by Shoerey and Mokhtari (2001). Analysis of means

differences between males and females revealed no significant differences. Besides, even with the categories no significant differences were found except with three problem-solving items. Therefore, the results appeared to be consistent with the one of Shoerey and Mokhtari (2001). Poole (2005) suggested that reading performance and strategy use can be interpreted with other factors than gender.

In another EFL context, Lee (2012) examined gender variance in reading strategies among EFL Chinese students. The sample consisted of 84 males and 72 females. The instrument used was a questionnaire of 39 items labelled “Strategy Inventory for EFL Students’ Reading”, which was constructed from Oxford’s (1990) taxonomy of learning strategies. It comprised five strategic behaviours namely, cognitive, memory, metacognitive, compensation and social-affective. Yet, there were extra items added due to cultural issues.

Findings of this study demonstrated that males were likely to consider much bottom-up processes in their reading especially with word meaning. Nonetheless, there was a significant difference in the overall use of strategies between males and females. This may be explained through the variance in the use of types of strategic behaviour. That is, females used more frequently metacognitive and social-affective strategies than males, but compared to their counterpart, males used considerably memory, cognitive, compensation strategies.

Studies investigating gender differences deployed different research tools in terms of questionnaires and think-aloud protocols. For the questionnaire, the SORS of Shoerey and Mokhtari (2001) was common in many studies. Findings were not consistent for the difference in the contexts of those studies.

1.4.3.2. Reading strategy instruction

Distinguishing between high and low achievers in comprehension is tightly related to the extent to which readers use effective strategies consciously or unconsciously (Carrell, 1989). For Brown (2000), what matters most in teaching strategies is how to get learners to use them. This emphasized the prominence of the metacognitively sophisticated reader, which, in turn requires also a metacognitively sophisticated reading teacher who is aware that learners should

master properly what strategies to use, how, how much and when to use them effectively (Pressley, 2002).

Mokhtari and Reichard (2002) suggested that teaching strategies might also account for weaknesses and needs of EFL readers and serve for raising awareness about the different strategies used along the reading process. In this way, Tracey and Morrow (2006) research findings appeal different language practitioners and researchers to explore the feasibility of teaching metacognitive awareness about strategies used by high-comprehension achieves. They added that this kind of research may fall under different constructs namely, “metacognitive instruction,” “strategy instruction,” “direct explanation of strategies,” and “transactional strategy instruction.” (p.62).

Carrell et. al (1998) contended that knowledge of cognition prescribing the strategies to be used and monitoring cognition directing the effective use of these strategies, are fundamental factors to be regarded in L1 and L2 reading strategy instruction. That is, strategy-oriented instruction can be worked out through exploiting language learning strategies as the case is with Hedgcock and Ferris (2009), who argued that metacognitive strategies regulate cognitive processes whenever there are errors at the level of predicting and guessing, and socio-affective strategies enable learner-learner and teacher-learner interaction to support unfamiliar words recognition and confirming prediction. This goes in line with Oxford’s (1990) guidelines about the use of learning strategies in the four skills.

In this way, Tracey and Morrow (2006) asserted that explicit strategy instruction is a pre-requisite for RC success. They stated: “Explicit instruction means that teachers attempt to be especially clear, organized, and detailed regarding the nature of the metacognitive strategy they are explaining, and when and how that strategy should be applied by the reader during the reading experience.” (p. 62). This cannot be achieved without a gradual release of control over learning from teachers to learners (Carrell et al, 1998). This could be achieved as teachers provide patterns of modelling, directions and guidance, and allow, later, learners to use strategies scaffolded by the teacher of learners

themselves so that they would use independently and effectively the strategies. The following model is of gradual release of responsibility in comprehension of Pearson and Gallagher's (1983).

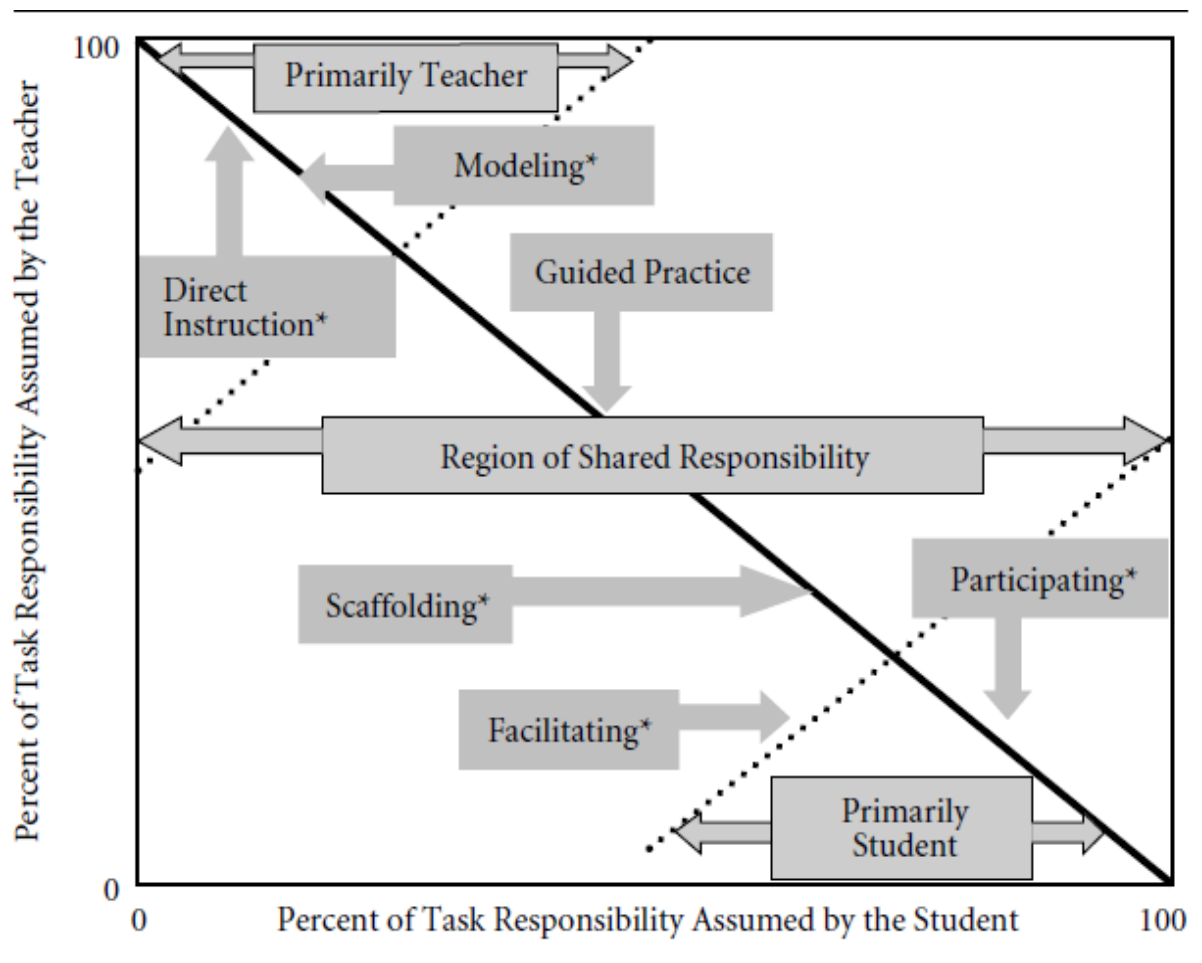


Figure 1.6. Gradual Release of Responsibility in Reciprocal Teaching (Pearson & Gallagher, 1983)

Similarly, Carrell et al (1998) suggested a set of reading strategy training that L2 teachers could use. This strategy training included three types of knowledge: declarative, procedural and conditional. Declarative knowledge includes teachers' explanation of what a strategy is. Procedural knowledge is how the strategy would be used, and the conditional one comprises teaching of why, when, where and how to evaluate the strategies.

Influenced by the sociocultural theory, Palincsar and Brown (1984) developed reciprocal teaching, which includes teaching reading in small a group whose leader directs the members to use a few number of strategies such as

summarizing, questioning (the main idea), looking for clarification and predicting. The role of the teacher, the adult knowledgeable, is confined to guidance, monitoring the groups and supporting whenever needed. After at least twenty (20) sessions, readers would be acquainted with the strategies provided and be able to regulate their use. Using strategies in groups produces patterns of appropriate individual use in the future.

Advocating these procedures, Duke and Pearson (2002) contended that what can be considered as an effective teaching of reading is confined to considerable time for practicing reading and explicit instruction. Therefore, they suggested a model for comprehension instruction which embarks: (1) An explicit description of the strategy and when and how it should be used, (2) Teacher and/or student modelling of the strategy in action, (3) Collaborative use of the strategy in action, (4) Guided practice using the strategy with gradual release of responsibility and (5) Independent use of the strategy.

However, the classroom context and designing lesson plans for reading require several considerations with regards to the implementation of appropriate strategies in pre-, in- and post-reading phases as well as the variability in EFL readers including proficiency and individual differences (Brown, 2000). In this concern, there was a model of reading instruction considering the aforementioned variables. Collaborative Strategic Reading, as an instructional approach to reading, combines both CL and reading strategy instruction (Fan, 2010).

Collaborative Strategic Reading was originally developed for children with learning disabilities and multilevel classrooms by Klingner and Vaughn (1999). They explained RC tasks in small group work and providing explicit instruction of reading strategies distributed along the process of reading. These strategies are previewing, click and clunk, get the gist and wrap-up. The figure (Figure 1.7) below explains the way strategies are implemented.

Before Reading

1. Preview

- Brainstorm: What do we already know about the topic?
- Predict: What do we think we will learn about the topic when we read the passage?

R E A D (the first paragraph or section)

During Reading

2. Click and Clunk

- Were there any parts that were hard to understand (clunks)?
- How can we fix the clunks? Use fix-up strategies.
 - Reread the sentence and look for key ideas to help you understand the word.
 - Reread the sentence with the clunk and the sentences before or after the clunk looking for clues.
 - Look for a prefix or suffix in the word.
 - Break the word apart and look for smaller words.

3. Get the Gist

- What is the most important person, place, or thing?
- What is the most important idea about the person, place, or thing?

R E A D (Do Steps 2 and 3 again, with all the paragraphs or sections in the passage.)

After Reading

4. Wrap Up

- Ask questions: What questions would show we understand the most important information? What are the answers to those questions?

Figure 1.7. Collaborative Strategic Reading Plan of Strategies (Klingner & Vaughn 1999)

This instructional method was later examined in EFL contexts, where the results revealed positive effects on RC performance through monitoring and regulating the strategies given along the four phases (Al-Qarni, 2015; Kassem, 2013; Fan, 2010).

Reviewing these instructional frameworks indicates a considerable gap in the previous studies. There have been few and inconclusive results examining the effect of strategy instruction, which may necessitate further examination of strategy instruction effect on a number of variables in terms of, gender, age, test and types of instructions (Maeng, 2014).

Regarding gender, Schueller (1999 as cited in Brantmeier, 2002) explored the effect of strategy instruction on RC among 78 females and 50 males L2

second year German students. She used top-down and bottom-up, respectively, as instructional strategies to examine their impact on two literary texts; participants were respectively divided according to the strategy training they received. For measurement, multiple-choice and written recall tasks were designed.

Findings revealed that females outperformed than male in the comprehension test even across different training groups. Yet, the male group receiving top-down strategy training scored higher on the multiple-choice task than females. She concluded that second language teachers, who are unable to teach both top-down and bottom-up strategies owing to time constraints, should opt for top-down strategies solely.

Moreover, Maeng (2014) conducted a meta-analysis of (37) primary studies to examine the effectiveness of strategy training on EFL Korean RC performance with reference to age, gender and proficiency as moderator variables. Results indicated no statistically significant differences for strategy instruction effects between male and females. It had been concluded that gender remains problematic needing further investigation.

In a quasi-experimental design, Manoli (2013) explored the effect of multiple-strategy training on 135 EFL Greek students. The training included multiple-strategies namely, predicting text content, using semantic maps prior to text reading, skimming, scanning, and contextual guessing. By the end of the strategy training of 12 weeks, it was hypothesized that there were no gender differences in the RC. Findings confirmed that no significant relationship was reported in the control and experimental groups. Yet, differences in reading strategy use were found in this study.

Subsequently, Karizak and Khojasteh (2016) examined the effect of reading strategy instruction of three strategies on 100 EFL students RC as well as the role of gender. The strategies were skimming, scanning locating main ideas and supporting details. A quasi-experimental design was used in the study, and the control and experimental groups took pre and post tests of RC whose texts were selected according to authenticity, interest and difficulty; however, they

addressed text orientation of tests as a limitation. For reporting the use of strategies, only 4 males and 4 females were selected for a think-aloud protocol.

Findings demonstrated a significant effect of reading strategy use on L2 RC scores. Besides, males performed better than women in RC in both pre and post-tests as well as across groups experimental and control. For reading strategy use, there was a high frequency for using all strategies among males in contrast to female. This could justify the variance in the performance in the reading task.

Conclusion

The empirical studies reported in this chapter demonstrate considerable disparities in RC, interest, familiarity and reading strategy use once gender is put as an independent variable. Furthermore, text variables in terms of interest and familiarity were reported to moderate the effect of gender in RC in many researches. Thus, the current study controls any potential impact of interest and familiarity on possible gender differences on RC and reading strategy, taking into account specific practices in reading strategy use.

**CHAPTER TWO:
COOPERATIVE
LEARNING, READING
COMPREHENSION AND
GENDER**

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Introduction

Part of the aims of this study is to examine the impact of CL on EFL Reading Comprehension (R.C), taking into consideration gender differences. This chapter, from one side, reports the important pillars of Cooperative Learning (C.L) and the procedures of its implementation. On the other side, to investigate the impact of CL on RC requires a consideration of specific cooperative models in reading. There is, then, an extended discussion on studies using techniques such as jigsaw, reciprocal teaching and more importantly collaborative strategic reading. All of these are to be reviewed referring to gender-based studies.

2.1. Cooperative Learning

There have been several reactions opposed to competitive and individualistic learning, which resulted in the advocacy of CL within learner-centred approaches (Brown, 2000). CL entails learners to work in groups so that to help each other and to ameliorate their learning including any member of the group (Jolliffe, 2007).

In addition, Johnson, Johnson and Smith (2013) defined CL as: “the instructional use of small groups so that students work together to maximize their own and each other's learning. It may be contrasted with **competitive**..... and **individualistic** learning.” (p. 3). In other words, in CL, learners fulfil shared goals in groups irrespective of their level of proficiency and cooperate to construct knowledge which would be later used solely (Slavin, 1985).

Moreover, Johnson and Johnson (2014) identified four types of CL. First, in one to several sessions which can be turned to cooperative, formal CL involves learners studying in groups to have their shared learning activities and objectives fulfilled. Second, informal CL lasts for a session or a while, and common learning objectives are attained by ephemeral groups formed improvisationally. Third, cooperative base groups with steady heterogeneous groups can endure up to many years, in which learners meet and fulfil learning goals and tasks inside and outside class. Fourth, constructive controversy includes dividing learners into arbitrary groups of four, which are, in turn, split into two halves. Each half

supports a particular side of an argumentation. This leads all the groups to synthesize an idea to be considered as the best response of a task.

As an instructional framework using small-groups, cooperative language learning is built on the principles of group dynamics with an emphasis on what is called “social organization” (Dornyei & Murphy, 2003). In other words, Kurt Lewin, who elaborated the concept of group dynamics, and his student Morton Deutch, who explored conflict and cooperation, emphasized interpersonal relationships among group members with the aim of achieving group goals (Sharan, 2010).

In EFL contexts, cooperation has been a salient feature in various instructional approaches such as communicative language teaching. It is the silent way and task-based language teaching in which teachers are required to transform the role of learners from individualism and competitiveness toward working cooperatively in groups (Richards & Rodgers, 2001). CL develops a clear understanding of language learning and teaching. With a general view, interaction in the language classroom between group members is likely to be confined to learners’ desire in order to communicate with each other, the type of language tasks, learners’ learning styles and group dynamics (Oxford, 1997).

Gender, an inclusive variable in group composition, has been considered as a moderator variable affecting group achievement and interaction in EFL/ L2 classrooms (Oxford, 1997). It has taken a considerable attention in group formation and learners’ behaviour with respect to their social status and how gender norms are perceived in a particular context (Harmer, 2007).

2.2. Cooperative Learning and Collaborative Learning

For the cooperative-collaborative misconception, Jacobs, Mc Cafferty, and Da SiLva Iddings (2006) argued that collaborative learning is contained in CL due to the variability in learners’ age, level and the limitations of collaborative learning to the adult learners opposed to CL which may be consistent with both high and low order of thinking, high achievement, self-esteem and intercultural relations among the group members freed from ethnocentrism of a particular part.

However, CL may not be synonymous with collaborative learning since the first is dependent on social interaction and equal opportunities for exchanging information regardless of their level; while, the latter embarks learners' engagement in tasks with the more knowledgeable ones who provide guidance and support (Brown, 2000). Besides, Johnson et. al (2013) contended that collaborative learning is much more directed and controlled by learners. Besides, it is less structured and framed compared to CL.

To sum up, CL accounts for group's accomplishment of common goals as members work together. This can be reached thanks to a group of structured, psychological and sociological techniques, whereas, collaborative learning stems from a social constructivist view of learning holding that members are acculturated into knowledge communities different from theirs (Oxford, 1997). The following table provides an account for variations in cooperative and collaborative learning.

Table 2.1

Conceptual Comparisons among Cooperative Learning and Collaborative Learning (Adapted from, Oxford, 1997, p. 444)

Aspects	Strand 1: Cooperative Learning	Strand 2: Collaborative Learning
Purpose	Enhances cognitive and social skills via a set of known techniques	Acculturates learners into knowledge communities
Degree of structure	High	Variable
Relationships	Individual is accountable to the group and vice versa: teacher facilitates, but group is primary	Learner engages with "more capable others" (teacher, advanced peers, etc), who provide assistance and guidance
Prescriptiveness of activities	High	Low
Key terms	Positive interdependence, accountability team work, roles, Cooperative Learning structures	Zone of proximal development, cognitive apprenticeship, acculturation, scaffolding, situated cognition, reflective inquiry, epistemology

Consequently, appealed by the different theoretical frameworks in learning, many researchers were attempted to apply the principles of cooperation as instructional techniques to the classroom context since the 1970s (Slavin, 1985; Johnson & Johnson, 2001). Subsequently, CL has been widely and largely used in foreign language contexts (Jacobs et. al, 2006).

2.3. Cooperative Learning: Principles and Practices

CL has strong foundations in developmental psychology, which can be dated back to the cognitive development of Jean Piaget and the socio-cultural theory of Lev Vygotsky (Jacobs et. al, 2006). For Vygotsky (1978), cooperation with peers is a pre-requisite for triggering internal mental processes during learning which would create a zone of proximal development. He added that cooperation contributes in the development of learners' moral judgement with reference to Piaget's conceptions in this concern. This cannot be achieved without semiotic mediation that facilitates tasks and discourse through the use of concepts, signs and language related to the sociocultural context of the learners. Thereby, implementing this kind of discourse in learning results in establishing communities of practice with different forms including in-class and school communities (Jacobs et. al, 2006).

From a cognitive-developmental viewpoint, it was assumed that learning precedes the cognitive development of the individual, but the interaction with the surrounding environment creates contradictions and cognitive conflicts for the learner; this directs him or her to adjust and to reassess the existing knowledge to fit it with the recent existing facts (Gillies and Ashman, 2003)

Owing to the different theoretical grounds of CL, five variables tend to be important for the development of CL namely, positive interdependence, individual accountability, promotive interaction, the appropriate use of social skills, and group processing (Gillies, 2007).

CL is not simply a matter of dividing students into groups, then, providing them with tasks. It is rather a set of procedures and techniques so as to support and to help students achieve higher cooperatively (Jacobs & Hall, 2002). In this regard, Christison (1990) elaborated three premises CL success in EFL classes,

(1) cooperative and group skills must be taught, (2) spatial and physical arrangement monitors CL, (3) success of the group work is determined by group dynamics and peer support.

2.3.1. Positive interdependence

Stanne, Johnson and Johnson (1990) asserted that CL stems from the social interdependence theory. Following Gestalt's perception about the world, interdependence among group members is a basic feature leading to a fully dynamic group. Thus, a deficiency in one element of the group creates further changes in other members, which, in turn, leads to the whole group's change in the achievement of the common group goals. They added that social interdependence is divided into positive and negative. Furthermore, interdependence is three categories: outcome which is orienting persons to a goal or reward, means encompassing role, including resources and tasks, and boundaries interdependence that means divisions amid groups and members to decide how cooperative groups are interdependent (Johnson et al, 2013)

Later, Johnson and Johnson (2001) identified social interdependence as being divided into three types: cooperative, competitive, and individualistic. Cooperation is similar to positive interdependence in which any member of the group confines the attainment of the goals to the other members' achievement. These results promote interaction. Second, competition equals negative interaction where some members believe that the group success necessitates the failure of other members. It is an oppositional interaction. Finally, individualistic efforts mean that goal achievement can be possible as the members assume that attaining goals is not related to the others' performance. Simply, it leads to no interaction.

Likewise, Dornyei and Murphy (2003) asserted that there is a positive correlation between performance and group cohesiveness. In cohesive groups, thanks to students' commitment, support and moral responsibility towards their goal-oriented norms, the productivity and success of the group are attained. Yet, they added that group cohesiveness is not confined to students, but rather teachers could attain it through a number of strategies in terms of public

commitment, time spent together and shared history, promoting acceptance among students, difficult admission, defining the group against another, investing the group and group legend.

Nevertheless, Dornyei and Murphy (2003) identified two important aspects in group development and inter-member relationships. First, initial attractions, emerging as new relationships, are to be formulated in the group. These attractions may be determined by physical appearance, ability, personalities, neighbourhood and the same social and economic status. Subsequently, there would be a kind of acceptance between group members despite the negative attitudes that members owe to others outside the group. This acceptance may be promoted as long as some practices are prevalent inside the group in terms of interaction, contact, cooperation, commonly faced difficulties, and success in completing tasks, common threats, extracurricular activities and teacher's role modelling.

To sum-up, the following (Figure, 2.1) explains how the aforementioned aspects in CL groups might interact with each other.

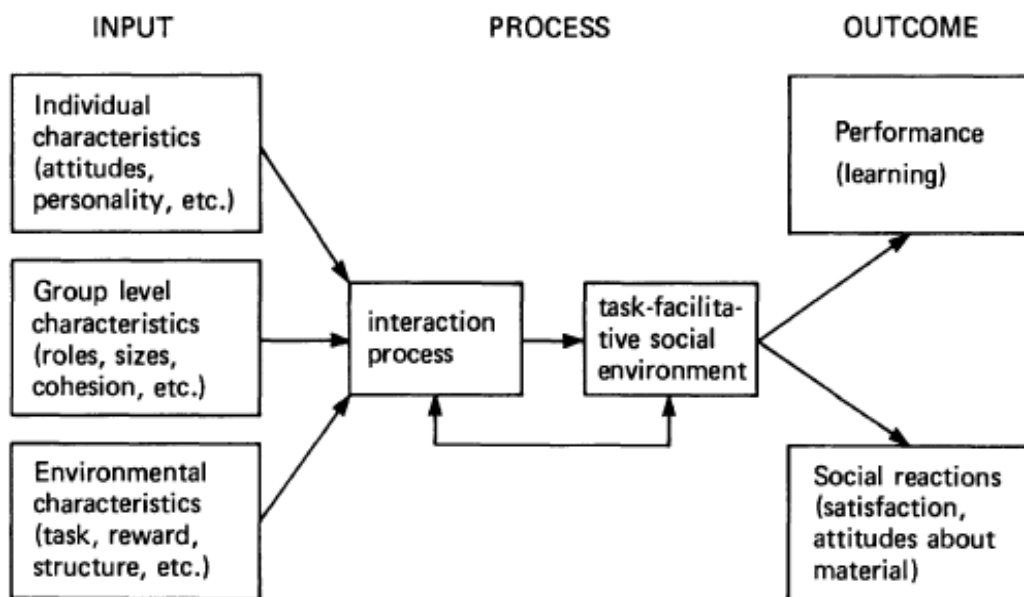


Figure 2.1. Model for Group Behaviour (Allen, 1976 as cited in Nijhof & Kommers, 1985).

In other words, Millis and Cottell (1998) set a number of requirements for students enabling them to fulfil positive interdependence as follows:

- (1) mutual goals, such as solving specific problems or creating a team project;
- (2) mutual rewards, such as individually assigned cooperative-learning points that count toward a criterion-referenced final grade (points that only help, but never handicap);
- (3) structured tasks, such as a report or complex problem with sections contributed by each team member; and
- (4) interdependent roles, such as group members serving as discussion leaders, organizers, recorders, and spokespersons (p. 11)

These requirements tend to promote any group achievement across different learning contexts and levels of instruction (Johnson et al., 2013).

Furthermore, Er and Aksu-Atac (2014) explored EFL university Turkish students' attitudes and perceptions towards CL. They concluded that males preferred to study individually in contrast to females. They were goal oriented and more autonomous and dismissed cooperative environment, while, females were likely to cooperate and motivated to work with others irrespective of their gender.

To account for gender differences, Markus and Kitayama (1991) asserted that a bulk of research support assumptions about females' high rates of cooperation, affiliation attitudes and interdependence compared to the male counterparts. Similarly, females' self-concepts are characterized by seeking relationships and being connected to peers in contrast to males who are qualified as independent and yearn for detaching themselves and for autonomy (Jordan, Walker, & Hartling, 2004)

However, Sell (1997) found out that both men and women may be competitive and avoid cooperation. In few words, viewing women as being more cooperative and revealing a sense of interdependence, any learning CL method is feasible for females, while, individualistic and competitive learning is beneficial for males (Rodger, Murray, & Cummings, 2007). In short, males and females' achievement in any group is relatively determined by positive interdependence.

2.3.2. Individual accountability

“Regarding cooperative groups as powerful social units, which are in many ways bigger than the sum of its parts”(Dornyei & Murphy, 2003, p. 4), promoting autonomy and social interaction in CL may depend mainly on the role-relationships between group members as long as there are no dominance from leaders and social loafing. This can be also realized when CL skills have been introduced at early stages to learners, or the latter are accustomed to it (Sharan, 2010). That is, social loafing can be understood as: “if one or more members of the group does not do as much as other members—a common group phenomenon known as “social loafing” (Apple, 2006, p. 280)

Individual accountability calls, then, for simultaneous interaction and equal participation irrespective of members’ social status or ability. It may be fulfilled as long as the group leader is not creating a mini-monarchy, there is no loafing among group members, and the group is autonomous (Apple, 2006). In other words, individual accountability was explained by Jolliffe (2007) as follows:

This means that each member of the group is accountable for completing his or her part of the work. It is important that no one can ‘hitchhike’ on the work of others. It requires each pupil in the group to develop a sense of personal responsibility to learn and to help the rest of the group to learn also. (p. 3).

That is, individual accountability and interaction amid group members go hand in hand (Kagan & Kagan, 2009). Besides, individual accountability can be achieved in two ways; the first way is that members of groups are required to be responsible for fulfilling their tasks alone and to pinpoint and help their peers in need of emboldenment and support. Second, directing a learner to clarify for a peer what is already learnt, evaluating learners alone and reporting the performance of each member are means to arrange individual accountability (Johnson & Johnson, 2014).

Using same and mixed-gender groups, Myaskovsky et al. (2005) confirmed early views on task orientation and assertiveness. They asserted that females

were not accountable in mixed gender groups opposed to all-female groups. In all male groups, males are not task-oriented compared to mixed gender groups.

2.3.3. Promotive interaction

Interaction in the language classroom tends to correlate with the achievement of L2 learners (Oxford, 1997). This may draw attention on the interaction hypothesis in cooperative settings as group mates who may not comprehend the input, ask for help and clarification, which would increase trust and confidence between them (Jacobs, 2004). In other words, promotive or face-to-face interaction refers to a personal and an academic social system built by group members to facilitate and to attain the intended goals. It is characterized by providing the necessary help, exchanging resources, complementing the energy spent by members, providing decisions and challenging each other's conclusions (Stanne et al, 2003; Johnson & Johnson, 2014).

With regards to language and gender in educational contexts, it may be assumed that males are associated with competition, while, females are likely to cooperate. This division tends to be attributed to male dominance and to females' few opportunities to participate in the classroom and inequality in assessment (Swann, 2003). In addition, Carli (2001) asserted that males have sway on females using different forms of hostile and aggressive behaviour. She reported that males resist to competent females unlike their same gender partners, yet females are likely to agree with males and fail to comply with female peers. In addition, males tend to be less dominant with competent females in group revealing a sense of warmth, friendliness and communality.

In this way, men and women tend to reveal different interpersonal orientations in which women are likely to identify themselves in terms of their relationship with other people and their membership as Forsyth (2010) stated: "The differences that emerge, although subtle, indicate that women seek membership in smaller, informal, intimate groups, whereas men seek membership in larger, more formal, task-focused groups" (p. 91). He added that these differences are shaped by cultural stereotypes and different roles.

For interaction patterns, in equally mixed groups, both genders demonstrate similar attitudes and reciprocal interactive practices. In majority-female groups, females were likely to pay more attention to males, asked for more procedural knowledge and explanations, but their requests were rejected; however, they efficiently provide males with explanations and procedural knowledge. In majority-male groups, females were neglected and did not receive any help nor asked for explanation. Thus, females experience in these groups might be a possible interpretation of any possible low achievement (Webb, 1984).

Likewise, Myaskovsky, Unikel and Dew (2005) pointed out that gender affected the talking time in groups of members. In groups including a lone female, the majority of males were more talkative, but in groups of one male, males were more talkative than females. These findings can be explained by Bell (1998), who concluded that equal opportunities of interaction in same-gender groups are higher than in mixed-gender groups owing to the males' dominance and to their overtly taking turns during discussions

Wilkinson, Lindow and Chiang (1985) examined different aspects of gender variance in communication in small-group interactions between males and females. They found out that males dominated negotiations, argumentation and counter-argumentations, and significant differences were found in the use of question-response sequencers. These differences might prevail due to personality factors or social constructions of gender. In addition, there were no gender differences in the achievement of participants. Yet, the differences in patterns of interaction might subsequently affect females' achievement as males' prevalence in groups seemed to have lowered females' self-esteem and interest due to negative interactions with their male counterparts.

2.3.4. Social skills

Social skills are the communication and interpersonal skills required for the small group (Gillies, 2007). Cohen and Lotan (2014) suggested a number of group norms that may lead to effective cooperation, avoiding antisocial behaviours. These norms can be taught and viewed from learners acts as they

respond to the group's needs, learn to help, ask questions, explain and prevent dominance through planning and equal participation.

In addition, Johnson and Johnson (2014) considered small groups and interpersonal skills as two joint elements: members in each group should possess leadership, precise and clear communication, problem-solving skills, building confidence and democracy while taking decision. However, Gillies (2003) separated interpersonal and group skills. Facilitating communication, interpersonal skills involve taking into account different opinions of members, expressing views deliberately without being afraid of negative comments, listening attentively to peers during discussions, taking charge of one's attitudes and positively providing comments on the others notions. Helping learners to participate, groups skills are turn taking for ideas and materials sharing, equal distribution of tasks, democracy in decision making and settling variances of issues and views.

Mixed gender groups may raise subsidiary groups and promote degrees of conflict. Thus, mixed groups should cope with issues of diversity especially in groups containing a majority of males or the reverse (Forsyth, 2010). On the other hand, Myaskovsky et al (2005) found no significant effect of group composition gender, members' gender on friendliness and dominance, and no gender differences were reported in dominance or friendliness in same gender groups or mixed groups, including a majority of male or female members in addition to groups containing solo males for females.

A considerable number of research demonstrated gender differences in terms of dominance and conflict. Solo males in female groups are always leaders, but solo females in all male groups are not influential (Crocker & McGraw, 1984). Butler and Geis (1990) pointed out, for instance, group members are likely to reject females' influence but accept males' leadership of the group. Moreover, males and females reactions during conflicts are not alike. Females' responses are subtle compared to males. In case the male members are appealing, females cooperate, but if the males are not pleasing, competition rises across genders (Kahn, Hottes & Davis, 1971).

2.3.5. Group processing

Group processing refers to learners' perceptions and attitudes about CL. It encompasses learners' reflection and evaluation of what they have learnt and their needs and deficiencies from the goals accomplished (Johnson & Johnson, 2001). That is, group members compromise whether their acts have been useful or not and agree upon what to keep or alter next (Gillies, 2003). Reflections on group performance yielded many benefits on group and individual performance in terms of facilitating learning, removing irrelevant actions, enhancing group skills and acknowledge accomplishment of tasks (Johnson & Johnson, 2014)

2.3.6. Composing groups in cooperative learning

To actually realize the aforementioned premises, it may be plausible to consider first how groups should be formulated. Jacobs and Hall (2002) contended that effective groups are selected by teachers. They identified a set of tips for assigning groups in EFL classes. Heterogeneity of group members tends to be the most appropriate as groups may be mixed randomly with reference to their first language, ethnicity, gender, diligence and language proficiency. Similarly, Heterogeneous grouping was adopted by Oxford (1997) at the level of gender, ethnicity and language background. However, it remained sceptical at the level of language proficiency and interest-based grouping as the first may result in the imbalance of the performance and learner-to-learner tutoring, and the second may create incompatibilities among low performing groups.

Furthermore, Harmer (2007) sat a number of principles for creating pairs and groups including friendship, streaming, chance, task, changing groups and gender and status. For friendship, a sociogram based on students' friendships and preferences determines who is put with whom. In streaming, it was argued that groups with mixed abilities are best suited. In addition, grouping by chance involves a number of procedures according to their frequent sitting, using the wheel scenario or administering letters randomly, then, dividing students according to the letters they obtain. For the task, cultural differences and interests are taken into consideration. Throughout time, changing groups is tolerated. Finally, gender and status exhibit the appropriateness of grouping men and

women with respect to some cultural norms and to the personal life of learners in the language classroom.

According to Jacobs (2004), in addition to positive interdependence and individual accountability, there are further principles to follow in language classrooms namely, heterogeneous grouping including all the variables discussed by Oxford (1997) and Harmer (2007), teaching collaborative skills, group autonomy, maximum quantity and high quality of peer interaction and equal opportunity to participate. Thus, Jacobs, Wang and Xie (2008) contended that heterogeneous grouping may be effectively opposed to homogenous groups. They contrasted these approaches in the following (Table 2.2)

Table 2.2.

Contrasting Heterogenous and Homogenous Grouping (Jacobs et al, 2008, p.3)

Heterogeneous grouping	Homogeneous grouping
More peer tutoring, as groups contain members of past achievement levels.	Less peer tutoring, as students tend to be fairly close in terms of past achievement levels.
Students see more perspectives, as they interact with group mates different from themselves.	Students see fewer perspectives, as they interact with those similar to themselves.
Thus, the value of diversity is displayed for students to appreciate.	Students have fewer opportunities to appreciate the value of diversity.
Students have more opportunities to learn about people different from themselves and how to collaborate with them.	Students have fewer opportunities to learn about people different from themselves and how to collaborate with them.
Students come to know a larger number of their classmates.	Students stay with the same classmates who they already know.
Students may come to feel more confident that they can work with anyone.	Students feel less confident about working with new people because they have less experience doing so.
Initial difficulties in group cohesion are more likely, as group mates may not feel comfortable working together, making teambuilding activities even more important	Initially, groups may better work together because students already know each other or, at least, share many similarities.

According to Hertz-Lazarowitz (1985), group composition, a key element in CL, may be a good indicator of interaction and achievement in any group. It was defined by gender, ability and personality measures including introversion and extroversion. These features promote support in terms of giving help and explanation as well as the overall achievement of the group. Yet, attention was given to mixed ability groups, in which internal dynamics were explored irrespectively of other variables.

McDonough and his peers' view accounts for the extent to which the principles allotted by Harmer (2007) about the selection criteria of groups are important. However, Dornyei and Murphy (2003) contended that conflicts occur even in "the best of learner groups and even with the best of teachers." (p. 134). They identified personality/ relationship conflicts, task conflicts including the procedure and roles' divisions to fulfil the task, communication conflicts either between the leader or members or the distort insufficient communication, conflicts associated with group development, imported conflicts related to ethnicity, culture, race, class and lifestyle.

Primary studies revealed consistent results on the outcomes of CL in terms of group performance or achievement and socio-affective domains such as self-esteem and attitudes (Nijhof & Kommers, 1985). Adapting a multilevel perspective, it may be possible to investigate these factors from two levels, the individual and group level. Individual or micro level includes qualities, actions and characteristics of each member. Group or macro level refers to qualities and processes of the group as a complete whole (Forsyth, 2010). Furthermore, there should be a compromise between individuality and the dynamics of groups in cooperative classrooms (McDonough et al, 2013)

At the individual level, CL promotes high self-esteem as learners, attaining assigned goals together, will share positive perceptions of each other, and they unconsciously demonstrate satisfaction about their individual performance (Slavin, 1985; Aronson, 2005). In addition, group achievement might be affected by personality traits of group members. In other terms, McDonough et al (2013) asserted that CL provides many opportunities to use the suitable learning mode

appropriate to their preferences. Yet, teachers' choice of material and groups' management may, in this case, affect positively or negatively group performance (Jolliffe, 2007).

Moreover, introvert and extrovert personalities may determine learners' attitudes and performance. Extroverts seem to be happy and more pleased to cooperate, support and ask for help from the other, as opposed to their counterpart. Thus, introverts tend to promote negative attitudes and demonstrate negative self-concept in the group (Forsyth, 2010). In addition, according to Webb (1985), interaction and support among group members might be determined by introversion and extroversion since the latter may be the most successful category in obtaining help in mixed-ability groups except for average ability students, who might not be successful in contributing in attaining the group's goals.

At the group level, grouping based on status appears as one of the influencing factors on group performance and interaction. That is, some status characteristics in terms of race, gender, competence, academic achievement, peer status or friends' dominance over others besides social status might create ranking and hierarchies within a single group, which, in turn, lead to dominance and miscommunication (Cohen and Lotan, 2014).

Gender composition of groups tends to be an issue. In addition to grouping learners according to friendship and ability, Gillies and Boyle (2010) asserted that gender of four mixed groups including two males and two females might be useful in CL. In pair groups or dyads, Strough et al (2001) concluded that considerable degrees of enjoyment, affiliation and influence were reported in same-gender groups than in mixed groups irrespective of their ability. This, in turn, affected their achievement. Yet, opposed to Gillies and Boyle's (2010) assumption, friendship might be detrimental to group achievement as cooperative tasks expand and last longer.

For small-groups, Webb (1984) explored the effects of three kinds of mixed-gender groups including male majority, female majority and two males and two females, on achievement and interaction patterns including asking for,

giving, and receiving explanation, giving, receiving and asking for procedural information. It was concluded that in equally mixed groups, males and females' achievement was the same. In contrast, in both mixed groups, males outperformed females.

According to the state of art in composing groups in cooperative learning, there has been numerous studies emphasising the implementation of mixed level and gender groups. To compose heterogeneous groups involves the learners' language proficiency level or the level in the required language skills. As for gender, cooperative groups should included both males and females.

2.3.6.1. Spatial and physical arrangements in cooperative learning

The physical setting and classroom arrangement appear as important factors in implementing CL (Oxford, 1997). Harmer (2007) argued that small groups of five students are sufficient for interpersonal interaction and for depicting the actual performance of any member, but there are some tasks demanding a large number. Besides, Jacobs and Hall (2002) asserted that smaller groups are useful since they provide more interaction and integration for all group members especially when teachers start implementing CL; while, larger groups are effective for big tasks with the purpose of integrating different traits, skills and backgrounds, and of minimizing the number of groups managed by the teacher. Nonetheless, Jacobs and Hall (*ibid*) favoured groups of four students.

The physical atmosphere contributes largely in promoting interaction in CL either at the level of leaner-learner or teacher-learner interactions (Oxford, 1997). It might be possible in some classes, that students form groups and sit in disperse tables either in whole class or group work tasks, and teachers walk around to guide and provide support whenever it is needed (Harmer, 2007; figure 2.2.).

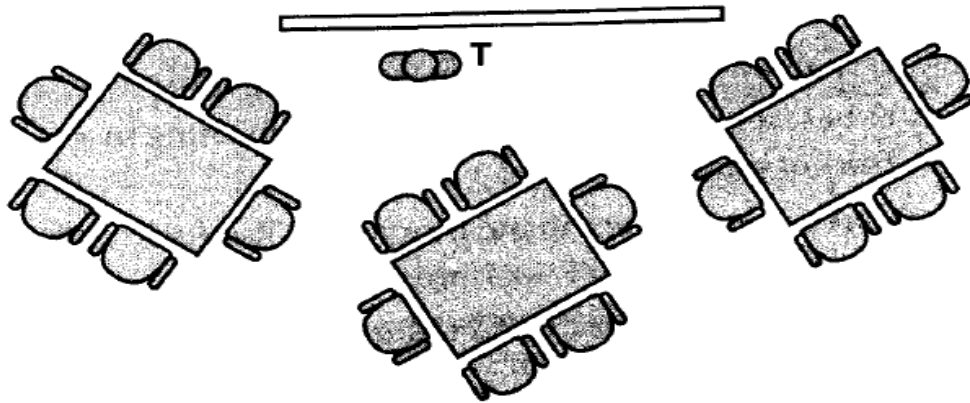


Figure 2.2. Seating Arrangement in Cooperative Learning (Harmer, 2007, p. 163)

However, pair and group work were alike for some researchers (Jacobs & Hall, 2002). This indicates that classroom arrangement is a flexible subject to the physical context, roles and interaction. Thus, physical restrictions in terms of room size, type of furniture and number of students determine the organizational structure of the cooperative classroom (McDonough, Shaw & Masuhara, 2013). The following (Figure 2.3.) explains this view.

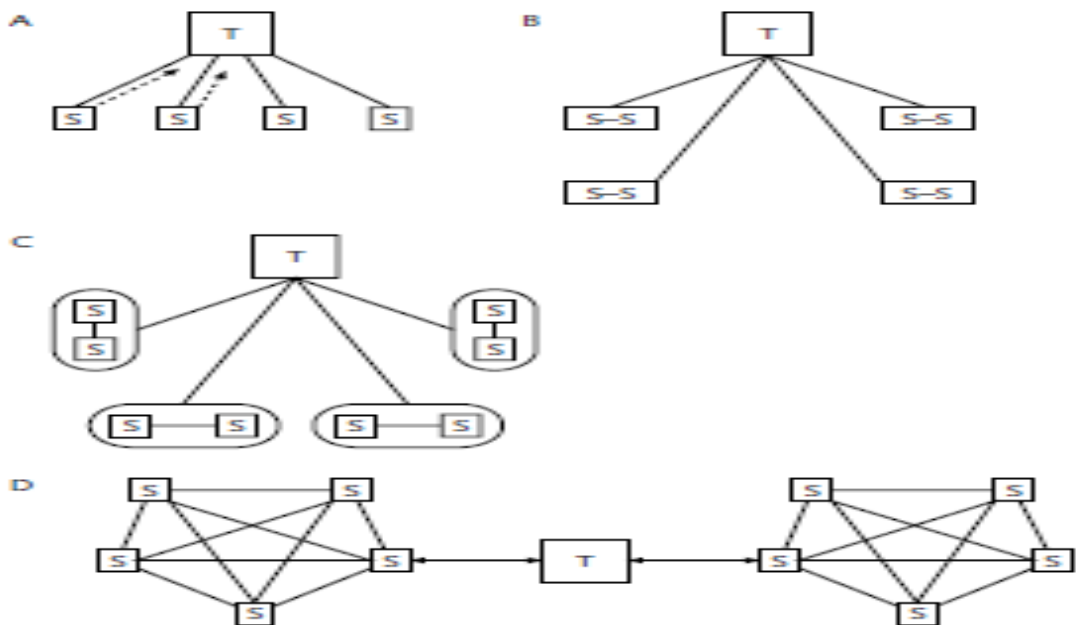


Figure 2.3. Patterns of Classroom Organization in Cooperative Learning (McDonough et al, 2013, p. 234)

According to Harmer (2007) and McDonough et al (2013), the physical arrangement of cooperative groups cannot be successful without a dynamic interaction between teachers and learners in a learner centred classroom.

2.3.7. Teacher roles

Group dynamics is not only determined for students but also for teachers as the latter's role in the cooperative EFL classroom cannot be denied (McDonough et al, 2013). From this perspective, Dornyei and Murphy (2003) argued that group dynamics is:

“Largely the dynamics of the learner group – i.e its internal characteristics and its evolution overtime – that determine the climate of the classroom. This learner group, made up of the teacher as the central figure and the students as active members, is a powerful social unit, which is in many ways bigger than the sum of its parts. “ (p. 4).

That is, internal characteristics of group dynamics can be referred to as what Johnson and Johnson (1985) called internal dynamics of CL groups. These internal dynamics are mediated and moderated by different variables as they were examined by Johnson and Johnson (ibid.): quality of learning strategy, controversy and concurrence seeking, time on task, cognitive processing, peer support, encouragement, regulation, feedback, active mutual involvement in learning, ability levels of group members, psychological support and acceptance, attitudes towards subject areas and fairness of grading.

For evolution overtime, it may be an assumption of achieving cohesiveness in CL classes. Drawing on research about group dynamics, it has been assumed that there might be eight steps to obtain a bonded or a cohesive classroom. Bonded class tends to provide a clear-cut for the allotted roles in CL in three main premises. First, it is related to the emotional attachment of teachers' perceptions and attitudes towards their classes. Second, it addresses the relationship between students in classes and how mutual relationships could be established in the language classroom. At last, bonding depicts teachers as an integral part and at the same time an authority in class (Senior, 1997).

In other words, McDonough et al. (2013) argued that the teacher's role in EFL groups underpins differences in what is regarded as appropriate academic behaviour and variety at the level of power and authority. In addition, there is a balance on what is known in educational psychology as role and style. Finally, the teacher's role is multiple and complex including a number of aspects in terms of role conflict, role ambiguity, role overload and role stress.

Referring to the "teacher as a central figure and the student as an active member" (Dornyei & Murphy, 2003, p. 4), Sharan (2010) discussed the three basic assumptions of teachers about implementing CL: transmission, transaction and transformation. The first views teaching as delivering building blocks of knowledge. It may be applied with the purpose of introducing CL through tasks in a teacher-centred way. Transaction complies considerably with CL in which teacher-learner interaction leading to exhibit learning as problem-solving necessitating students' embarking in the knowledge construction process. Transformation refers to the gradual release of control over the learning process to promote motivation, self-directed learning and teacher-learner cooperation.

Drawing upon Johnson and Johnson's (1985) assumptions about internal dynamics, Slavin (1985) argued that structuring interactions among students, even without rewards and incentives, can result in high achievement. The best example in this may be reciprocal teaching which is a combination of explicit strategy instruction and roles' exchanging in reading strategy use. He concluded that interaction could positively affect students' achievement when high ability members support their counterpart. For instance, selecting groups randomly with little or no control from teachers may result in dominance of some members over others, which would result in some members withdrawing and playing a passive role in the group (McDonough et. al, 2013).

Drawing on the impact of grouping on members' achievement, there has been a set of strategies for promoting peer interaction and support among students, which may also clarify group dynamics for teachers. These strategies account for intrapersonal variables. These strategies are: restructuring, one-centred, unified group, dyad, small group and large group (Christison, 1990).

Oxford (1997) identified a number of tasks that may promote both peer and groups interaction. These tasks are games, simulation, drama, role play and the utilization of electronic media. In addition, there are other tasks which can be directly related to develop specific language skills such as checking previous homework or collaborative shadowing (Apple, 2006).

For the speaking skill, explained by Arguelles (2010), collaborative shadowing entails getting a pair of learners; the first reads aloud his or her writing. Then, the second repeats what is heard as soon as possible even before the first ends reading. This is a complete shadowing. There is another shadowing style, mention shadowing, in which the second partner repeats only the last two or three words of a sentence, summarizes what is read and can ask the first about the content of the reading. Meanwhile, the first can also shadow or repeat what the second has summarized.

2.3.8. Learner roles

In the initial stages of language learning, teachers may recognize the different types of learners' personality traits in terms of extroversion and introversion. This might direct teachers to assign different group roles so as to promote individual accountability and positive interdependence between group members (Senior, 1997). That is, the effectiveness of CL is dependent on the extent to which group roles in planning the lesson are considered (Oxford, 1997). In mixed groups, male members are likely to be leaders than females ones. (Walker et al., 1996). This can be due to the preconceived notions of groups members from both genders, who consider males as leaders and females as less dominant and less influential (Carli, 2001)

According to Apple (2006), CL activities assign specific roles for each group member so that the principles of individual accountability and positive interdependence can be perceived. In most cases, facilitator, recorder, summarizer, reporter and time-keeper are the common roles known in CL activities. Yet, there are some CL models designed for specific language skills such as collaborative strategic reading (Vaughn & Klingner, 1997) and Reciprocal Teaching (Palincsar & Brown, 1984) that allotted specific roles for

members according to RC tasks. For instance, in Reciprocal Teaching, roles are restricted to reading strategies taught and which would subsequently be used independently as learners exchange roles.

As a matter of fact, Dornyei and Murphy (2003) explained that there are two types of roles in groups: assigned roles by the teacher and informal roles. The latter can be viewed as roles emerging at the beginning of the group life. They demonstrate students' perceptions and attitudes about what is happening inside the group. These roles can be labelled as clown, leader, wishing to follow, pessimist, outcast, harmoniser, rebel and scapegoat. These informal roles can be divided into task roles and social roles. Task roles include initiator/ contributor, information seeker/ provider, opinion seeker/ provider, elaborator/ clarifier, coordinator, evaluator/ critic, energiser and secretary/ recorder. However, social roles are viewed as group building and maintenance. Roles under this category can be encourager/ supporter, harmoniser, compromiser and feeling expresser.

For roles assigned by teachers, Cohen and Lotan (2014) demonstrated that in heterogeneous small groups teachers could assign particular roles to their learners in group work. These roles can be as follows: facilitator, checker, setup, materials manager, safety officer and reporter.

2.4. Cooperative Learning, Gender and EFL Reading Comprehension

Preceding the implementation of CL, Sharan (2014) listed a number of criteria to take into account. The set of criteria included the cooperative method, the required social and learning skills, learners' readiness for group work, age of learners, individual accountability, teachers' structuring of interactions, time allocation, formulation of groups procedure, group size, adequacy of CL elements to the cultural context of learning and types of rewards.

CL methods or techniques can be viewed as systematic and structured instructional strategies used at any level with different learning subjects (Slavin, 1985). For instance, over 100 CL techniques were developed (Jacobs, 2004). There are several studies in the domains of education and language learning, applying different CL techniques in terms of Learning Together, Teams-Games-Tournament, Group Investigation, Jigsaw Procedure, Student Teams

Achievement Divisions, Complex Instruction, Think-pair-Share, Team Accelerated Instruction, CL Structures (Tran, 2014). These techniques were subsequently adapted to EFL contexts (Gaith, 2002).

In language learning, Oxford (1997) identified three approaches to CL considering their implementation in L2 classes. First, the lesson planning approach includes or can be even known as learning together. Besides, the structural approach comprises techniques for students with different language proficiencies namely, Jigsaw, TGT, STAD, Roundtable, Round-Robin, Numbered Heads Together, Pairs Check, Inside-Outside Circle, Co-op Cards. However, Group Discussion, Think-Pair- Share, Solve-Pair-Share, Co-op/Co-op, Group Investigation, Three-Step Interview and Pair Interview may be useful with high language proficiency students.

At last, packaging of entire curricula covers more than one aspect of the curriculum including CIRC, TAI, Problem-Solving Approach, Listening and Describing Techniques, All Sides of the Issue and Comparison. To sum-up, though these techniques differ to some extent in intra-and inter-group cooperation and competition as well as individualistic learning acceptance, they have several aspects in common constituting the basic principles of CL in terms of face-to-face interaction, individual accountability and positive interdependence (Ghaith & Bouzeineddine, 2003).

CL has been regarded as a controversial topic in L2 reading with regard to its implementation as an instructional technique, material or activity (Grabe & Stoller, 2013; Bernhardt, 2011). For instance, theoretical models of RC such as Construction Integration Model, which may demonstrate cooperative and careful readers forming the same *text base* as proposed by the text's author (Kintsch, 2013). Furthermore, at the level of strategy use, socio-affective strategies embark cooperation and interaction between peers or teachers and learners in reading classes (Hedgcock & Ferris, 2009).

Although readers form the same *text bases*, they possess different interests, background knowledge and goals, which are, in turn, different situation models of the same text (Kintsch, 2013). As a matter of fact, materials including

cooperative techniques ought to serve for patterns of practice outside text-based instruction so that learners from different cultural contexts would be able to acquire the procedural knowledge for comprehending any text (Bernhardt, 2011).

Yet, the feasibility of CL is restricted to many contextual variables including motivation, attitude, language proficiency, interaction among group members, time spent for examining CL and gender of group members (Shaaban, 2006). Besides, there has been a bulk of research examining the effectiveness of CL on L2/ EFL RC and motivation as well as attitudes towards CL in reading tasks through implementing various CL techniques (Wachyuni, 2015; Ghaith & Bouzeineddine, 2003).

Furthermore, there are several instructional models for CL that were exclusively devoted to develop particular skills in terms of Reciprocal Teaching (Palinksar & Brown, 1984) and Collaborative Strategic Reading (Vaughn&Klingner, 1999). These models tend to combine CL with reading strategy instruction and use (Fan, 2010). In the following section, an account of the studies implementing CL in reading instruction is provided. These models are reciprocal teaching, jigsaw and CSR

2.4.1. Jigsaw

In 1971, Elliot Aronson developed the Jigsaw I Classroom technique in which students work in five to six interdependent groups. This technique is structured by the teacher in ten steps. Each member is provided with a part of the whole topic which the group is studying. Then, each student meets with other students from other groups given the same information to read in expert groups. After that, these students return to their groups to teach them what they have acquired as new information. At last, all the class may take a test by the end of the session (Aronson, 2000; Jolliffe, 2007).

Subsequently, Slavin (1985) developed Jigsaw II, which aimed at facilitating the use of the former Jigsaw by the teacher and integrating with other learners' team methods. This technique embarks four to five learners who are assigned to read narrative texts including biographies, short stories and extracts of social studies, and each member is given a special topic to be discussed in

expert groups; later, these members represent what they have learnt to their team mates. At last, in an STAD, learners sit for a quiz on the material, and the grades are utilized to represent the group and each member's scores.

Accordingly, as it has received considerable attention in the EFL context, Jigsaw II revealed inconsistent results about its effectiveness (Shaaban, 2006). For instance, Coelho (1992 as cited in Ghaith, 2001) pointed out: "Jigsaw provides an excellent learning environment for the acquisition of language through relevant content, the development of academic skills through carefully structured reading and writing activities, and the exploration of relevant content through use of purposeful talk in the classroom" (p. 3). Therefore, Jigsaw might be proven to be useful in RC skills acquisition (Bejarano, 1987).

Ghaith and Bouzeineddine (2003) examined the relationship between reading achievement, attitudes and learners' perceptions of the Jigsaw II technique, and whether there are gender differences among EFL eighth-graders Lebanese learners in the aforementioned variables. The selected sample comprised 111 participants including 57 males and 52 females. Participants were assigned in groups of four and the rest into five members. These groups were heterogenous at the levels of gender and reading ability. The latter was determined according to their scores in a pre-test.

In this study, the jigsaw II procedure was implemented for twelve (12) weeks by two teachers, who instructed the target population, using materials selected from the curriculum adopted in that school. For the pre- and post-tests, texts selected were related to what participants had already studied, and questions were multiple-choice, yes/no and short answer questions to be answered in 30 minutes. Besides, two questionnaires were administered prior and proceeding the experiment: attitudes towards reading and attitudes about self and school questionnaires. Moreover, a questionnaire for perceptions on jigsaw II was administered following the treatment.

Using multivariate covariance and correlational analysis, findings indicated that Jigsaw II was not correlated with any variable in the study. In addition, results demonstrated controversial results with regards to gender-based

differences. That is, females achieved higher than males in RC tests and demonstrated more positive attitudes towards reading. However, males indicated that they enjoyed working cooperatively. This may be due to the patterns of interaction in the group as suggested by the researchers.

In another EFL context, Khoshsima and Saed (2014) explored gender differences among sixty (60) Iranian university students when they are taught RC using jigsaw II compared to whole-class instruction. In a quasi-experimental design, the sample was equally divided into two groups: experimental and control using the teacher-fronted method. Both groups were given pre and post-tests which were a part of standardized language proficiency test, Michigan RC test.

Experimental group members, including 13 males and 17 females, were divided into small heterogenous groups according to their reading achievement and gender. Using independent samples t-test, results demonstrated that females outperformed their male counterpart in the pre and post-tests as they are taught using the jigsaw II. That is, female scores in the post-test increased considerably compared to the pre-test in contrast to their male counterpart.

2.4.2. Reciprocal teaching

For reciprocal teaching, Cotterall (1990) investigated the impact of reciprocal teaching on four (04) adult ESL students' RC. This instructional procedure was implemented for an hour a day along twenty (20) days. In each session, 500 words expository texts with ten (10) comprehension questions were implemented and handed back to participants in the next day. In addition, pre- and post-tests of reading achievement were implemented to examine the efficacy of RT. Due to the small sample size, classroom observation, including videotaping, was carried out to add reliability for the quantitative data.

Findings indicated significant improvement in the participants' reading performance. First, the researcher confirmed that the techniques are pedagogically effective in improving participants' reading proficiency, promoting learner-centeredness, cooperation and teacher-learner interaction. Furthermore, she explained that RT affected positively reading strategy use of the

participants. That is, clarification, summarizing, finding main ideas and predicting tend to be effectively developed among learners via this method.

Yet, Cotterall (ibid) contended that group interaction in RT can be affected by several variables. First, language proficiency level appears to be an influential factor as learners were unable to locate their difficulties in the text or to be able to express them for group members. Besides, personality differences associated with gender were perceived as female students were quiet and one was shy, while, a male learner was outgoing and dominant, but the last was indifferent. Moreover, cultural differences, including learning contexts supporting peer interaction opposed to others, tendency to learn individually may determine the effectiveness of the interaction. Finally, teachers' presence and leaving the floor for participants later in Reciprocal Teaching (RT) might affect group interaction as there may be some learners who demonstrate different attitudes towards taking charge of their own learning and monitoring the reading tasks solely.

Subsequently, Song (1998) investigated the effectiveness of RT on 68 EFL Korean university students' reading proficiency and types of RC questions. The sample was divided into three categories according to the participants reading proficiency: low, intermediate and high. In a quasi-experimental design, two identical pre and post-tests were administered before and after the experiment which lasted 42 hours over 14 weeks. Findings demonstrated that there was a significant difference in students' reading achievement proceeding the implementation of RT. More specifically, low and intermediate learners were likely to benefit more from the technique than high proficient one. For reading questions types, students' ability to find out main ideas and make inferences was enhanced opposed to locating specific details in a text.

Moreover, Al Sarairh and Ku Hamid (2016) examined the effect of reciprocal teaching method on EFL first year Jordanian university students' RC achievement, and whether there are gender differences in their achievement. In a quasi-experimental design, the experimental group included 90 participants who were assigned into mixed small-groups according to gender and ability, and the control group comprised 86 participants. Both groups sat for pre and post-tests

whose texts were taken from: “College Reading: English for Academic Success”, authored by Cheryl Benz and Myra M. Medina (2006)”.

These texts were relatively average in length including from 500-600 words and followed by ten questions for each. In the experiment phase, reciprocal teaching was implemented for four weeks by teachers who were trained in a week to apply this method for the treatment group. Besides, texts used in these classes were excerpted from the above-mentioned book. Proceeding the statistical analysis of the pre and posts across gender and groups, findings revealed significant differences between control and experimental groups’ scores in the post-test in favour to the experimental group.

Independent samples t-test for males of control and treatment scores in posts tests indicated significant differences wherein the former achieved higher compared to the control group. These results were consistent among females across groups. Furthermore, using paired samples t-test, there was a considerable achievement for males and females in the experimental groups in the post-tests. Persistently, males seemed to have outperformed than females in the post-tests.

2.4.3. Collaborative strategic reading

Using another technique that fuses CL with reading strategy instruction, Fan (2010) examined the effectiveness of collaborative strategic reading of 110 EFL intermediate Taiwanese students who were respectively divided into 56 and 54 participants as experimental and control groups. These groups sat for pre and post-tests on fifty (50) questions on comprehension questions in terms of finding the main idea, the supporting details, making inferences, interpreting vocabulary and predicting. The experimental group received instruction in CSR for 14 weeks using expository texts from three different textbooks with reference to the participants’ interest, level of difficulty and authenticity.

During the treatment, group discussions were recorded and transcribed. Following the experiment, a questionnaire, 50 Likert scale items, for perceptions towards CSR was administered to the treatment group. Using one-way analysis, CSR seemed to have positively affected the experimental group than the control one in terms finding the main idea and the supporting details, but there were no

significant differences for making predictions, inferences and dealing with vocabulary. Furthermore, transcripts of group discussions confirmed the deficiency in performance related to predicting strategy, to make inferences and to use top-down processes as well as prior knowledge to understand texts.

Subsequently, Karabuga and Kaya (2013) investigated the effectiveness of CSR on forty (40) EFL university Turkish students' reading achievement. A descriptive and experimental designs were used. In this concern, the researchers designed pre and post reading tests, minute papers for reading problems, CSR learning log, reflective learning log and field notes. For the experiment, participants were assigned into heterogenous groups with reference to their age, gender and backgrounds, yet these variables were not regarded in this study. Besides, the intervention lasted for eight (08) weeks with an average of three (03) hours per week.

Findings demonstrated significant effects of CSR on participants' reading performance. There was a significant difference between the experimental and the control groups as the first outperformed than the latter in the post test. This shift in performance might be supported by the remaining tools whose findings indicated considerable lacuna at the level of vocabulary, understanding comprehension questions, finding the main ideas, time constraints, making inferences and self-esteem in EFL reading in students' minute papers. These issues seem to have been overcome as CSR and reflective logs indicated, following the implementation of CSR. Furthermore, the researchers added that CSR promoted cooperation and learners' autonomy.

Concurrently, in an action research, Al-Roomy (2013) implemented CSR for thirty (30) EFL male Saudi English for Specific Purposes (E.S.P) remedial classes. The intervention lasted for two cycles along twenty-five (25) weeks wherein the selected materials were excerpted from two general English and an ESP textbook. In addition, pre and post tests for reading achievement were implemented before and after the treatment, and a questionnaire for attitudes towards CSR was administered following the intervention. To establish validity,

participant observation, semi-structured interviews, video and audio-recordings of group work were explored.

Proceeding the intervention, there was a significant improvement on participants' reading achievement. This could be explained as participants scored highly in dealing with unfamiliar vocabulary and getting the gist, yet for previewing and wrap-up strategies, there were no differences. In addition, analysis of questionnaires demonstrated positive attitudes of students towards CSR, while, the interview indicated that CSR changed the negative perceptions of some passive participants towards group work. Furthermore, participant observation and recordings of group interaction revealed that participants considered reading in CSR an interactive and evaluative process where they used more elaborated strategies, which were not assigned in CSR, in order to solve comprehension problems.

Lee (2016) investigated the implementation of CSR in reading for English language learners with different language backgrounds, who were aged between seventeen (17) and twenty-two (22) years. The intervention lasted for eight weeks with one hour and a half for four times per week. For the selected materials, expository and literary texts were prominent depending on the units studied. In the eighth week, a test designed to assess the learners' progress in each unit. Furthermore, CSR implementation tended to ameliorate learners' strategy use and their deliberate use proceeding the implicit instruction in CSR, and it may have promoted their reading achievement in standardized exams.

With regards to strategic behaviour in CSR, Alamin and Ahmed (2014) explored differences in reading strategy use before and after the implementation of CSR among EFL Saudi university students. The sample included 79 males and 55 females. A five-point Likert questionnaire of reading strategies was administered prior and proceeding the implementation of CSR. The questioned strategies were the ones developed in CSR. Paired-sample T-test for the pre and post questionnaires demonstrated significant differences in the overall use of strategies.

In addition, using One-way ANOVA, there were significant differences between both genders for the types of questions namely predicting, finding out the main idea, dealing with vocabulary, finding supporting details and making inferences. These differences were manifested at both pre and post questionnaires' items. At last, they suggested that the selection of materials should account for gender differences.

In another EFL context, Al-Safadi (2017) investigated the effect of CSR on EFL ninth graders reading achievement. The sample included Eighty (80) female participants which was divided equally into two groups: experimental and control. The intervention lasted for eight (08) weeks, and a questionnaire for strategy use problems was administered before the experiment. In addition, two RC tests were handed before and after the treatment. Meanwhile, pre and post motivation scale was also administered. In this way, findings revealed significant differences in the post test between the experimental and the control group at the level of different strategies namely, predicting, identifying main idea, scanning, deducing meaning, finding out synonyms and antonyms, making inferences and using prior knowledge.

Subsequently, Babapour, Ahangari and Ahour (2018) examined the impact of shadow reading and CSR on EFL reading of 90 female adult learners. Using an experimental design, the participants were divided equally into three groups: a group for shadow reading, another for CSR and a control group, and the treatment lasted for ten sessions. They found out in ANOVA for the KET post test that participants, studied reading comprehension via CSR, outperformed the control and the shadow reading group.

Conclusion

Reviewing the literature in CL, gender and RC, there was a considerable lacuna of studies referring to gender especially in the implementation of specific techniques confined to RC such as CSR. In addition, few studies have explored gender differences in the application of CL principles and what is going properly in cooperative groups. This study would significantly fill in the gap associated with gender in CL, and more CSR.

This chapter established the grounds for the relevant methodology to adopt in this study. As mentioned in numerous studies, the suitable design for this study would be a specific experimental design, the factorial (2x2), in which the participants would be assigned into four groups divided by gender and sit for pre and post tests. The tests would be analyzed by means of paired-samples t-tests. To confirm the results, adding further qualitative tools may be necessary in this research.

**CHAPTER
THREE:
RESEARCH
METHODOLOGY**

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Introduction

This chapter provides a detailed account for the adopted methodology in this study. According to the rationale of this study, numerous research instruments were designed and adopted within a factorial design. The latter required certain procedures for implementation and specific methods of data analysis. This would not be possible without a careful consideration of the threats to validity and reliability.

3.1. Aims of the Study

The aim of this study is to investigate gender differences in EFL students' Reading Comprehension (R.C). Second, it examines the impact of Collaborative Strategic Reading as a Cooperative Learning (C.L) technique on EFL students' RC and to look for possible differences between male and female students.

First, considering gender as an independent variable raises subsidiary factors which are prevailing while investigating reading and gender. To begin with, this study explores differences between EFL male and female students' in RC. Moreover, measuring RC requires careful plotting in the task, text and the reader variables. Gender as an individual difference reveals those variables in a particular way. In addition, it investigates gender differences in EFL students' reading strategy use. Thus, this research tends to identify any potential impact of familiarity and interest on EFL male and female students' RC. In this way, a number of research questions and hypotheses raise from these aims

1. How does EFL male and female students' RC differ?

1.1. Are there gender differences in EFL students' RC?

H1: There are gender differences in EFL students' RC.

H0: There are no gender differences in EFL students' RC.

1.2. To what extent does situational interest affect both EFL male and female students' RC?

1.3. To what extent does perceived interest affect both EFL male and female students' RC?

1.4. To what extent does familiarity affect both EFL male and female students' RC?

- H1: Situational interest affects both EFL male and female students' RC.
 H0: Situational interest does not affect both EFL male and female students' RC.
 H1: Perceived interest affects both EFL male and female students' RC.
 H0: Perceived interest does not affect both EFL male and female students' RC.
 H1: Familiarity affects both EFL male and female students' RC.
 H0: Familiarity does not affect both EFL male and female students' RC.

Second, this study examines the impact of Collaborative Strategic Reading as a CL technique on EFL students' RC and on their reading strategy use. In addition, it looks for any gender differences in the students' RC and their reading strategy use which may be caused due to CSR. Thus, two research questions and their hypotheses stem from these aims.

3. Does Collaborative Strategic Reading impact both EFL male and female students' RC?

4. Does Collaborative Strategic Reading affect both EFL male and female students' reading strategy use?

The hypotheses are non-directional including alternative and null-hypotheses

H1: There are gender differences in reading strategy use among EFL students using Collaborative Strategic Reading.

H0: There are no gender differences in reading strategy use among EFL students using Collaborative Strategic Reading.

H1: There are gender differences in reading comprehension among EFL students using Collaborative Strategic Reading

H0: There are no gender differences in reading comprehension among EFL students using Collaborative Strategic Reading.

To answer these research questions and hypotheses, a specific design and research tools are implemented in this study.

3.2. Design

According to the rationale of the study, two major types of variables can be identified. First, independent variables are gender, situational interest, perceived interest, familiarity and collaborative strategic reading. Second, receiving change

from the independent variables, the dependent variables are RC and reading strategy use. Establishing cause-effect relationships between independent and dependent variables identifies this research as experimental, yet delimiting the type of the experimental research encompasses a number of factors namely, the assigned groups, sampling procedure, types of variables and the way each of these are manipulated (Lodico, Spaulding & Voegtle, 2010).

With regard to the previous literature, a number of studies adhered to the quasi-experimental design as most of their samples were conveniently selected (Fan, 2010; Karabuga & Kaya, 2013; Lee, 2016; Al-Safadi, 2017) or included only one experimental group (Alamin & Ahmed, 2014); while, a study conducted by Al-Roomy (2013) followed an action research design to fulfil a remedial program for low achieving students.

It may be plausible, form one hand, to opt for two groups in this study: treatment and control. The first studied reading using CSR, while, the latter received whole class instruction. Both groups were being assessed with respect to gender, interest and familiarity. As a matter of fact, a quasi-experimental research is the most feasible in this research. This choice was subject to the non-random selection of the sample which was purposive, and to the way in which control and experimental groups were assigned. In other words, the researcher did not possess a complete control over the selection of the sample and assigning participants into groups (Fraenkel, Wallen & Hyun, 2012).

On the other hand, there are two independent variables in this study, CSR and gender. The latter may be regarded as a moderator variable and cannot be manipulated. Thus, matching male and female participants along the experimental and control groups enables to control this variable, but it is difficult to realize that with respect to the unbalanced number of male and female participants across the various groups. Similarly, factorial designs can be workable as a response to the considerable number of independent variables in experimental designs irrespective of the way groups were selected and assigned (Lodico et al, 2010).

Moreover, it is hypothesised in this study that there may be gender differences in situational, perceived interest and familiarity. As long as the study is gender-based, gender differences in those variables tend to unexpectedly affect the outcome of the experiment. That is, they may appear as extraneous variables yielding significant differences between control and experimental groups. As a matter of fact, situational, perceived interest and familiarity should be controlled to ensure the validity of the experiment carried out.

In addition, as there are some statistical procedures allowing to control numerous independent variables including gender (Fraenkel et al, 2012; Singh, 2006), the quasi-experimental design is feasible for this research due to the non-random selection of the participants as well as the assignment of the control and experimental groups. In addition, the researcher does not completely control the whole sample, which may extend further discussions about validity.

In this way, participants should be divided according to their gender in a factorial design (2X2) in order to avoid any potential extraneous variables stemming from gender differences. The factorial design examines the effect of the treatment by separating participants into four groups: male-study, female-study, male-control and female control. In order to examine the impact of CL on male and female participants, the factorial design (2X2) is indispensable in this study.

3.3. Population and Sampling

The context of this study was the English department at the University of Algiers 2. The population of this study was EFL first year students in the academic year 2019-2020. The number of the students was around 1010 students divided along 20 groups with different Reading and Writing teachers, but the number was not exact. It was approximate proceeding first term examinations because some students withdrew their English course in the first semester. Although these students were taught by different teachers, the latter adhered to the same syllabus designed by the teachers of reading and writing in English department at the University of Algiers 2.

3.3.1. Sampling procedure

The selection of the sample required a number of criteria regarding both the number of assigned groups and the representativeness of the sample with respect to the overall population. That is, each experimental or control group must be over 40 participants (Fraenkel et al, 2012), and the sample size ought to be ranging from 10 to 20 percent of the accessible population (Singh, 2012). Besides, the sampling procedure depends on the accessibility and the availability of the participants. More specifically, the design to select had been quasi-experimental, for the researcher had no control over the accessible population.

The sampling procedure was non-random; in other words, it was purposive. The researcher had not been allowed to randomly select the sample or to choose freely the sample from the accessible population. As part-time teachers, doctoral researchers at the University of Algiers 2 are allowed to teach up to six hours per week, and the course of reading and writing is three hours per week for first year students. Therefore, two groups, taught by the researcher, had been selected as an experimental group, while two other groups, which were taught by another teacher, were regarded as a control group.

The experimental and control groups were distributed along four classes. The experimental group included students from groups eight (08) and thirteen (13) cumulating 106 participants. It comprised 20 males and 86 females. Besides, the control group included students from groups four (04) and five (05) with a total of 91 participants. It consisted of 21 males and 70 females. In this way, matching participants according to gender along the assigned groups seemed to be challenging.

Moreover, the participants in both groups were aged between seventeen and eighteen, yet assigning experimental group's participants to work in mixed groups of five comprising two males and three females reduced the experimental group participants into 50. Likewise, the control group complied with the experimental group in terms of the total number as well as the ratio of males to females. In other words, the control group consisted of 20 males and 30 females. In this way, the sample has a total number of 100 participants which is around

15% of the whole population as it represented a large sample from a statistical perspective, and it was, in turn, representative.

3.4. Research Instruments

Attempting to answer the research questions and hypotheses, numerous research tools were implemented in this study including questionnaires, authentic tests, interview and learning logs. These tools were administered according to a particular chronological order. There is a triangulation of quantitative and qualitative research tools. In other words, this study is mixed methods. The table below demonstrates the research tools for each research questions

Table 3.1

Research tools and their corresponding research questions

Research Question	Research Tool/s
1.1. Are there gender differences in EFL students' RC?	Reading Comprehension Pre tests 01, 02 and 03
1.2. To what extent does situational interest affect both EFL male and female students' RC? 1.3. To what extent does familiarity affect both EFL male and female students' RC? 1.4. Does Collaborative Strategic Reading impact both EFL male and female students' RC?	- Reading Comprehension Pre tests 01, 02 and 03 - Questionnaires of SI, PI and Familiarity 01, 02 and 03
2. Are there gender differences in EFL students' reading strategy use?	The Survey of Reading Strategies (SORS)
3. Does Collaborative Strategic Reading impact both EFL male and female students' RC?	- Questionnaire of Cooperative Learning Preferences - Reading Comprehension Pre and Post tests 01, 02 and 03 - Interview The Survey of Reading Strategies - Questionnaire of Cooperative Learning Principles Learning Logs
4. Does Collaborative Strategic Reading affect both EFL male and female students' reading strategy use?	- The Survey of Reading Strategies - Interview - - Reading Comprehension Pre and Post tests 01, 02 and 03

3.4.1. The cooperative learning preferences questionnaire

The questionnaire of CL preferences includes seven items aiming at enabling the researcher to set the experimental groups participants into cooperative groups (Appendix X)

The first item is about the participants' name and group. Though this question is sensitive and not advised in too many questionnaires (Dornyei, 2003), it is mandatory to serve further sections in the questionnaire as the participants would be put in heterogeneous groups of five. For instance, when the teacher-researcher was acquainted with a participant's name, it would be easy to identify his or her profile, diligence and level of proficiency. However, item two about age was formulated to ensure that the sample was homogenous and representative of the population (Singh, 2006).

Argued for heterogeneous grouping, items three and five corresponding respectively to gender and first language were considered as salient aspects in composing groups in addition to the level of language proficiency (Jacobs & Hall, 2002; Oxford, 1997; Harmer, 2007). The latter was retrieved from the pre-test of RC. Moreover, item two for age, item four for marital status, six and seven for friendship are regarded as the core principles for group work according to Harmer (2007). For marital status, the item tends to depict part of the cultural context of the study. For instance, female married may not be allowed to interact with their male peers or simply avoid by their own any sort of interaction.

In addition, individual and group achievement may be determined through same- or different gender friendships within the same group and whether a student prefers to work with same- or different- gender peers (Strough, Swenson & Cheng, 2001). Furthermore, marital status is likely to be neglected in designing questionnaires (Dornyei, 2003), but it helped in designing a sociogram to avoid future shifts in groups, which may affect the validity of the experiment as students changing groups may appear as an extraneous variable despite McDonough et.al (2013) and Harmer's (2007) arguments on accepting students' switching groups.

3.4.2. Gender orientation of passages

The selection of reading materials tends to account for gender differences in RC (Alamin & Ahmed, 2014). In this concern, the orientation of passages is confined to content and genre (Winter, 2010; Maehara, 2010; Brantmeier, 2003a; Belaid & Murray, 2015; Nordin & Eng, 2017). For content, a number of subjects was suggested by Bugel and Buunk (1996) who tested Dutch participants, assuming that those topics are male- and female-oriented as shown in the table below.

Table 3.2

Bugel and Buunk's (1996) Search Criteria for Female and Male Texts

Female Topics	Male Topics
1. Human relations, psychological approach 2. Stereotypical female behaviour; nonstereotypical male behaviour 3. Female professions and occupations (nurse, au-pair) 4. Self care and care of others 5. Home, household, cooking 6. Empathy with underdog (e.g., minorities), pity 7. Art, literature, dance 8. Philosophy, abstract reasoning	1. Economy, money, labour market 2. Politics, authorities, public affairs 3. Crime, violence, aggression, war, militarism, nationalism, danger, risky behaviour 4. Sports 5. Technology, machines, physics 6. Automobiles and other motorized vehicles 7. Stereotypical male behaviour, non-stereotypical female behaviour

It may be indispensable to adapt these topics to the context of this study since the work of Bugel and Buunk (1996) was in a different setting. In other words, it is important to account for differences in gender beliefs across cultures (Deckert, 2004) and to consider the impact of the social construction of gender (Lowe, 2013). Moreover, opting for authentic material either in assessment or teaching should account for gender differences, interest, language proficiency and cultural differences (Belaid & Murray, 2015).

Similarly, Brantmeier (2003b) opted for two passages from a short story, assuming that “a frustrated mother and wife who visits her college roommate” and “male spectators at a boxing match” are respectively female and male oriented passages. Besides, selecting short-stories as a genre cannot be asserted interesting with regards to gender. Thus, a careful examination of students’ interests referring to the text genre is worth considering.

For the genre, participants have come across different patterns of organization along the first weeks in literary genres and study skills. In addition, Brown (2004) numbered an inclusive list of all possible genres to be considered while assessing reading; however, Carrell (1987) contended that the use of various patterns of organization triggers formal schemas which are, in turn, associated with interest and familiarity. Besides, both Brantmeier (2003a, 2003b, 2006) and for Jigsaw II, Slavin (1985) used narrative texts; while, Bugel and Buunk (1996) and Martinez (2014) examined familiarity and gender, and many other researchers investigated Collaborative Strategic Reading as Fan (2010) and Lee (2016), who used expository texts as well.

Categorizing reading interests allows determining the orientation of reading passages in class, whether they are male or female oriented. This can be even perceived at the levels of references, adjectives and nouns, for instance (Winter, 2010). That is, it may be possible to identify gender-neutral texts since in some cultures EFL male learners tend to demonstrate negative perceptions and attitudes towards neutral texts (Maehara, 2010); in others contexts, females are expected to read about male oriented texts, and the reverse is not for males (Sunderland, 1992). Thus, the selection process of reading materials for learning or assessment requires some kind of inquiry through using, for example, interviews, informal discussions or surveys (Arias, 2007)

In addition, identifying reading interests of participants may enable to control interest as an independent variable so that it will not be considered as an extraneous variable affecting the outcomes of the experiment. This has been emphasized in literature about the importance of genre and content preference while teaching reading in EFL classes via authentic texts (Belaid & Murray,

2015; Nordin & Eng, 2017). Besides, the Narrow Reading approach of Stephen Krashen aims at facilitating comprehension through implementing the same topic in reading classes, yet this approach activates the same schemas, which are evolving around particular chunks of memory. On the assumption that schemas differ across topics, interest is both perceived and situational (Brantmeier, 2006).

However, in this study, the selection of the reading materials did not undergo any enquiry or specific approach. It is rather an adaptation of the topics and genres suggested in previous studies to the context of the current research(Table 3.2) . Accordingly, the genre implemented in this work are not limited to the narrative or the expository but rather are within an inclusive list of various genres.

To consider the validity of the selection of these topics and genres and whether they fit into the right orientation of passages with respect to interest and familiarity, further results in the questionnaire of reading interest and familiarity will reveal the extent to which the selected texts are male, female or neutral texts. In other words, considering concurrent validity, the findings in the aforementioned tools will be examined in relation to the texts selected as these texts will be evaluated as interesting and uninteresting according to the questionnaires.

3.4.3. The reading strategies questionnaire

To obtain an account of the reading strategies used by the participants before and after the experiment, the Survey of Reading Strategies (S.O.R.S) designed by Mokhtari and Shoerey (2002) was adopted in this research (Appendix II). This survey was designed to assess both adolescents and adult ESL or EFL readers' strategy use, dealing with academic and school related materials, and it was used in several studies investigating gender differences in foreign language reading (Poole, 2005; Mokhtari & Shoerey, 2002) as well as in studies examining the impact of CSR on EFL reading strategy use (Alamin & Ahmed, 2014).

The rationale behind the implementation of this tool is multiple. In addition to obtaining any differences proceeding the experimentation, this questionnaire

served at identifying whether there are any gender differences in the participants reading strategy use before the experiment. In addition, identifying any possible difference between reading strategy use and RC achievement before and after the treatment might help any threat to internal validity.

The SORS contains thirty items distributed along three sets (Appendix IV). All items are five points Likert scale ranging from “1- I never or almost never do this”, labelled “Never” to “5- I always or almost always do this”, labelled “Always”. First, items 1,3,4,6,8, 12, 15, 17, 20, 21, 23, 24, 27 correspond to Global reading strategies. The latter can be the already planned strategies through which reading is managed and monitored. The second set is for problem-solving strategies including eight items namely, 7, 9, 11, 14, 16, 25, 28. These items refer to local strategies which are generated and confined to direct interactions with the text when comprehension miscues and problems occur. Third, the remaining items collect data on support strategies, which solicit responses on the techniques used to help comprehending tests.

Mokhtari and Shoerey (2002) tested the validity and reliability of the inventory. For validity, they used items from Metacognitive Awareness of Reading Strategies Inventory (MARSI) and revised their wording. Furthermore, they adapted items related to reading strategy use across languages and deleted items confined to first language use. For reliability, they tested the instrument at two universities in the United States with ESL students. They assumed that participants answered the inventory within an average of 12 minutes, and Cronbach Alpha Internal consistency revealed (.82), which indicates high reliability above (.60).

3.4.4. Reading comprehension tests

The most important step to consider before designing any test is to clearly define the construct of reading (Alderson, 2000). In other words, how RC is regarded in this study should be regarded beforehand. Adhering to the definitions of the reading ability, numerous models attempted to explain reading emphasizing a particular aspect of the reading process. Accordingly, Koda (2005) and Alderson (2000) contended that RC can be referred to as levels of

understanding texts from decoding vocabulary in context, reading the lines, to making inferences. In few words, this has been elaborated in the Simple View of Reading (Gough & Tunmer, 1986).

In addition, predicting has been widely emphasised in the Whole Language Approach (Norris & Damico, 1990) and earlier in Psycholinguistic Guessing Game (Goodman, 1967; Goodman & Goodman, 2013) models. Furthermore, reading ability involves the ability to reckon text organization including finding out the main idea and the supporting details of texts. In other words, the “textbase” including macro and microstructures is the essence of the Construction Integration Model of reading (Kintsch, 2013). Hence, RC tests in this study comprise both macro and micro-skills save low-level operations such as phonics and morphological awareness which are unnecessary and serve as diagnostic rather than the achievement tests (Hughes, 1992).

Accounting for construction integration model, the situation model refers to the possible mental representations which the text’s author might address. All of these may not be achieved without triggering specific schemata (Kintsch, 2013). The latter, in turn, are idiosyncratic depending on the reader’s background knowledge when he or she interacts with texts of various contents and structures. As a matter of fact, the independent variables, gender, interest and familiarity, are taken into account since there will be various passages with respect to the familiarity and interests of passages for the participants. Accordingly, passages which are interesting and familiar at the levels of content and genre are required while testing reading ability (Hughes, 1992).

Passages, then, designate the text variable. It is also important to view the reader and task variables (Alderson, 2000). First, participants are both males and females, with different interests, familiarity with topics and structures; moreover, their L2 or EFL proficiency is disregarded since the linguistic interdependence theory is considered in this study. This can be simply justified by viewing reading as a process. Because passage interest (Brantmeier, 2003, 2006; Bugel & Buunk, 1996) and familiarity (Martinez, 2014; Shumaimeri, 2005) differ across gender and affect RC, three types of texts were used namely, male-oriented,

neutral and female oriented. The typology of texts for the research context is determined via adapting the topics and genres suggested in previous literature.

The RC tests, pre and post, were divided into three main sections, according to the orientation of the passages namely, female, male and neutral. This would serve at triggering the participants', in the control and experimental groups, perceptions and reading achievement with regards to their interest and familiarity with the different passages. In this concern, the orientation of the passages was two-fold: content and genre.

In addition, the length of the passages may be determined by the nature of the comprehension questions as Hughes (1992) asserted that tests including, for instance, scanning questions may require passages of up to 2000 words or more. Furthermore, studies examining the impact of passage content, interest and familiarity (Brantmeier, 2003a, 2004, 2006; Bugel & Buunk, 1996) used passages of 500 to 600 words, while, studies investigating the impact of CSR on RC (Al-Roomy, 2013) used passages from 500 to 600 words. Therefore, each of the passages used in pre- and post-tests comprise 500 to 600 words.

On the task variable, referring to previous studies examining the impact of CSR on RC, the latter was considered by Fan (2010) as being multifaceted including both bottom-up and top-down aspects in terms of predicting, identifying main ideas and supporting details as well as inferencing. Similarly, Al-Roomy (2013) viewed reading from four joints namely, predicting, summarizing, inferring meaning and main ideas. The aforementioned studies fall within the process approach to reading.

Similarly, items confined to predicting were as follows: 1-The best title of the passage can be; 2- I can guess that in the next part will be about. Second, the item corresponding to finding out the main idea is "3-The general idea of the passage is". Third, items of supporting details are four and five. Fourth, items used to solicit responses on finding the meaning of difficult vocabulary were number six and seven, written in the same format as such "The underlined word,, in the..... paragraph means".Fifth, for making inferencing, two types of items were chosen including making inferences based on facts in the

passages and finding out facts in the texts from given statements, so items eight and nine are respectively: “8- The best statement telling that is” and “9-From the following statement “.....” I can infer that”. Finally, the last item is for selecting the best summary of the passage.

However, Brantmeier (2003b) adopted the product approach in testing RC via free-recall tests in which participants were required to recall text units after they read a passage for a while. This was very common in studies examining schema theory in reading, but some studies have also used authentic, unspecialized and multiple-choice tests (Bugel & Buunk, 1996). According to Alderson (2000) and Brown (2004), free recall testing technique is subjective and time-consuming. Therefore, the use of multiple-choice technique and attempting to test RC under the process approach are the most appropriate for this research. In this way, four distractors were used for each question. Increasing the likelihood of guessing the correct answer to 25% tends to be effective in reading tests (Hughes, 1992).

3.4.4.1. Reading comprehension pre- and post-tests

The RC tests include three passages with ten multiple choice questions for each. The passages are respectively female, male and neutral texts, while, the questions following each passage include (02) questions for predicting, (01) question for finding the main idea, (02) questions to find out supporting details, (02) questions to explain difficult vocabulary, (02) questions for making inferences and (01) question to select the best summary of the passage. Each of these items includes (04) distractors (Appendix III)

The male oriented passage was selected from one of the interesting subjects, sports, as well as the short descriptions genre. Thus, the selected text was an adapted excerpt from the conclusion of the book” CRISTIANO AND LEO: The Race to Become the Greatest Football Player of All Time”, written by Burns (2018). This passage includes (513) words with a number of glosses explaining difficult words. The passage provides brief descriptions including some background information about Cristiano Ronaldo and Lionel Messi. In

addition, the pattern of organization of the passage is comparison/ contrast. This text seems to have also depicted common debates between Algerian youth on the most popular sport in the country.

For the female oriented passage, the selection was from the female interesting subjects, home, household and cooking as well as the interesting genre novel. In this way, the female oriented passage was an adapted extract from the first two pages of chapter one of a Mexican novel entitled “Like Water for Chocolate” by Esquivel (1989). The novel was translated to English. The excerpt was about a young Mexican girl named Tita, whose unusual birth and the early death of her father led her to learn cooking at an early age. This passage includes (538) words with glosses for difficult words. It covered, then, both cooking as an interesting subject and novel as a genre.

In the neutral passage, there was a consideration for the crossovers in the genres and subjects assumed to be neutral or neither interesting nor uninteresting. That is, it was indispensable to regard the same subjects and genres that both males and females are said to be neutral in terms of interest. In this way, the neutral subject was economy, money and labour market, while, the genre was short stories. Therefore, a passage extracted from “Select Readings” ,Upper Intermediate level, by Bernard and Lee (2004) entitled “Why I Quit the Company”, which, in turn, was adapted from The New Internationalist by Tomoyuki Lwashita. The passage includes 534 words. It is about a story of a recently graduated Japanese student who left the new obtained job due to the surrounding circumstances of the employment despite the facilities given from the company. The passage demonstrates the story of this employee, which makes part of the labour domain.

3.4.5. The situational, perceived interests and familiarity questionnaire

To examine the impact of interest and familiarity on RC of male and female EFL students, it may be plausible to opt for a questionnaire to retrieve any possible variance caused by gender in their RC. In this concern, regarding gender, numerous studies examined the impact of interest (Bugel & Bunk, 1996; Brantmeier,2001, 2003b, 2004) and familiarity (Brantmeier, 2003a, 2003b; Al-

Shumaimeri, 2005; Martinez, 2014) on L2/ EFL students' RC, yet these studies considered each of the variables of interest and familiarity as one, including one factor, using one item with Likert scale to solicit the degree of interest and familiarity related to the passage given in a text.

As a matter of fact, both familiarity and interest in reading were operationally defined in early research referring to a number of factors and categories. That is, interest has been divided into two types situational and perceived (Brantmeier, 2006), while, familiarity includes four factors: vocabulary, topic, information and the pattern (Carrell, 1983, 1987). In this way, the questionnaire of Perceived, Situational Interests and Familiarity included three sections for these categories. Thereby, the questionnaire includes (29) Likert scale items of five points namely, Strongly Disagree, Disagree, Uncertain, Agree and Strongly Agree.

3.4.5.1. Situational and perceived interest

The first part of the questionnaire includes items of the questionnaires of situational and perceived interest designed by Schraw et al (1995) for L1 reading, which was later adapted to L2 contexts by Brantmeier (2006). The latter concluded that the questionnaire was reliable and indicated construct validity. The current study, then, adapted the questionnaire used by Brantmeier (2006) including (25) items dispersed along two main sections: situational and perceived interest.

The section of situational interest comprises (16) items, aiming at measuring situational variables triggering participants' interest via the given passages. These variables serve as the categories of situational interest. The first category is cohesion with four items. Its main concern is about the overall structure and organization of the ideas and information in the text and how these items are interesting.

The second category is prior knowledge with three items, yet these items suggested by Schraw et al. (1995) and Brantmeier (2006) confined prior knowledge to familiarity though Brantmeier (2006) considered in her work familiarity as separate with one global question, "I am familiar with the story". In

addition, Carrell (1983, 1987) asserted that familiarity refers to background knowledge about the topic, vocabulary, rhetorical organization and information in the text. Moreover, Bugel and Buunk (1996) when they explored interest referring to prior knowledge, they designed a questionnaire for reading habits on topic, genre and information.

Therefore, item (06), “The story contained information I was familiar with”, and (07), “The story dealt with a topic I know a lot about.” were respectively worded as follows: “The story contained information I usually read about” and ““The story dealt with a topic I usually read about.”. The third category is engagement, comprising (03) items measuring the extent to which the passage is triggering particular schemata in the participants’ mind as in item (08), dealing with relevant issues, worthy to the participants and not boring; besides, items nine and 10 report about the extent to which the text contains vivid and exciting details.

The fourth category is ease of comprehension instead of ease of recollection as it was labelled by Brantmeier (2006). Simply, the latter in her work used written recall as a test and adhered to the product approach, but in the current study, reading is regarded as a process with multiple-choice questions. In this way, the items considered from Brantmeier’s (ibid.) in the aforementioned category are solely (11; 12; 13). The first two items are respectively related to long-term and working memories, while, the latter is to retrieve information about the situation model or schemata that a writer could draw in the reader’s mind as Kintsch’s (2013) construction integration model.

The fifth category is emotiveness including three items (14; 15; 16), which attempt to solicit whether the text stimulates participants’ emotions. The items were taken from Brantmeier’s questionnaire though Schraw et al (1995) used anger and disgust as two factors instead. However, in case participants disagreed with Brantmeier’s items, they would simply indicate disgust or even anger.

The section of perceived interest includes nine items adapted from Brantmeier’s (2006) questionnaire. These items aim at retrieving participants’ interest stemming from the overall structure and the content of the passages. In

the process of adapting the questionnaire items the word “Spanish” in item (24), “This story was one of the most interesting things I’ve read in Spanish in a long time”, was substituted by English. Furthermore, as the reading passages in the pre and post tests were six with different genres, the word “story” was substituted according to the genre in which the passage belongs to. For instance, in the text of Messi and Ronaldo or in Why I Quit my Job, the word “text” or “passage” would be more appropriate.

3.4.5.2. Familiarity

On the assumption that familiarity in EFL/ L2 is a separate variable, the second part of the questionnaire collected data about participants’ familiarity with the passages in the tests. Carrell (1983) contended that familiarity in L2 reading stems from background knowledge related to all types of schemata. According to her, familiarity is multifaceted about background knowledge of the topic of the text, vocabulary and information or the content of the text, and, subsequently, added patterns of organization (Carrell, 1987).

In this way, there would be four items about familiarity instead of one global question. With regard to the factors identified in familiarity, the items were worded as follows: “26- I am familiar with the topic of the story”, “27- I am familiar with the pattern of organization of the story.”,” 28- I already know all the words of the passage” and “29- I am familiar with the information given in the story”. These items were designed to fit all types of passages, and they range from low-level to high level processes of comprehension. All in all, these items would be very useful with multiple-choice tests than written recall tests which are underpinning long-memory and the product view to reading.

3.4.6. The cooperative learning principles questionnaire

The main aim of this study is to examine the impact of CL on EFL male and female students’ RC, using collaborative strategic reading. The latter embarks both reading strategies and CL techniques whose focal point is assigning specific cooperative roles (Klingner & Vaughn, 1999). Besides, implementing CL techniques necessitates a careful consideration of principles in

terms of positive interdependence, promotive interaction, individual accountability, social skills and group processing (Gillies, 2003; Johnson & Johnson, 2013). All of these cannot take place without assigning specific roles (Apple, 2006).

Previous studies investigating CSR in RC did not view CL principles in their research and participants' diligence to the use of different roles (Al-Roomy, 2013; Fan, 2010; Alamin & Ahmed, 2014; Karabuga & Kaya, 2013); instead, participant observation was carried out in order to unveil how meaning is constructed in texts using CSR and to reveal the strategies used for overcoming comprehension breakdowns (Fan, 2009).

Likewise, functional analysis of interactions has been very common for CL in RC, yet Oortwijn, Homan and Saab (2009) explained that functional analysis as related to individual perspective and focuses on already defined categories in group interaction. It may, then, disregard other aspects of CL which would be invisible in that case since this study explores gender differences too.

The questionnaire of CL includes 19 items distributed along the five principles of CL (Appendix V). For positive interdependence, two basic elements were taken into consideration, outcome and means interdependence. There are four items. The first two items were reported from Gillies's (2003) conceptualizations of positive interdependence. That is, the first item refers to group mates ensuring that everyone fulfilled his share of the task. However, the second question is for confining the success of the group performance to all members. It was also explained by Johnson, Johnson and Smith (2013) as outcome interdependence. Third, another item corresponds to the need for reciprocal helping as it was asserted by Kagan and Spencer (2010). Fourth, the last item reports sharing means to complete the task in hand. This was ascribed by Johnson et al. (2013) while deciphering the component of means interdependence.

The category of individual accountability comprises (04) items. First, Johnson and Johnson (2014) asserted that one of the requirements of successful individual accountability is to get students explaining what they have learnt from

peers. Therefore, the first item reveals the learners' ability to reflect on what they have learnt from their group work. The second item refers to completing one's share of the work alone. In other words, Johnson and Johnson (2008) referred to this as the act of avoiding hitchhiking and social loafing.

The third item in individual accountability is an attempt to establish positive interdependence via individual accountability. That is, Gillies (2003) contended that to strive for positive interdependence is an indicator of individual accountability. Thus, the third item is for facilitating the work of others in the group. The last item reports the learners' reflections on their personal contribution to the achievement of their group. That draws upon the feeling of personal responsibility in individual accountability as it instigates the learner to perform well (Johnson and Johnson, 2008)

The four items corresponding to promotive interaction are essentially for retrieving responses about interaction patterns. The first item is about group mates spending more efforts for goals accomplishment. This has been for the advocacy to commit more efforts to achieve the intended goals (ibid.). In addition, the three remaining items are pertaining to Gillies (2003) deconstruction of face to face interaction by setting three main aspects: (1) providing explanation and information to assist understanding, (2) improving performance via constructive feedback and (3) exchanging ideas and supporting peers to solve problems.

Generating the items of social skills is controversial drawing upon the state of art in CL. This can be perceived as Gillies (2003) deconstructed the concept of social skills into interpersonal and small group skills. Conversely, Johnson and Johnson (2012) fused small group and interpersonal skills under social skills. In this way, to avoid overlapping and confusion in analysis, social skills are regarded as one category in this study. The four items, then, are falling under the following factors: coordinating efforts, trusting each other, communicating accurately and resolving problems constructively.

The last set of items for group processing includes three (03) items. Those items are generated from Johnson and Johnson's (2014) statement about group

processing. In this concern, the first item refers to the group members' overall evaluation of their performance. The second item is for the decision on what to keep as good acts, and the last one is for what to alter in the future to enhance subsequent performance.

3.4.7. Interview

The current study deploys two types of instruments: quantitative and qualitative. The reason for collecting data of different forms is to gain a deeper understanding of the research context via exploiting the strengths of each paradigm (Creswell & Creswell, 2018). In CSR studies, interviews were implemented to report EFL students' perceptions towards the use of CSR (Fan, 2010) and to confirm findings about participants' attitudes towards CSR (Al-Roomy, 2013).

Utilizing an interview, a qualitative research tool, enables to clarify the findings in the questionnaire of CL principles as well as in the pre- and post-tests and to validate any inferences drawn out of them. The interview is semi-structured probing over the already planned questions for more explanations and subsidiary factors whenever the researcher estimates the need for more information or when the responses are uninformative (Lodico et al, 2010).

The interview includes questions requiring responses on the effectiveness of CSR in RC and reading strategy use (Appendix VI). In addition, the remaining questions correspond to the categories of the questionnaire of CL principles with respect to gender differences. Indeed, the findings may require further explanation and confirmation especially for gender differences and for what is happening in each group. Furthermore, there are questions retrieving participants' perceptions about working in mixed-gender groups with a majority of females and about role conflicts.

The first five questions are related to attitudes towards implementing CSR in reading classes. The first question reveals the extent to which participants were involved and interested in CSR. Second, the question reporting how CSR helps participants understand texts is related directly to the pre and post-tests, which are for predicting, making inferences, explaining difficult words and

summarizing. That is, interviewees are expected to mention those aspects in their responses

Questions three and four are about the impact of CSR on the strategic behaviour of the participants. Correlated with the outcomes of the reading tests and the survey of reading strategies, these questions help providing a clear cut of the impact of CSR on reading strategy use. The fifth question retrieves participants' overall perceptions about studying reading with CSR. This question is double-barrelled, depicting also the students' views about working cooperatively in reading classes.

In questions six and seven, as long as the participants took charge of selecting their group mates, the selection on the basis of friendship might yield some implications related to attaining goals and interdependence. That is, grouping participants in mixed gender groups taking into account friendship and proficiency level may evoke changes in group performance and interactions (Harmer, 2007; Jacobs, 2004), yet dominance and conflict may even occur in those heterogeneous groups (Dornyei and Murphy, 2003).

The eighth question is related to roles and role conflict. There are some roles which are ascribed to males, and females tend to strive with them such as the leader role (Carli, 2001). This question provides insights on how roles are perceived in CSR and how role conflicts are related to the principles of CL. In addition, question nine reports participants positive interdependent attitudes, and its probe reveals the extent to which the leader and announcer roles in CSR are respected. Moreover, this question retrieved and confirms responses in the questionnaire for outcome interdependence.

Question 10 obtains responses on individual accountability. It sorts out whether a participant receives help or facilitates the task of others. In addition, clunk expert role might be reported herein, or the methods deployed by students to overcome comprehension breakdowns. Next, question 11 is directly generated for promotive interaction, more precisely encouraging behaviour, and the encourager role in CSR. It would have been redundant to explore encouragement behaviours while one of the assigned roles is the encourager.

Question 12 complies to a large extent with question 12 in the questionnaire. It is related to participants' respect of turn-taking. For instance, in group work, male and female learners differ in respecting the floor of conversations (Bell, 1985; Myaskovsky, Unikel and Dew, 2005). This may, in turn, affect group performance. Question 13 may retrieve how participants interact in problem-solving situations. As such, different patterns of interaction such as negotiations, argumentation and questioning may prevail across males and females (Wilkinson, Lindow and Chiang , 1985).

Questions 14 and 15 pertain to social skills. Those questions are confined to Carli's (2001) conclusions about dominance and aggressive behaviour of males towards females. Asking participants to answer the questions would yield the interpersonal and small group skills utilized by participants. Probing more responses for negative answers would relatively demonstrate females or males resistance to assertive and hostile attitudes in CSR groups. The last question solicits any possible evaluation of group acts by participants to confirm the responses in the questionnaire. It is one question to ensure whether students are really aware of group processing skills or not.

3.4.8. Learning logs

Collaborative Strategic Reading (C.S.R) learning logs are indispensable. Structuring the group members' work and interactions, they have been widely used by researchers who implemented CSR in reading classes (Klingner & Vaughn, 1999; Fan, 2010; Al-Roomy, 2013) for keeping students in track of what is going in the reading class and their groups since they record their responses and attempt to generate answers for the upcoming tasks using a particular number of strategies (Klingner& Vaughn, 1998).

Furthermore, learning logs enable to obtain an account of two core elements in cooperative learning, positive interdependence and individual accountability. Checking out each personal log helps to ensure whether each participant has fulfilled his share of the task alone or not, and comparing the personal and group logs allows knowing the extent to which group members are positively interdependent, more specifically outcome interdependence.

These learning logs are concerned with the three main sections in CSR: before, while and after reading. First, “before reading” involves previewing endowing two basic questions, “what do I already know about the text?” And “what do I think I will learn from the text?” Indeed, previewing questions demonstrate crossovers with predicting. Second, “while reading” requires two strategies click and clunk as well as getting the gist. Third, “after reading” is the last step in CSR comprising wrap-up strategy with two essential tasks on formulating relevant questions about the text and on writing what the students have just learned from the text.

Assuming that CSR learning logs may vary, in the current study, learning logs were designed by Klingner and Vaughn (1999) and were adapted for both individuals, personal logs and the whole group, group logs (Appendix VIII). In these learning logs, the tables had been written vertically, yet in this study, they have been pivoted to the left so as columns appearing on the top will be on the left. In addition, in the “during reading” columns, a line has been drawn to divide it into Click/ Clunk and Get the Gist.

3.4.9. Cue sheets

Along CSR implementation phases, group members appear to have different roles before, during and after reading. Assigned into CL roles, participants received explicit instruction on how to use strategies and on their roles. In this concern, it is important to get students to the patterns of practising the strategies and to have them acquainted with the CL roles. Since the description of the roles and strategies might have been loaded for participants, it would have been practical to provide participants with cue sheets.

These cue sheets were widely used in numerous studies examining the impact of CSR on EFL/ L2 RC (Al-Roomy, 2013; Fan, 2010; Karabuga & Kaya, 2013; Lee, 2016; Al-Safadi, 2017) and reading strategy use (Alamin & Ahmed, 2014). The distribution of roles and strategies in CSR is according to the Cue Sheets for Collaborative Strategic Reading adapted from Klingner and Vaughn (1999) (Appendix VII)

3.4.10. Reading materials

In order to stimulate participants' reading strategy use, it is important to implement authentic texts, different genres and to promote decoding and interpretations skills. These are part of Balanced Comprehension Instruction Model suggested by Duke and Pearson (2002). These practices help in the gradual release of responsibility from teachers to students in order to use strategies independently and correctly.

Researchers investigating CSR contended that the technique is mostly applicable with expository and narrative texts (Klingner & Vaughn, 1999), yet the scope of this study is expanded to using a variety of content and genres. That is, as long as gender has been regarded in this study with reference to interest and familiarity, reading materials utilized while implementing CSR must have been selected according to these variables. In addition, considering the number of weeks to implement CSR, reading materials were consistent in terms of number, content and genre.

It was, then, important to consider gender in the selection of the authentic materials so as to comply with cultural norms of the study's context since the class is mixed including students with a variety of interests, language proficiency and cultural background (Belaid & Murray, 2015). For instance, in some contexts, which might be the case of this work, to expect female students to read about male characters (Sunderland, 1992) and to have male students uninterested in neutral texts (Maehara, 2010) are so common in too many contexts. Thus, this research adapted Nordin and Eng's (2017) approach to include genre and content preferences in choosing authentic material.

Therefore, three types of texts have been identified male, neutral and female oriented. As the experiment lasted nine weeks, from each category, six passages were selected taking into account the content, genre and consistently considering the participants' level ranging from intermediate to upper-intermediate.

Female oriented passages encompassed distinct content and genres. First, a full-text entitled "Balancing Home and Work" was selected from *Academic Encounters* by Brown and Hood (2002). Second, in the same book, another

female oriented passage was adopted entitled “Cooking Food in Salted Water” by Nosrat (2017) is belonging to expository writing and falling within home, household and cooking category.

Neutral passages included three texts. First, a passage entitled “ Privacy and the Media” from Academic Encounters by Brown and Hood (2002) falls within human relations, psychological approach, politics, authorities, public affairs. In addition, the third text was chosen, whose title “CLIMATE CHANGE 'MORE DANGEROUS THAN TERRORISM’”. This passage pertains to Danger and Threat content and general interest articles.

Regarding interesting content and genres, distinct male oriented passages were selected. First, from automobiles and other motorized vehicles and narrative genre, a passage entitled ” Lamborghini” about the evolution of Lamborghini cars and company, adapted from Lamborghini Cars by Bradley (2010). Finally, drawing on sports and messages as interesting items, a passage entitled “Bodyweight Training Builds Balance and Prevents Injury” which is concerned with body building. It was excerpted from Your Body is Your Barbell by BJ Gaddour (2014).

3.5. Procedure

According to the aim of the study and its research method, the implementation of the research means followed a number of essential phases namely, pilot testing of the tools, pre experiment, experiment and post experiment.

3.5.1. Pilot testing

It may be plausible to pilot the instruments to ensure their validity and whether they measure accurately the intended categories in research (Mackey & Gass, 2003). Piloting was carried out for the questionnaires and RC tests. These tools constitute the main elements in the collected data for the experiment. Indeed, pilot testing is an important step in conducting any sort of experimentation (Lodico et al, 2010).

Moreover, pilot testing of the instrument took place in the first semester of the academic year 2018-2019 with first year EFL students at the University of Algiers 2. This entails that the pilot group is not the same as the sample group of the study, yet they pertain to the same population and share a common level of proficiency and individual differences in terms of gender, language use, age, educational background and cultural norms

3.5.2. Piloting of the questionnaires

Piloting the questionnaires is a prerequisite to conduct any research (Dornyei & Tagushi, 2010). It should be carried out for both standardized surveys and authentic questionnaires (Lodico et al, 2010). In this study, the SORS and the questionnaires of the SI, PI and familiarity were respectively designed and validated by Mokhtari and Shoerey (2001) and Brantmeier (2006), while, the questionnaires of CL preferences and principles were designed by the researcher.

To pilot a questionnaire, there are a number of requirements sat by Dornyei and Tagushi (2010). A pilot test of the questionnaires, then, emphasized the clarity and ease of the items and instructions in addition to the layout, and it is necessary to report time spent by participants to answer all the questions and any drawbacks in the cover letter. Further, attention was paid to the gender of the participants. That is, the pilot group should yield consistencies with the target sample including, for instance, gender, race and homogeneity or heterogeneity (Mackey & Gass, 2003).

Pilot testing of the questionnaire of CL preferences was carried out with two distinct groups of five males and four females studying respectively in groups (02) and (10). For females, the duration of responses ranged from five to seven minutes. Besides, question five of the mother tongue was ambiguous for two participants although three choices were beside the item. This question was altered to “My first language is”, and there are participants who wanted to write more than one female peer in question seven. This may be explained through the large number of females in EFL classes at the University of Algiers 2. For male participants, the duration of answers was ten minutes, and the wording was clear

except for one student who asked for the clarification of the word “peers”, which was changed to classmates.

Although the survey of reading strategies was validated by Mokhtari and Shoerey (2001), there was a need for piloting owing to the discrepancy of the study’s context wherein English is a foreign language. The previous female participants answered the questionnaire with seven male participants from group (08). Response time for females lasted up to 10 minutes, yet males spent up to 12 minutes. In addition, females did not demonstrate any problem with wording; males, on the other side, indicated that they could not understand the term “adjust” in item (11) twice. This term was substituted by “modify”, and participants pointed out ambiguity in item (20) with the phrase “typographical features”, which was deconstructed into “bold type, italics, capitalization and large font size”

For the questionnaire of situational, perceived interest and familiarity, seven males and 15 females from group (13) answered the questionnaire in 18 minutes. There were too many remarks regarding words clarity. This is obvious since it was addressed for American students of Spanish as L2. One male participant indicated the phrase “Polished style” in item four in cohesion. The latter was turned into “a sophisticated style”.

In addition, four males and three females asked for the explanation of two phrases and two words. The phrase “thought provoking” in question one in engagement was substituted by “The text/story made me thoughtful”; in the same category, “relevant” in item two was altered to “important”. In emotiveness, in item three, “eeriness” was put “creepiness”. Moreover, the last item in perceived interest included the term “grabbed”, which was rephrased as “attracted”. For familiarity, wording was clear for the participants.

The questionnaire of CL principles was administered to five males and eight females from group (10). First, the first item in positive interdependence was reported by two males and three females especially for the words “fulfill” and “share”. Thus, the item was rephrased as follows: “In my group, we ensure that everyone completes her or his part of the work”. In the same category, the

term “confined” in item two was indicated by one female. It was replaced by “related”. In promotive interaction, the fourth item including the phrase “constructive feedback” was prevailing among all students. The phrase was restated as follows:” helpful comments”. As for the duration, participants took 14 minutes to answer all questions.

3.5.3. Piloting of reading comprehension tests

Since the three reading tests are authentic, piloting encompassed three main aspects. The duration of the test was set according to the participants’ average time spent to complete the tests. In addition, some words may be difficult for students to comprehend. This would have been regarded only if those words had been frequently reported. The last criterion was the clarity of instructions which are crucial for directing participants’ to answer test items.

Implementing three tests with the same structure enabled to correct unclear instructions in the remaining tests when the item had been indicated by participants in a test. To begin with, the instruction in the first test “Circle the best answer, one option, for the following statements” which was rephrased in the subsequent tests as: “Complete the following statements by ticking (√) the best answer; choose ONE OPTION.”. In addition, it had been realized that some words were difficult for most of the participants. Then, glosses were added below the texts.

The first RC test was administered to seven males and 15 females from group (13). For difficult words, six males and four females reported that the word “chop” was difficult to understand, and three males indicated that the word “sob” is unclear, while, two other females asked for the explanation of “uproar”. Those words were glossed below the text. Moreover, the words “amid” found awkward for two females and one male, and “ranch” for three males and two females, were respectively substituted by their synonyms “among” and “farm”. As for the duration, the average response time was 45 minutes.

Piloting of the second RC test was carried out with six males and 15 females from group (06). The mean time of participants’ answers was 40 minutes. Glosses for vocabulary were put beforehand resulting in one word,

“struck” indicated by two males and a female; that word was not glossed since it is the simple past form of the verb “to strike”, which participants were going to find out its meaning from the text in the questions. For the third test, four males and 18 females from group (10) participated in the piloting. No difficult vocabulary was indicated, and the average duration was 35 minutes.

3.5.4. Pre-experiment

This study took place in the first semester of the academic year 2019-2020. In the third week of October, 2019, parallel to the second week of the first semester, the pre test and the questionnaires of SI, PI and familiarity were administered to the control and experimental groups, preceding the experiment. The experimental group included two groups 13 and 08, taught by the researcher; its participants answered the questionnaire of CL preferences, while, the control group consisted of two groups 04 and 05, taught by another teacher.

It is important to note that all first year students at the University of Algiers 2 adhere to the same syllabus, ascribed by the pedagogical teams of the Department of English. Accordingly, the participants supposed to be in the experimental group in the pre test were 106 and in the control group were 92, yet further arrangements would be carried according to the scope of the study and the ratio of males over females in the sample.

The pre test including the RC tests and SORS, with the questionnaires of situation, perceived interest and familiarity were administered to the experimental and control groups in one session lasting three hours. Indeed, the session of reading and writing’s duration is three consecutive hours. For each RC test, there was a questionnaire of situational, perceived interest and familiarity. In this concern, time sequences were of paramount importance in order to carry out all those instruments in three hours. That is, there were three phases, with pauses of five minutes. In each phase, a test was followed immediately by its questionnaire. By the end of that process, SORS was administered to the participants as the time left from the session was around fifteen minutes in every group.

By the end of the pre test, participants in the experimental group answered the questionnaire of CL preferences. In the second week at university, to be acquainted with each other and to establish new friendships might have been challenging for freshmen; they were required, then, to take the questionnaire and to fill it at home. Besides, there was a classification of participants according to their achievement in the three RC tests. In other words, participants in the experimental group were divided into high and low achievers.

The sampling procedure in this study was to have been convenient owing to limited access to the target population. That is, the random selection of the participants was not possible. From one side, another hindrance appeared at glance. It was the small number of male participants compared to females. For instance, in the experimental group, males were 21 and in the control group 20. On the other side, it had been argued for several times that mixed gender and level groups are effective in CL (Harmer, 2007; Jacobs, 2004; McDonough et al, 2013). Besides, this study is gender-based, and to consider what is going properly between males and females in cooperative group would be significant for this research.

As a matter of fact, the sampling procedure was switched to *purposive*. Regarding the responses in the questionnaire of CL preferences and the results of the pre RC tests, the selected participants in the experimental group would be solely from mixed groups, with mixed gender and level of reading proficiency. Thus, the participants in the experimental group cumulated a total of fifty (50) participants including 10 groups of five members. These groups, in turn, consisted of three females and two males as shown in (Appendix IX)

On the other hand, to establish equilibrium between treatment and control groups, the selected participants would include 50 participants. In addition to the 20 males, 30 females would be randomly selected to avoid imbalance in the number of assigned groups and to control any further extraneous variables related to the gender imbalance in the experimental and control groups. In short, the number of participants in the control and experimental groups is alike with the same ratio of males to females.

Mentioning validity and reliability, the utilization of situational, perceived interest and familiarity questionnaires would enable to control any extraneous variables accounting for gender differences and by the same token affecting the finding of the results in the pre and post tests for both treatment and experimental groups. That is, taking into account gender orientation of the passages in the three RC tests, SI, PI and familiarity may affect both males and females achievement before or after the experiment.

3.5.5. Experiment

Implementing CSR for the experiment lasted nine sessions. The first three sessions completely exploited the time of reading and writing module, which is three hours, but for the remaining six weeks, only an hour and a half were spent. This was due to the time management of reading and writing classes, necessitating the equal division of the skills taught in reading and writing. After completing the RC pre test and the cooperative learning preferences questionnaire, a sociogram of cooperative groups was drawn on the basis of gender, achievement in the pretest, friendship, first language use and age (Appendix IX).

After assigning cooperative groups, the first and second sessions in addition to an hour of the third session were devoted to the explicit instruction of reading strategies and to the explanation of collaborative strategic reading to the experimental group participants. Further, the last part of the third session was for the participants' first performance of collaborative strategic reading guided by the teacher.

The explicit instruction of reading strategies embarked the set of strategies assigned in the syllabus of EFL first year courses at the University of Algiers 2. These strategies constituted the pre, post tests and deployed in the reading tasks of CSR. The strategies were as follows: previewing, predicting, identifying the main idea, inferring the meaning of difficult words and summarizing. The latter was not considered in the syllabus of the first semester, but it was implemented since it was part of the reading tests, and the last section in the learning logs, wrap up, considered summarizing of the elements learnt from the text.

When the participants had received the instruction in the required strategies, the teacher-researcher explained CSR. First, roles in CSR groups were explained through handing cue sheets (Appendix VII) to each participant. Due to the lack of a male participant to fulfil the sixth role, any participant occupying the role of a leader would take charge of the time keeper too. After that, personal and group logs (Appendix VIII) were provided to participants. For personal learning logs, there was a demonstration of how to utilize those logs with respect to the roles, the strategies to deploy and the cue sheet.

For instance, in Click and Clunk, the leader calls whether there are difficult words; then, the announcer asks if there are members who have difficult words to understand; once a member demonstrates that difficult word, the clunk expert equips her or him with the set of techniques from the cue sheets to find out the meaning of the word. Another example is for the reporter, who in addition to her or his contribution, reports the best answer in the group log.

Once the participants were familiar with different roles, materials and steps in CSR, the teacher asked the participants to arrange themselves into groups according to the sociograms (Appendix IX). Then, with the guidance of the teacher, they commenced a reading task using CSR. In this case, the teacher performed many roles on behalf of the participants and provided direct feedback for their performance in the groups; the teacher, then, kept supporting and providing help whenever necessary to the participants. For the evaluation, the teacher called the reporter in each group to present the group answers, assessed the group responses and asked the whole class to comment and to constructively yield feedback.

Commencing from the fourth week, the participants worked on their own in CSR groups. Owing to the limited number of males, switching of members in mixed groups was not allowed as long as they would be regarded solely for the analysis. Participants, then, repeated the same procedure for six weeks with six texts divided equally into male, female and neutral texts (see reading materials).

3.5.6. Post-experiment

By the end of the treatment in the last week of January 2020, the post test was administered to the participants in the control and experimental groups. The post test comprised the RC tests and the SORS. The order and time sequences were kept the same as in the pre test.

Subsequently, the questionnaire of CL principles and the interview were administered to the experimental group in the second week of February due to examinations of the first semester. More specifically, the interview was administered to 10 participants including five males and five females. In addition, the control group participants taking the post test were identical to those sitting for the pre test.

3.6. Methods of Data Analysis

The data collected in this study were both quantitative and qualitative. The quantitative data of the questionnaires and tests were coded into numerical values in order to interpret them deploying descriptive and inferential statistics; this was carried out with Statistical Package of Social Sciences (SPSS) V 26.0, while, qualitative data of the interview and learning logs were respectively analyzed using thematic and content analysis. Furthermore, each participant was labeled with a number to ensure the confidentiality of participants.

Using a factorial design for the experiment to control any extraneous variables, there was further grouping of participants in the pre and post tests to compare between males and females. In this way, new subgroups appeared for analysis as follows: male study group, female study group, male control group and female control group.

To insert data in SPSS, the assigned groups and gender of participants were attributed numerical values in specific columns. That is, gender as a variable included the value “01” for males and “02” for females. In addition, the assigned groups, experimental and control, in the pre and post tests obtained numerical labels: pre-study group “01”, post-study group “02”, pre-control group “03” and post-control group “04”. Besides, to respect the confidentiality and privacy of participants, participants were labeled numbers instead of their names.

3.6.1 Methods of coding reading comprehension tests' data

All RC tests of the study include 10 questions for predicting, main idea, supporting details, making inferences, inferring meaning of difficult words and summarizing. Several studies considered the test items and categories as numerical discrete variables with a ratio scale (Fan, 2010; Karabuga and Kaya, 2013; Lee, 2016). In other words, each correct answer was scored “01” and a wrong response “00”. This cumulated a total of “10” marks for each test. In addition, each of the test categories with more than one question had its questions computed to be correlated with reading strategies for validity.

3.6.2. Methods of coding the questionnaires' data

There have been numerous studies using the five points Likert scale in SORS, rated from “strongly disagree (1) ” to “strongly agree (2) ”(Mokhtari & Shoerey, 2001), sources and perceived interest questionnaire (Brantmeier, 2006) and attitudes towards CL (Fan, 2009). Similarly, the administered questionnaires embrace Likert scale items. That is, Likert scale retrieves interval data for opinion providing statements ranging from “1” to “5”, and the zero here is not true, but the distance is respected between the values.

For SORS, scales were labeled as follows: “I never or almost never do this” (01); “I do this only occasionally.” (02); “I sometimes do this” (03); “I usually do this.” (04); “I always or almost always do this.” (05). For the questionnaires of situational, perceived interest, and familiarity and CL principles, the five points scale was ascribed: “Strongly disagree” (01), “Disagree” (02), “Uncertain” (03), “Agree” (04) and “Strongly Agree” (05). In short, if a participant ticked “Disagree” or circled “I do this only occasionally” for an item in the questionnaires, it would be turned into “02” for analysis.

In the questionnaires, categories constituting the variables of the study included many items. This could have been time-consuming and not yielding the expected outcomes. For instance, global strategies in SORS included the items 1, 3, 4, 6, 8, 12, 15, 17, 20, 21, 23, 24, 27. All of these items reflect one category. Therefore, numerous set of items had their means computed for each participant, except for perceived interest and familiarity, which set of items cumulated

variables and not categories. The table below demonstrates the items computed into categories and variables in each questionnaire.

Table 3.3

Means Computed in the Questionnaires

	Categories	Items
Survey of Reading Strategies	Global Strategies Problem Solving Strategies Support Strategies	1, 3, 4, 6, 8, 12, 15, 17, 20, 21, 23, 24, 27 7, 9, 11, 14, 16, 25, 28 2, 5, 10, 13, 18, 22, 26, 29, 30
Situational/ Sources of Interest	Cohesion Prior Knowledge Engagement Ease of Recollection Emotiveness	1, 2, 3, 4 5, 6, 7 8, 9, 10 11, 12, 13 14, 15, 16
Perceived Interest and Familiarity	Perceived Interest Familiarity	17, 18, 19, 20, 21, 22, 23, 24, 25 26, 27, 28, 29
CL Principles	Positive Interdependence Individual Accountability Promotive Interaction Social Skills Group Processing	1, 2, 3, 4 5, 6, 7, 8 9, 10, 11, 12 13, 14, 15, 16 17, 18, 19

As long as the results of the pre test of RC scores were reported, participants were classified into high and low achievers according to their achievement, in which they were categorized into high and low achieving. After that, participants selecting the same gender peers were disregarded, and only those with mixed matches were kept. In case, of overlapping, when participants with different levels of achievement chose the same participant, factors in terms of age, mother tongue and marital status were taken into consideration. The sociogram took the shape of the graph of sitting arrangement as suggested by Mc Donough et al. (2013). (Appendix IX).

3.6.3. Methods of coding the interview's data

There was a verbatim transcription of the recorded interviews. The script of the interviews was written as the interviewees affirmed in their responses to the questions. Besides, para-language and pauses in the interviewees' speech were transcribed between brackets [...]. Moreover, the data provided in the script were coded into categories. In addition, there were new categories which were not expected by the researcher since the data were qualitative which cannot be controlled or limited.

3.6.4. Methods of analyzing the learning logs

The answers of the participants in the personal and group logs received a content analysis. The latter embarked each type of texts separately; for example, "Balancing Home and Work" and "Cooking Food in Salted Water" were considered together for analysis. For each question in the logs, responses were considered either true or wrong, and the responses of the five groups were randomly selected for the analysis. These groups cumulated a total of 10 males and 15 females. Each set of personal logs were considered separately and compared with their group logs in order to examine the individual accountability and positive interdependence.

Individual accountability can be found through right answers in personal logs and positive interdependence through close proportions of correct and wrong answers in personal and group logs. In this way, the frequency of correct and wrong answers in personal and group logs were computed, Pearson Chi-Square test of independence was conducted to ensure whether the group logs' response and personal logs of males and females are alike or different.

3.6.5. Descriptive statistics

Descriptive statistics embraced counting the means, minimum, maximum values as well as the standard of deviation and the presentation of the means of the variables and the categories of tests and questionnaires were in frequency bar charts revealing differences between males and females. This implies that these bar charts included the values for males and females as well. Indeed, all the

means of the tests and questionnaires in the pre and post tests were presented in bar charts. They were counted for all participants and the subsidiary groups.

Furthermore, to divide cooperative groups, the scores of the three tests had their means computed for participants in the study group, and the median of those scores was retrieved in order to categorize participants into high and low achievers. After that, pie charts were drawn for the proportions of participants in gender, age, marital status and first language. All of these would only take into account participants who would opt to work with different gender peers.

It is important to note that there was a measure of spread, the standard of deviation, to measure the variance of data in each group, either male, female, or study and control. Accordingly, there were other measures of spread in terms of one-way analysis of variance (ANOVA) and univariate analysis of covariance (ANCOVA), which were subsequently used for the same variables but serving properly the rationale of the study. In few words, the standard deviation enables to clarify the sum of squares in ANOVA and ANCOVA.

3.6.6. Inferential statistics

Inferential statistics enables to yield assumptions about the data in the study and allows to confirm or to reject the hypotheses. According to the rationale of the study, a number of statistical tests had been carried out with respect to gender differences in each stage of the analysis. In this way, three types of statistical tests were utilized namely, one-way ANOVA, ANCOVA and paired samples t-test. Each of these tests aimed to answer one of the research questions and hypotheses or to control any extraneous variables. It was also confined to the level of significance (.05) for the null hypotheses.

The first sub-research question and the second main research question are about whether there are gender differences between males and females in RC and reading strategy use. For gender differences in RC, one-way ANOVA was ascribed to the three RC tests. The factor here was gender, and the dependent variables were the scores of the three tests for all participants including control and experimental groups. Similarly, one-way ANOVA was carried for the SORS

for all participants. The dependent variables were the categories: global, support and problem solving strategies, and the factor was gender as well.

To explore gender differences in interest and familiarity for the reading passages of the three RC tests in the pre test, one-way ANOVA for the three questionnaires corresponding to their respective tests was implemented. For each questionnaire, the categories of situational, perceived interest and familiarity were regarded as dependent variables and gender as a factor.

The third, fourth and fifth sets of hypotheses investigated respectively whether any gender differences in situational, perceived interest and familiarity of the three reading passages in the tests account for gender differences in their respective tests. In this concern, univariate ANCOVA was deployed for the three tests and the questionnaires for the reading passages. It included, for instance, RC test one scores as a dependent variable, gender as a fixed factor and situational, perceived interest and familiarity in questionnaire one as covariates. The same procedure took place for tests two and three with their corresponding questionnaires two and three.

To compare mean differences between males and females before and after the treatment, a paired samples t-test was carried out for the male study group, female study group, male control group and female control group. This concerned the RC tests and the SORS in the pre and post tests.

3.7. Validity and Reliability

This section addresses how the research design can obtain valid and generalized results in other populations. Each of these factors is discussed in internal and external validity subsections. In addition, the internal consistency of the research instruments is explored in the reliability subheading.

3.7.1. External validity

External validity can be understood as the extent to which the findings of a study take over the sample (Fraenkel et al., 2012). The study's sample is around 15% of the population. Indeed, samples ranging from 10 to 20% are representative (Singh, 2012). Besides, the sample is purposive complying with a

specific set of criteria in terms of gender, age and level of achievement; these characteristics are concomitant in the population.

For pretest-treatment interaction, participants were not aware that the pre tests were part of an experimental research about CSR in EFL reading. They just answered the SORS and the tests of RC. In addition, this study considered solely the impact of CSR on EFL RC with no further treatments. Thus, there were no threats of multiple treatment interaction.

Regarding selection treatment interaction, although initial attractions and interdependence might have appeared quickly amid participants in cooperative groups, a questionnaire about CL preferences had been administered before the experiment in which participants revealing willingness to work in mixed groups were selected for the study. In short, initial differences between participants could have been reduced by the questionnaire of CL preferences questionnaire and assigning participants according to friendship and level of proficiency in reading.

The study was conducted in an EFL context with freshmen students at the University of Algiers 2, and the means of measurements in terms of RC tests had been implemented before in many studies by Fan (2010), Alamin and Ahmed (2014), Karabuga and Kaya (2013) and Lee (2016). Thus, the specificity of variables may not decrease the generalizability of the findings. For treatment diffusion, the likelihood of communication between the treatment and control groups was less owing to the the students' recency at university and the advantage of conducting the experiment during the first weeks of the academic year.

In the study, the teacher was the experimenter himself. His impact could not have influenced the outcome of the study as his role was limited to guidance and providing help whenever it had been requested by participants. Besides, the reactive effect was not prevailing since CSR had been implemented as part of the reading and writing module; thus, participants' actual performance could be reflected in the study. Furthermore, switching roles in groups was required for

the participants, and the texts were varied including male, female and neutral texts. This had sustained participants' interest and motivation.

3.7.2. Internal validity

Internal Validity yields the extent to which the effects reported on the dependent variable in the experiment are confined to the independent variable instead of other variables, which are unexpected or unwanted (Spaulding et al., 2010). There were consistent attempts to control confounding variables in this study. These variables are mainly related to gender differences.

According to previous literature, variables in terms of text type, interest and familiarity cause gender differences in EFL reading. Thus, three types of texts were implemented in the pre and post tests: neutral, male- and female-oriented. In addition, experimental and control groups were divided into subgroups according to gender: male-experimental, male-control, female-experimental and female control. This could have also avoided threats related to statistical regression and differential selection of participants.

Assigning a control group in this study helped avoiding three potential issues related to history, testing and maturation. For history, there were no abrupt changes occurring either for both groups study and control. In addition, there was an accepted interval between the pre and post tests for both groups. Participants received the pre test in the second week and the post test in the last week of the first semester. This duration may be adequate for not recalling the items of the tests. For maturation, all first year EFL students at the University of Algiers 2 study with the same syllabus. As a matter of fact, development or change regarding achievement and language proficiency were the same for the control and study groups.

The administered instruments comprised two questionnaires from the literature related to the study: SORS, situational and perceived interest questionnaires. Although there were tested for validity and reliability, they were piloted for the target population of the study. In addition, the questionnaires of CL principles and preferences designed by the researcher were piloted preceding

the study. These instruments collected data about the variables addressed in the rationale of the study.

RC tests measured six categories: predicting, main idea, supporting details, inferring meaning, making inferences and summarizing. These categories were also exploited in the treatment. The pre and post tests, then, measured any further changes in the participants' performance due to the treatment. Moreover, the designed tests included three types of texts with different gender orientations. Similarly, the texts in the treatment were gender oriented as well including female, male and neutral texts.

Likewise, the six texts in the treatment comprised three types of texts with different gender orientation, and the length of texts in the tests and the experiment was relatively the same between 500 to 600 words. Besides, the tests were piloted regarding the length, duration, complexity of words and clarity of instruction.

3.7.3. Reliability

Fraenkel et al (2012) explained reliability as: “the consistency of scores or answers from one administration of an instrument to another, and from one set of items to another” (p. 147). In this study, it is possible to measure the internal consistency reliability, which refers to the internal consistency within the instrument.

In other words, internal consistency statistically yields whether the same variable is measured across all items of the scale or not (Spaulding et al, 2010). One of the possible ways to achieve this is Cronbach Alpha Coefficient. Reliable measures indicate high reliability when alpha coefficient is above (.60). Therefore, the questionnaires of interest, familiarity, SORS and CL principles were measured for internal consistency.

Conclusion

Owing to the examination of gender differences in this study, there has been a wide range of research tools in terms of RC tests, questionnaires of reading strategies, situational, perceived interest, familiarity, CL preferences and

principles with an interview. To implement CSR, a purposive sample and a limited number of mixed groups were selected. This, in turn, led to further divisions of the control and experimental groups taking into account males and females as subsidiary categories to avoid any threats to internal validity. In this way, data analysis examines differences between males and females.

CHAPTER FOUR:
PRE TEST
RESULTS

CHAPTER FOUR: PRE TEST RESULTS

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Introduction

This chapter is devoted to the analysis of the findings of the pre test tools administered to the whole sample including both experimental and study group participants. The pre test tools are quantitative and require a reliability analysis to measure the internal consistency within each tool. To answer the first main research question, an exploration of gender differences in the three pre Reading Comprehension (R.C) tests with their three questionnaires of situational interest or Sources of Interest (S.I), Perceived Interest (P.I) and familiarity. Besides, there is an examination of the effect of gender variances in SI, PI and familiarity on RC. Lastly, this chapter ends with exploring gender differences in reading strategy use.

4.1. Reliability Analysis

The analysis of reliability in this study embarks internal consistency of the collected data. Cronbach Alpha test of reliability has been implemented for the three RC pre tests, the Survey of Reading Strategies (S.O.R.S), the three questionnaires of SI, PI and familiarity. In addition to the test and questionnaires' items, the computed categories in each test or questionnaire are included for analysis next to their respective items.

Table 4.1

Test of Reliability of the Quantitative Tools

	Reading Comprehension Test 01		Reading Comprehension Test 02		Reading Comprehension Test 03	
	Cronbach's Alpha	N of Items	Cronbach's Alpha	N of Items	Cronbach's Alpha	N of Items
Reading Comprehension	.654	11	.611	11	.663	11
Sources of Interest	.849	21	.872	21	.803	21
Perceived Interest	.906	10	.915	10	.858	10
Familiarity	.769	5	.649	5	.705	5
SORS	Cronbach Alpha .847			N of Items 33		

High internal consistency implies that the same trait is measured across all items and their categories. Utilizing Cronbach Alpha as a measure of internal consistency, the Alpha coefficient should exceed (.60) to indicate consistency within the scale. For the three RC pre tests, all the test items with their total scores yield Alpha coefficient values beyond (.60) with the items of familiarity in the second questionnaire. Besides, high internal consistency is reported in the remaining SORS, SI, PI and familiarity items with their computed categories as the Alpha coefficient exceeds (.70). Thereby, there is a high consistency within the instruments of the pre test

4.2. Gender differences in EFL reading comprehension

In this study, there are two hypotheses related to gender differences in EFL reading comprehension (R.C). The first is alternative stating that there are gender differences in EFL RC, and the second is null rejecting the existence of any gender differences in EFL reading.

4.2.1. The first reading comprehension pre test

On the assumption that the text type may account for gender differences in RC (Brantmeier, 2003b; Bugel & Huunk, 1996), the total of the three passages is disregarded. Instead, each test containing a specific gender oriented passage is explored separately in order to compare between males and females achievement in the pretest. In this concern, the tables below reveal the mean scores of male and female participants in the pretest.

Table 4.2

Descriptive Statistics of Male and Female Participants' Scores in the First Reading Comprehension Pre Test

		N	Minimum	Maximum	Mean	Std. Deviation
Female	TtlRdCmprTst1	60	1,00	9,00	5,3500	1,87603
Male	TtlRdCmprTst1	40	1,00	9,00	5,1750	2,04923

The table above demonstrates nuances in the mean scores between male (5.17) and female (5.35) participants. These values indicate average achievement in the

first test including the female oriented passage, regarding the possible total of correct answers out of 10 and the maximum obtained score (9.00). In addition, male scores reveal large variance (SD 2.04) compared to the females (1.87) which are relatively clustered around the mean. A possible explanation of those values can be obtained via comparing the percentage of correct answers in the ten items of the test.

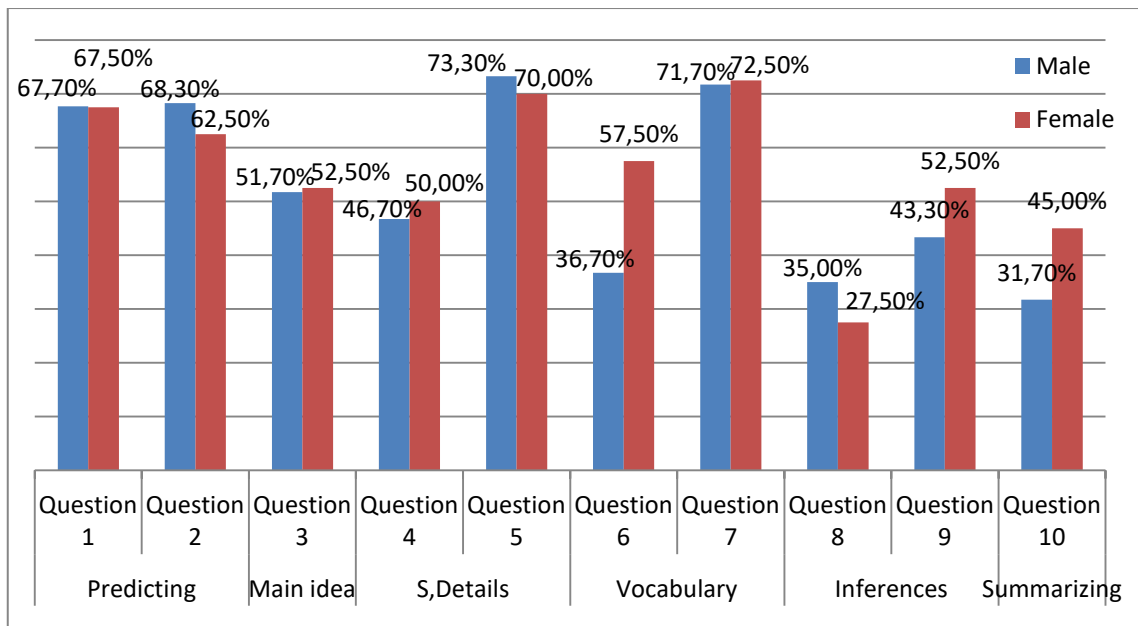


Figure 4.1. Percentages of Correct Answers of both Genders in the First Reading Comprehension Pre Test.

The percentages of correct answers are relatively equal in numerous questions: questions of predicting, identifying the main idea and supporting details, yet a trivial increase in males' achievement can be discerned in question two of predicting and question five of supporting details. Besides, there is an inconsistency in explaining vocabulary as the sixth question yields higher achievement of females (57,50%) than males (36,70%), and the seventh question indicates relatively equal percentages with (71,70%) for males and (72,50%) for females.

Similarly, another fluctuation can be perceived in the item of inferencing, in which males scored higher in question eight while females obtained high scores in the ninth question. Furthermore, the percentages of correct answers of both genders in making inferences were low compared to the other items in the test. In

addition, participants did not obtain high scores in summarizing with more advantage of females (45.00%) compared to their counterpart (31,70%).

In short, the average scores obtained by all participants including both genders are due to their equal achievement in predicting, finding main ideas and supporting details, while, the trivial differences can be indicated in question six of explaining difficult words, question nine of inferences and question 10 of summarizing.

The previously mentioned results yield means and frequencies of correct responses without taking into account the variance in those values. It is necessary to explore whether any possible variance in the scores obtained in the first reading pre test by males and females can be significant.

In this way, one-way analysis of variance (ANOVA) for the scores of both genders in the first RC pre test has been carried out. That is, the mean scores can be similar, but the variance between the means of each gender, and the whole scores can be greater than the variance between each value with their respective mean in each group, either male or female.

Table 4.3

ANOVA of Males and Females Scores in the First Reading Comprehension Pre Test

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
TtlRdCmprTst1	Between Groups	,735	1	,735	,194	,661
	Within Groups	371,425	98	3,790		
	Total	372,160	99			

The sum of squares between groups (.735) is considerably smaller than within groups' (371.425) which, in turn, results few mean square (3.790) owing to the large degrees of freedom (98). Therefore, the F statistics (.149) reveals that the variance between males and females in the first RC pre test is trivial as their means are not further apart, yielding a level of significance (.661). The alternative hypothesis is rejected, and the null is accepted. In few words, there are no gender differences in the first RC test.

4.2.2. The second reading comprehension pre test

The second RC pre test contains the male oriented passage. Mean differences as well as minimum and maximum values between males and females in the pre test were reported in the table below.

Table 4.4

Descriptive Statistics of Male and Female participants' Scores in the Second Reading Comprehension Pre Test

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	TtlRdCmprTst2	60	1,00	8,00	3,7667	1,83531
Male	TtlRdCmprTst2	40	1,00	7,00	4,4250	1,31826

Both genders indicated low achievement in the second RC pre test. This can be viewed in the maximum values which are (8.00) and (7.00). In addition, males relatively scored higher (4.42) than females (3.76). The difference in mean values is discernible although they are under the average value (5.00). Besides, female scores are not clustered around their mean, yielding high SD (1.83), yet male scores are likely to spread out from their mean with a SD (1.31). Accordingly, the possible interpretation of those distinct values is in Figure 4.2.

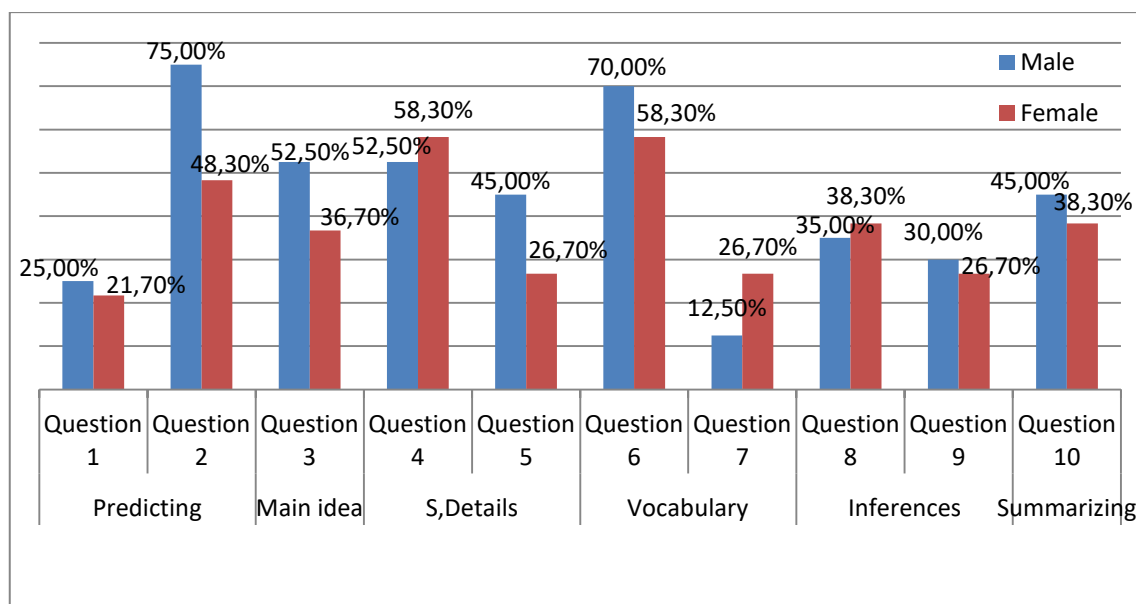


Figure 4.2. Percentages of Correct Answers of both Genders in the Second Reading Comprehension Pre Test.

The differences in the total mean scores of males and females may refer to the increased percentages of correct answers of males over females in a number

of items. In the first question of predicting, a slight increase is found in males' percentage (25.00%) compared to females (21.70%). Besides, males achieved considerably in question two of predicting with (75.00%) over (48.30%) in females scores as well as in question three of the main idea, in which the males right answers were (52,50%) and females (36,70%) . Likewise, correct answers of males in question six for dealing with difficult vocabulary are (70.00%), and females' right responses are (58.30%), yet in the same category, in question seven, females outperformed males with respectively low values (26.70%) and (12.50%).

In addition, slopes in males and females achievement were clearly perceived in supporting details and making inferences. In supporting details, females percentage (58,30%) of right answers is slightly higher than males (52,50%) in question four, yet males' percentage (45,00%) in question five is greater than females percentage (26,70%). Despite the nuances in both genders percentages in making inferences, it is important to note that the scores in questions eight and nine are not consistent as males' percentage (35,00%) is smaller than females (38,30%); in contrast, females percentage (30.00%) in question nine is relatively higher than males (26,70%)

In question 10 of summarizing, trivial differences are found in the correct answers of both male (45.00%) and female (38.30%) participants. Regarding the mean differences between both genders in the second RC pre test, it can be assumed that males outperformed females owing to the males high percentages over females in question two in predicting, identifying the main idea, question five in supporting details and question six in inferring meaning of difficult vocabulary.

To ensure whether the gender of participants account for the variance of the scores obtained in the second RC pre test, ANOVA was carried out including gender as an independent variable and the second RC pre test scores as a dependent variable. Thus, possible differences within the scores of both gender and between their mean scores' variance are counted as follows:

Table 4.5

ANOVA of Males and Females' Scores in the Second Reading Comprehension Pre Test

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
TtlRdCmprTst 2	Between Groups	10,402	1	10,402	3,825	,053
	Within Groups	266,508	98	2,719		
	Total	276,910	99			

Both values of the sum of square between groups (10.402) and within group (266,508) indicate high levels of variance. The value of the sum of squares between groups to the global mean is high and held constant within the mean square value for the single degree of freedom owing to the implementation of two categories only males and females, yet the mean square within groups (2,719) decreases by dividing its respective sum of squares by (98) degrees of freedom.

This results in a high F statistics (3.825) which, in turn, reveals a level of significance (.05) allowing to reject the null hypothesis and to accept the alternative hypothesis. In few words, there are significant gender differences in the second RC pre test with the male oriented passage.

4.2.3. The third reading comprehension pre test

In contrast to the previous RC tests, the third RC pre test comprises a neutral passage, in which no reference to both genders was reported. To examine any possible gender differences in this test, the mean of total scores of male and female participants are computed separately with their minimum and maximum values within their respective data sets

Table 4.6

Descriptive Statistics of Male and Female participants' Scores in the Third Reading Comprehension Pre Test

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	TtlRdCmprTst3	60	1,00	8,00	4,1167	1,53039
Male	TtlRdCmprTst3	40	1,00	8,00	4,0000	1,86740

Both means of the total scores of the third RC pre test of males and females are mostly alike as they are respectively (4.00) and (4.11). These values indicate low level of achievement across genders although the maximum values in both groups are (8.00). This leads to consider the potential impact of the minimum value (1.00) since the mean values come in between.

Furthermore, both males and females scores indicate high variance as their scores distribution is with a high SD (1.53) for females and (1.86) for males. In this concern, considering the percentages of correct answers along the different test categories tends to provide an elucidation of the equal low achievement of both genders.

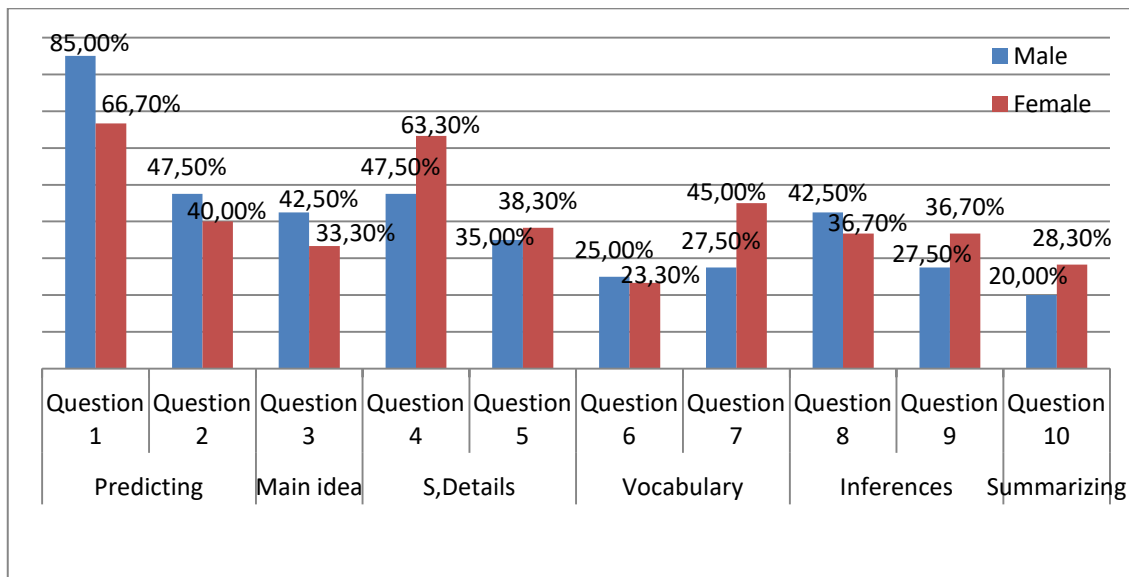


Figure 4.3. Percentages of Correct Answers of both Genders in the Third Reading Comprehension Pre Test

There is a fluctuation of correct answers along numerous categories of the test. In predicting, males obtained high rates of correct answers against their counterpart. This is clear with (85.00%) of right responses for males and (66.70%) for females in question one; in the second question, a nuance in favor of males (47.50%) over females (40.00%) is reported. Similarly, in identifying the main idea, both genders achieved low with some high rates among males whose percentage is (42.50%) while females (33.30%)

Females outperformed males in finding the supporting details. In question four, females' high ratio of correct responses (63.30%) is greater than males right

answers (47.50%), and the fifth question reveals low achievement with fewer increase in females' percentage (38.30%) over the males (35.00%). In inferring meaning of vocabulary, both genders indicated a relatively equal achievement in question six, but in question seven, females' percentage (45.00%) is greater than males (27.50%).

In making inferences, there is an inconsistency of right responses across genders. In question eight, males' percentage (42.50) is relatively higher than females (37.70), while, in question nine, females (36.70) outperformed males (27.50). Indeed, female achievement in making inferences is mostly constant. In question 10 of summarizing, participants' scores are low with female participants' outperformance.

The low achievement of participants in the third RC pre test can be viewed through the small ratio of the correct answers obtained by both males and females in all items of the test save questions one, four, seven and eight. Gender differences are perceived in question one in predicting, question four in supporting details and question seven in explaining difficult words.

With regard to the means of the scores obtained by male and female participants, it can be suggested that the possible variance in the scores obtained by both genders is far reaching. However, no measure of spread has been carried before in the study. Implementing ANOVA for this test including gender as an independent variable is worth exploring. The following table demonstrates ANOVA of male and female participants in the third RC pre test.

Table 4.7

ANOVA of Male and Female Participants Scores in the Third Reading Comprehension Pre Test

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
TtlRdCmprTst 3	Between Groups	,327	1	,327	,117	,733
	Within Groups	274,183	98	2,798		
	Total	274,510	99			

The sum of squares between male and female groups is almost null (.327), which is kept the same in mean square for the single degree of freedom. Besides,

the total variance in male and female groups is higher with (247.138), which is turned out to (2.798) as a mean square. Then, the F-statistics of dividing the mean squares between groups by within groups' mean square is trivial (.117). This indicates little variance in the scores of male and female participants. Therefore, the p-value is (.73), leading to the rejection of the alternative hypothesis and accepting the null. In short, there are no significant gender differences in the third RC pre test.

To sum-up, a significant gender difference was reported in the second RC test with the male text, and no significant differences were found in the first and third RC tests, which respectively include the female and neutral passages.

4.3. Gender Differences in Situational Interest

In the three RC tests, three gender oriented passages were implemented. Each of these texts is characterized by variability in terms of organization, content, emphasis, purpose, ability to recall and the impact left on the reader. SI constitutes these factors. Considering gender differences, SI are explored in the reading passages of the pre test.

The SI are five: cohesion, prior knowledge, engagement, ease of recollection and emotiveness. The items of each category had their means computed in one variable for each participant. Besides, the analysis considers each questionnaire of interest separately according to its type of text in the pre test.

4.3.1. The female oriented passage

The first RC pre test includes a female oriented passage. Categories of SI in the first questionnaire of SI, PI and familiarity collected data for possible gender differences in the five factors of SI. The following table, then, reports gender differences in cohesion, computing, the mean, minimum, maximum values and the SD.

Table 4.8

Descriptive Statistics of Male and Female Participants' Cohesion in the Female Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	CohesionText01	60	2,25	4,75	3,3125	,55736
Male	CohesionText01	40	2,00	4,88	3,6813	,74890

Despite the orientation of the passage, the structure and clarity of ideas were more interesting for male participants. In other words, the computed mean of males (3.68) in cohesion is slightly higher than females (3.31), yet the distribution of the male values is not scattered around its mean with a SD (.74), while, the females' SD (.55) reflects a normal distribution. This can be clearly discerned from the minimum and maximum values as the range is larger in male scores with a smaller minimum value for males (2.00) compared to the female one (2.25). To confirm whether the differences are really significant across genders with respect to the scores in each group, ANOVA is conducted (Table 4.9)

Table 4.9

*ANOVA of Cohesion by Gender in the Female Text***ANOVA**

Cohesion Text01

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,263	1	3,263	7,955	,006
Within Groups	40,202	98	,410		
Total	43,465	99			

Owing to the mean differences and the range of data of both genders, variance between males and females is considerable with consistent sum of squares and mean squares (3.263). In addition, these values are greater than the mean square between groups (.410). Therefore, the F-statistics (7.955) yields a significant p-value (.006). It can be assumed that there are significant gender differences in cohesion for the female passage. In other words, the structure and clarity of the text are more appealing for males than females. This finding seems

to be astounding as they are expected to favor females in the female oriented passage and not the reverse.

In prior knowledge, the computed responses from items five, six and seven in the first questionnaire of SI, PI and familiarity report what participants already know about the information provided in the passage of the first RC text. The table below reveals the descriptive statistics of the computed means of the items of prior knowledge.

Table 4.10

Descriptive Statistics of Male and Female Participants' Prior Knowledge in the Female Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	PKnowledge Text01	60	1,00	4,67	2,2278	,89040
Male	PKnowledge Text01	40	1,00	4,67	2,2083	1,05325

Both genders indicated low levels of background knowledge. Similarly, they revealed equal values in the mean with (2.22) for females and (2.20) for males as well as the same minimum and maximum values. However, accounting for the spread of data, the values in both genders reveal large dispersion of data from the mean with higher SD for males (1.05) and (.89) for females. To ensure whether the variances in both data sets are alike, ANOVA has been carried out as shown in the following.

Table 4.11

ANOVA of Prior Knowledge by Gender in the Female Text

ANOVA

PKnowledge Text01

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,009	1	,009	,010	,921
Within Groups	90,040	98	,919		
Total	90,049	99			

The variance between male and female groups is trivial in prior knowledge. The sum of squares and the mean square as well are null (.009). On the other side, the variance within groups is greater (90.040). This refers to the same range

of data sets in male and female groups with similar minimum and maximum values with large SD in each group. This results in an increasing mean square (.919) albeit the large degrees of freedom (98).

Accounting for the mean squares between and within male and female groups, the F statistics value is little (.010), evoking a non-significant p-value (.921). In other words, there is no significant difference between males and females in prior knowledge of the female oriented passage despite the likelihood of females to possess more background information about cooking and nurturing kids.

Engagement category retrieves data on the degree of interest with reference to whether the text ideas are timely, stimulating and leading readers to reflect upon them, within items eight, nine and ten. These items were computed in one mean, which has been subsequently computed and got its descriptive statistics.

Table 4.12

Descriptive Statistics of Male and Female Participants' Engagement in the Female Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	Engagement Text01	60	1,33	5,00	3,0833	,74060
Male	Engagement Text01	40	1,00	4,33	3,1333	,85000

Both genders revealed average degrees of engagement. The mean value of males (3.13) is relatively equal to the females mean (3.13). In addition, the spread of data in both groups yields data scattered around the mean as the SD for the male group (.85) is close to (.74) of the female group. However, the values indicated in the SD are not consistent with the minimum and maximum values since the range of data for females is greater than for males. Owing to this large variance in each group, running ANOVA tends to confirm the findings in descriptive statistics.

Table 4.13

ANOVA of Engagement by Gender in the Female Text

ANOVA					
Engagement Text01					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,060	1	,060	,097	,756
Within Groups	60,539	98	,618		
Total	60,599	99			

ANOVA of engagement by gender reports consistent results with descriptive statistics. The sum of squares and mean square values between groups (.06 for each) are trivial, but the within groups variance and mean square are elevated (.618) with reference to between groups variance. This is subject to the few differences in the mean values with the wide range as well as the fattering distribution of the scores. As a matter of fact, the F test value is very low (.097), evoking a non-significant p-value (.756). Thereby, there are no gender differences in engagement of the female oriented passage. In other words, the female text did not result in provoking thoughts and stimulating both male and female participants.

Ease of recollection category includes three items: eleven, twelve and thirteen, which are computed together in one mean. It reports the extent to which the passage is easy to remember and to concentrate on. The computed means for each participant are exploited for counting descriptive statistics in the following Table 4.14

Descriptive Statistics of Male and Female Participants' Ease of Recollection in the Female Text

Descriptive Statistics						
		N	Minimum	Maximum	Mean	Std. Deviation
Female	EoRecollectText01	60	1,67	5,00	3,4889	,76028
Male	EoRecollectText01	40	1,33	5,00	3,5417	,92662

The mean values in the table above reveal small differences between males (3.54) and females (3.48). These values are not expected as males' means are a bit higher. Besides, the spread of data in the data set of males (SD .92) is more

considerable than in females values (SD .76). Indeed, The scores of males encompass a large range as well with a minimum value (1.33) and maximum value (5.00). The females range is similar except with a nuance in minimum value (1.67), which can be explained through the value of the SD which is smaller than males' SD. To ensure whether the variance between male and female groups scores is significant, ANOVA reveals the following results.

Table 4.15

ANOVA of Ease of Recollection by Gender in the Female Text

ANOVA

EoRecollect Text01

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,067	1	,067	,097	,756
Within Groups	67,590	98	,690		
Total	67,657	99			

Nuances in the mean scores of males and females are not significant. That is, the sum of squares and mean square between the male and female groups is almost null (.067), yet the variance within groups is considerable with a mean square (.690). This can be understood from the large dispersion of values as reported in their SD. The F-statistics (.097) indicates that the variance between groups over within groups is trivial. In this way, a non significant p-value (.756), confirms the null hypothesis, indicating no significant differences between males and females in engagement.

Unexpectedly, the male participants indicated little increase compared to females in interest with reference to engagement for the female text. This difference remains insignificant, indicating that the female text was not thought provoking, stimulating or timely for both genders.

For emotiveness, items fourteen, fifteen and sixteen retrieve responses about emotional reactions stemming from the reading. These items were computed as a mean in one variable for each participant. The table below reports the descriptive statistics for those computed means.

Table 4.16

Descriptive Statistics of Male and Female Participants' Emotiveness in the Female Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	EmotivenessText01	60	1,00	3,67	2,7000	,59089
Male	Emotiveness Text01	40	1,67	3,67	2,6417	,63778

Despite the fact that the female passage was implemented to stimulate feelings related to motherhood, cooking and nurturing, which sound interesting for females, the mean value for females (2.70) is below the average, and the mean of male scores (2.64) is close to their counterpart. In the SD values, the male one (.59) and the female (.63) indicate that the values in each group are scattered around their means. This can be clearly discerned in the same maximum value (3.67) and the minimum values for males (1.67) and for females (1.00), which are relatively alike. These findings indicate that the differences may not be significant. ANOVA for emotiveness by gender confirms the findings in the descriptive statistics

Table 4.17

ANOVA of Emotiveness by Gender in the Female Text

ANOVA

Emotiveness Text01

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,082	1	,082	,219	,640
Within Groups	36,464	98	,372		
Total	36,546	99			

The SD values in male and female groups are small. These, in turn, yield a low sum of squares within groups (36.464) and mean square (.372) for the large degrees of freedom (98). Besides, the sum of square and mean squares between groups are very low (.082) owing to the nuances in mean values of both genders as well as similar maximum and close minimum values.

Therefore, the F-test value is not considerable (.219), and the p-value is non-significant (.640). The null hypothesis is accepted and the alternative

rejected, meaning that there are no gender differences across genders in emotiveness for the female oriented text. In short, the female oriented passage in the first RC test does not yield emotional reactions in both male and female participants.

4.3.2. The male oriented passage

The second RC test includes a male oriented passage. Proceeding the administration of the test, the second questionnaire of SI, PI and familiarity was administered. This section examines gender differences in the SI including cohesion, prior knowledge, engagement, ease of recollection and emotiveness. In addition, the structure and the computed means for each category are similar to the first section of the female oriented passage.

The analysis of each category embraces ANOVA preceded by descriptive statistics including minimum, maximum values, mean and SD. The following table reveals descriptive statistics for gender differences in cohesion for the male oriented passage.

Table 4.18

Descriptive Statistics of Male and Female Participants' Cohesion in the Male Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	CohesionText02	60	1,75	4,75	3,4000	,66256
Male	CohesionText02	40	3,25	5,00	3,9125	,43320

The differences between males and females are relatively plain in mean values and are considerable regarding the range of the data sets. The males mean (3.91) is higher than with the females (3.40), who also indicated a noticeable level in cohesion, yet the range of the female data is wide ranging from (1.75) to (4.75) albeit its SD (.66). On the other hand, the male values are scattered around their mean with a SD (.43), and the scores spread from (3.25) to (5.00). These reflect strong central tendency. Regarding the SD and the range of the data sets

of each gender, ANOVA is necessary to examine the significance of the variance between each group.

Table 4.19

ANOVA of Cohesion by Gender in the Male Text

ANOVA

CohesionText02

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6,304	1	6,304	18,597	,000
Within Groups	33,219	98	,339		
Total	39,523	99			

The variance between males and females is prevailing in the sum of squares and mean square between groups (6.304). This supports the assumption that the mean differences are considerable as well as the dispersion of data with respect to the minimum and maximum values. Moreover, this variance is greater compared to within groups which reveals (.339) mean square. This small value is due to the SD in male and female data and the short range of data in males' data. That is, the within groups sum of squares (33.219) is few with the degrees of freedom (98).

Accordingly, the F-statistics is (18.597), revealing a large variance between males and females over the variance in their respective groups. The p-value (.000), in turn, supports the alternative hypothesis. In this way, male and female participants differ significantly in SI regarding text structure and clarity for the male oriented text, in which males indicated high levels of cohesion.

The table below demonstrates the descriptive statistics for male and female participants in prior knowledge for the male oriented passage.

Table 4.20

Descriptive Statistics of Male and Female Participants' Prior Knowledge in the Male Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	PKnowledgeText02	60	1,00	5,00	3,0222	1,08207
Male	PKnowledgeText02	40	2,00	5,00	3,6667	,94583

Both genders indicated average levels of prior knowledge with increased rates in the males mean (3.66). Besides, both data sets yield a large distribution of scores with a SD (1.08) for females and (.94) for males. This is plain in the range of data for both genders which are equal in the maximum values (5.00), and the minimum values are (1.00) for females and (2.00) for males. The minimum value of females is due to the large SD (1.08). The variance tends to be clear between males and females, yet a comparison with respect to the difference within each group evokes clear-cut findings

Table 4.21

ANOVA of Prior Knowledge by Gender in the Male Text

ANOVA

PKnowledgeText02

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9,967	1	9,967	9,395	,003
Within Groups	103,970	98	1,061		
Total	113,938	99			

The variance between both genders and the variance within the data sets of males and females are elevated. This is clear from the mean square between groups (9.967) and within groups (1.061). The latter is relatively high for the degrees of freedom (98) upon which the sum of squares (103.970) has been divided. The variance between male and female data is discerned beforehand from the mean values and the range of data sets. Furthermore, within group variance cannot be greater than between group's due the close SD values.

Thereby, the resulted F-value is considerable (9.395), which results a significant p-value (.003). This means that the variance between male and female participants in prior knowledge for the male text is significant. In few words, males and females differ considerably in their background knowledge about the male passage.

For engagement, the following table reports descriptive statistics for male and female participants

Table 4.22

Descriptive Statistics of Male and Female Participants' Engagement in the Male Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	EngagementText02	60	1,00	4,00	2,6778	,79775
Male	EngagementText02	40	1,00	4,33	3,0167	,93659

Despite the implementation of a text which is recent and fitting the interest of males to a large degree and relates to a sustaining debate about the best player in the world, the text triggered an average level of engagement for males (3.01) and a low degree amid females (2.67). Since the SD of males (.93) and the range of their data set is from (1.00) to (4.33), this data can be widely scattering far from the mean.

Similarly, the SD (.79) and the closest minimum and maximum values of females to the male ones may result in a variance between male and female groups. ANOVA in the following table, then, seeks any possible variance either between or within the data sets of both genders.

Table 4.23

ANOVA of Engagement by Gender in the Male Text

ANOVA

EngagementText02

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2,756	1	2,756	3,764	,055
Within Groups	71,759	98	,732		
Total	74,516	99			

Variance between groups is larger than within groups. This can be elucidated from the mean values and the maximum values of males and females, which has invoked a sum of squares and mean square between groups (2.756). Moreover, within group variance yields a slight mean square (.732) for the small mean value of females and their SD indicating scattering scores around the mean. Dividing the mean square between groups over the within group's provides high F-value (3.764) with a level of significance (.055).

Accordingly, there is a significant difference between both genders in engagement for the male oriented passage, and males and females differ in viewing the text as timely, triggering thoughts and stimulating, regardless the average levels amid males and low rates within the females computed means.

Descriptive statistics for ease of recollection in the male passage are demonstrated in the following, including male and female scores separately.

Table 4.24

Descriptive Statistics of Male and Female Participants' Ease of Recollection in the Male Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	EoRecollectText02	60	1,00	5,00	3,2778	,91682
Male	EoRecollectText02	40	1,33	5,00	3,6750	,81120

The mean differences across genders are plain despite the average rates in ease of recollection. That is, the mean value of males is (3.67), while, the females' mean is (3.27), which is lower than in males. Besides, both genders data sets yield the same range save a slight difference in the minimum value with (1.33) for males and (1.00) for females. Regarding the range of both data sets, the SD (.81) of males indicates that the scores are relatively more scattered around their mean than in the female value, which SD is (.91).

A possible explanation for variance between groups with regards to the variance within the scores of each gender can be fulfilled via ANOVA as shown in the table below

Table 4.25

ANOVA of Ease of Recollection by Gender in the Male Text

ANOVA

EoRecollectText02

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,787	1	3,787	4,931	,029
Within Groups	75,256	98	,768		
Total	79,043	99			

Owing to the mean differences between males and females, the sum of squares and mean square values (3.787) between groups are greater than the mean square (.768) within groups for the small sum of squares (75.256) over (98) degrees of freedom. Another possible interpretation is the mean values are average which leads to low variance between any value with its respective mean. The ratio of the variance between male and female scores over within their groups evokes a large F-value (4.931) with a significant p-value (.029)

According to the p-value, the alternative hypothesis is accepted, indicating that there are significant gender differences in ease of recollection for the male oriented passage. In this way, males found the male text easy to remember and to focus on than females did.

For emotiveness, the descriptive statistics for both male and female responses are revealed as follows:

Table 4.26

Descriptive Statistics of Male and Female Participants' Emotiveness in the Male Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	EmotivenessText02	60	1,00	3,67	2,5889	,56036
Male	EmotivenessText02	40	1,33	4,00	2,4917	,52833

Similar to the findings in the female oriented passage, both male and female participants indicated low levels of engagement. Besides, the mean differences between males (2.49) and females (2.58) are slight with SD (.56) for females and (.52) for males. Accounting for the SD values, the scores in each data set are dispersed around their respective means,

However, the dispersion of the values in male and female groups is not alike. Indeed, the minimum value in males (1.33) is a bit higher than the female one (1.00); likewise, the female maximum value (3.67) is lower than the male one (4.00). It is indispensable, then, to carry out ANOVA to ensure whether these nuances account for any potential significant variance within and between scores in male and female groups.

Table 4.27

ANOVA of Emotiveness by Gender in the Male Text

ANOVA

EmotivenessText02

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,227	1	,227	,756	,387
Within Groups	29,412	98	,300		
Total	29,639	99			

Nuances in the mean values of both genders evoke a small variance. The sum of squares and mean square values (.227) are low due to the mean differences and the relatively close minimum and maximum values. Furthermore, the scores dispersed around their means result few sum of squares within male and female groups, which are computed into a slight mean square (.300). The F-statistics, then, is (.756), which confirms the null hypothesis within a level of significance (.387).

There are no significant gender differences in emotiveness for the male passage. Both male and female participants did not demonstrate emotional reactions about the male oriented passage. In few words, the male passage is not significantly interesting for both males and females with respect to engagement.

4.3.3. The neutral passage

The neutral passage is contained in the third RC test. The third questionnaire of SI, PI and familiarity was administered when the participants had answered the third RC pre test. The categories considered for analysis are cohesion, prior knowledge, engagement, ease of recollection and emotiveness. Furthermore, the structure and the computed means are kept the same as with male and female texts.

For each category, descriptive statistics for male and female participants include counting the mean, maximum, minimum values and the SD. Then, ANOVA is conducted to confirm any previous assumptions about the data sets.

The following table reveals the descriptive statistics of cohesion in the neutral passage for both male and female participants.

Table 4.28

Descriptive Statistics of Male and Female Participants' Cohesion in the Neutral Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	CohesionText03	60	2,75	5,00	4,0458	,49892
Male	CohesionText03	40	3,50	4,75	4,0188	,35077

Both genders indicated high rates of interest related to the text structure and clarity. The mean scores were (4.04) for females and (4.01). These values are mostly close, and the scores are relatively clustered around the means of each group. This can be discerned from the SD (.49) for females and (.35) for males. The nuance in the SD values is invoked in the minimum values, which are lower for females (2.75) compared to males (3.50), and the maximum values, that are higher amid females (5.00) and for males (4.75).

The distribution of the scores in the female group is relatively fattering since the minimum value is a bit far from the mean and the SD indicates the scattering of the values around the mean. A variance between groups may appear in this case. ANOVA is conducted to confirm or reject any significant variance within or between male and female scores.

Table 4.29

ANOVA of Cohesion by Gender in the Neutral Passage

ANOVA

Cohesion Text03

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,018	1	,018	,089	,767
Within Groups	19,485	98	,199		
Total	19,503	99			

Due to the values clustered around the mean values for both genders and their equal means, there is no variance between male and female groups as the sum of squares and mean squares is trivial (.018). In addition, the differences in the range of the data sets for each group does not indicate a noticeable variance

within groups as the mean square within groups (.199) is very low for the sum of squares (19.485) divided by (98) degrees of freedom.

Thus, the F-statistics is almost null (.089), yielding a p-value (.767) which confirms the null hypothesis. In other words, there are no gender differences in cohesion for the neutral passages. In a nutshell, both males and females demonstrate high equal degrees of interest related to the text organization and complexity.

For prior knowledge, the descriptive statistics for each gender are revealed in the table below

Table 4.30

Descriptive Statistics of Male and Female Participants' Prior Knowledge in the Neutral Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	PKnowledge Text03	60	1,00	5,00	3,1278	1,03805
Male	PKnowledge Text03	40	1,00	5,00	3,3500	1,13717

Male and female participants revealed average levels of prior knowledge. The mean value of females (3.12) is close to the one of males (3.35). However, the SD (1.03) in females data and (1.13) of males indicate that the scores are spreading out from the mean. Similarly, the maximum (5.00) and minimum (1.00) values reveal a wide range and large distribution of the scores in both genders data sets.

Although male and female scores are mostly equal, running ANOVA enables to confirm the variance of data within each gender in order to ensure that the mean differences are not considerable.

Table 4.31

ANOVA of Prior Knowledge by Gender in the Neutral Passage

ANOVA

P.Knowledge Text03

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,185	1	1,185	1,019	,315
Within Groups	114,009	98	1,163		
Total	115,194	99			

The small mean differences between males and females invoke large variance as the mean square and sum of squares between groups are (1.185); on the other side, as expected, the within group sum of squares (114.009) is greater with a mean square (1.136). The latter is close to the mean square between groups. This has results low F-test value (1.019) with a non-significant p-value (.315), confirming the null hypothesis.

In few words, there are no significant gender differences in background knowledge for the neutral text, and both males and females indicated equal average rates in interest for the previously acquired knowledge in the neutral passage of the third test.

Descriptive statistics for the computed means of engagement items for the neutral including each gender separately are shown in the following table.

Table 4.32

Descriptive Statistics of Male and Female Participants' Engagement in the Neutral Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	Engagement Text03	60	2,00	5,00	3,8611	,60535
Male	Engagement Text03	40	1,67	5,00	4,0167	,62224

The mean value (4.01) of males is higher than of females (3.86), which is also relatively considerable. Besides, the SD values of males (.62) and of females (.60) reveal that the values of males are more scattered around their mean, yet the values of males appear to be more spreading out when considering the minimum value (1.67), providing a wide range with the maximum value (5.00). On the other hand, the range of data in the females' set is reflecting to a large extent the SD values with a minimum (2.00) and maximum value (5.00).

Regarding the differences in the mean values of the data sets in male and female groups, variance tends to be significant between groups, but the differences in the range of scores might be greater as well; ANOVA, then, examines whether the variance between males and females is considerable as shown in the table below.

Table 4.33

ANOVA of Engagement by Gender in the Neutral Passage
ANOVA

Engagement Text03

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,581	1	,581	1,550	,216
Within Groups	36,720	98	,375		
Total	37,301	99			

There are subtle differences in the sum of squares and mean square (.581) amid male and female mean values to their global mean. This is plain due to the small differences in their mean values. In addition, the sum of squares within groups are low (36.720), providing, in turn, a mean square (.375). That is, the values in each male and female data set are clustered around their means, regardless of the farthest minimum values.

The resulted F-value (1.550) does not reflect a large variance between males and females as it indicates a level of significance (.216), allowing to accept the null hypothesis. Thereby, there are no significant differences between males and females in engagement for the neutral passage. The latter was timelier, stimulating and thought provoking for males than for females.

For ease of recollection, the descriptive statistics carried out for male and female groups are reported in the table below.

Table 4.34

Descriptive Statistics of Male and Female Participants' Ease of Recollection in the Neutral Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	EoRecollect Text03	60	3,00	5,00	4,0778	,53981
Male	EoRecollect Text03	40	2,33	5,00	3,8833	,57264

The mean differences between males (3.88) and females (4.07) are plain. Each mean value demonstrates high levels of ease of recollection, with more rates amid females. For the spread of data, the SD in the males' data (.57) indicates that its values are more likely to spread out from the mean than in

females set with a SD (.53). Indeed, the likelihood of males data to fatter from the mean can be viewed in the range between the minimum value (2.33) to the maximum (5.00), and females data, conversely, is more clustered with a small range from (3.00) to (5.00).

According to the discrepancies in the means and measures of spread, ANOVA is carried out to ensure whether variance in the mean scores between males and females in ease of recollection are noticeable with respect to the variance in each data set of both genders.

Table 4.35

ANOVA of Ease of Recollection by Gender in the Neutral Passage
ANOVA

EoRecollect Text03

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,907	1	,907	2,966	,088
Within Groups	29,981	98	,306		
Total	30,889	99			

The variance between male and female means appear to be greater than the variance within male and female data sets. This can be discerned from the sum of squares and mean square between groups (.907). The latter is not large; likewise, the within group variance is trivial and yields a large mean square (.306) due to SD of clustered values over their means and the small range in female scores. Accordingly, the F-statistics value is large (2.966) due to the small mean square within groups and not for the variance between groups.

Since the F-statistics does not reflect high variance between male and female means, the p-value (.088) rejects the alternative hypothesis and points that the difference between males and females in ease of recollection for the neutral passage is not significant. In other words, both genders pointed out that the text in the third test is easy to focus on and to recall.

For emotiveness, the computed mean, minimum, maximum values and the SD are counted for each gender in the following table.

Table 4.36

Descriptive Statistics of Male and Female Participants' Emotiveness in the Neutral Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	Emotiveness Text03	60	1,67	3,67	2,9000	,51457
Male	Emotiveness Text03	40	1,33	4,33	2,7667	,61417

The females' mean (2.90) indicates an average level of emotional reactions to the text, while, the males mean (2.76) reports a relatively low degree of reactions. In addition, the values in the male data set fatter from the mean with a SD (.61) and a wide range including a minimum value (1.33) and maximum (4.33). However, the female scores are clustered around their mean with a SD (.51), which measures scores in a small range from (1.67) to (3.67).

Therefore, the mean differences are not large, and the values are spreading out in the male data set. It may be plausible to explore whether the variance between male and female groups are great over the data spreading within groups through running ANOVA for emotiveness by gender.

Table 4.37

ANOVA of Emotiveness by Gender in the Neutral Passage

ANOVA

Emotiveness Text03

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,427	1	,427	1,378	,243
Within Groups	30,333	98	,310		
Total	30,760	99			

Both variance between genders and with within the data sets of each gender are low. The mean square between groups is (.427) due to the slight mean differences between mean values of males and females. Besides, the sums of squares within male and female scores are small due to the large spread of data in males' scores only. This, in turn, yields little mean square value (.310), which fewer than between groups' mean square.

The F-statistics (1.378), then, is relatively low with a non-significant p-value, which indicates that there are no gender differences in emotiveness for the neutral passage, and females demonstrated an average level of emotional reactions, while males revealed a relatively little reactions. This variance in interest related to emotiveness is not significant.

4.4. Gender Differences in Perceived Interest

The fourth pair of alternative and null hypotheses corresponds to gender differences in PI. The latter refers to the lasting traits in individual related to their own schema and their everlasting emotions existing in the text. In each questionnaire of SI, PI and familiarity following its corresponding RC test, items from 17 to 25 measure PI. They have their means computed in one variable.

Accordingly, this section is devoted to the analysis of PI, wherein the mean, SD, minimum and maximum values are counted for males and females, and ANOVA is carried to pinpoint any significant variance in both genders. The table below reports descriptive statistics for both genders in PI for the female oriented passage.

Table 4.38

Descriptive Statistics of Male and Female Participants' Perceived Interest in the Female Text.

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	PerceivedText01	60	1,33	4,44	2,9241	,75039
Male	Perceived Text01	40	1,00	4,44	2,8528	,78744

Both males (2.85) and females (2.92) means indicated relatively moderate equal levels of PI. For the spread of data, the SD (.75) of females and (.78) of males reveal that the values are clustered around their means. Similarly, the range of the values is mostly the same with equal maximum values (4.44) and trivial difference in minimum values for females (1.33) and for males (1.00). In few words, both genders indicated identical PI and a relatively equal range of data spread.

ANOVA has been run in order to report whether the small mean differences account for greater variances between male and female groups or whether the variance within males and females scores are smaller to cause between group variance.

Table 4.39

ANOVA of Perceived Interest by Gender in the Female Passage

ANOVA

PerceivedText01

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,122	1	,122	,208	,649
Within Groups	57,404	98	,586		
Total	57,526	99			

Due to the slight differences in the means of males and females, the average of total means over the global mean indicates low sum of squares and mean square (.122). In addition, the variance within male and female data sets is relatively few for the scores scattered around the means and their range. This has resulted a noticeable mean square (.586), which invokes a little F-statistics (.208). The latter supports the null hypothesis with a p-value (.649).

It can be noted, then, that gender differences in PI for the male oriented passage are not significant, and both genders do not differ in their overall enduring feelings for the notions presented in the female oriented passage.

For PI in the male oriented passage, descriptive statistics are computed for each males and females in the table below

Table 4.40

Descriptive Statistics of Male and Female Participants' Perceived Interest in the Male Text.

Descriptive Statistics

		N	Minimum	Maximum	Mean	Std. Deviation
Female	Perceived Text02	60	1,33	4,44	2,6444	,80691
Male	Perceived Text02	40	1,22	4,67	3,2472	,97337

In contrast to the females' mean (2.64) which reveals a lower intermediate PI, males mean (3.24) demonstrates a moderate degree of PI. In addition, males

indicated higher PI than females. For the range of data, both genders share mostly the same minimum and maximum values. However, the SD values for males (.97) and for females (.80) suggest that the values in each data set fatter from their mean over their ranges.

As long as the mean values vary in their average to lower levels, it can be assumed that the variance between male and female groups is considerable, yet the spread of data in each group with regards to the range may undermine the variance between groups with respect to the variance in each group. ANOVA in the table below demonstrates any possible significant variance between male and females

Table 4.41

ANOVA of Perceived Interest by Gender in the Male Passage

ANOVA

Perceived Text02

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8,720	1	8,720	11,339	,001
Within Groups	75,365	98	,769		
Total	84,085	99			

Variance between male and female means to their global means appear to be greater than within group variance. The mean differences produce large sum of squares and mean square (8.720). Despite the fact that data are spreading out of their means with wide ranges and SDs, the resulted mean square is low (.769) due to the moderate sum of squares (75.365) divided by (98). This can be interpreted via the means in each set which are mostly average values.

In this way, the F-value (11.339) is very high owing to the low mean square in within groups. The alternative hypothesis is accepted in this case with a level of significance (.001). In other words, males differ significantly from females in PI, and their existing emotions and schemata differ along the male oriented passage.

The last part examining gender differences in PI is devoted to the neutral passage as shown in the following table.

Table 4.42

Descriptive Statistics of Male and Female Participants' Perceived Interest in the Neutral Text.

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	Perceived Text03	60	2,33	4,89	3,8074	,53809
Male	Perceived Text03	40	1,89	4,67	3,5417	,49830

Both genders demonstrated PI over the average, the females mean (3.80) is greater than the males mean (3.54). For the measure of dispersion, the SD values (.53) for male data and (.49) for females are indicators of the clustered data around their respective means. This can be discerned in the range of each data set. Scores in each group vary in terms of maximum and minimum values. That is, the values are likely to be greater amid females but lower in males. Indeed, this reflects the mean values of each group.

In the table below, ANOVA is carried out to ensure whether the mean differences in male and female groups are significant over the differences within their data sets.

Table 4.43

ANOVA of Perceived Interest by Gender in the Neutral Passage

ANOVA

Perceived Text03

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,695	1	1,695	6,205	,014
Within Groups	26,767	98	,273		
Total	28,462	99			

The mean differences are not considerable but yield the sum of squares and mean square values (1.695), which results high F-statistics. This is due to the small mean square (.273) as a denominator for the mean square between groups. In other words, the total variance within male and female data sets is very low as long as the range and the spread of scores do not fatter from the mean. Consequently, the level of significance (.014) confirms the alternative hypothesis.

There are significant differences between males and females in PI for the neutral passage. Females indicated high rates of pre existing overall individual emotions drawn out the cognitive structures of the text more than males who demonstrated above-average degrees of PI.

4.5. Gender Differences in Familiarity

Accounting for formal and content schemata in reading, familiarity in the three questionnaires of SI, PI and familiarity covers knowledge of the text's topic, vocabulary, pattern of organization and information. Each of these aspects corresponds to one item. Accordingly, the mean of items 26, 27, 28 and 29 is computed into one variable.

To examine possible gender differences in familiarity of each reading passage in the RC pre tests, ANOVA preceded by descriptive statistics including mean, maximum and minimum values and the SD.

Descriptive statistics for male and female in familiarity of the female oriented passage are reported below

Table 4.44

Descriptive Statistics of Male and Female Participants' Familiarity in the Female Text

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	Familiarity Text01	60	2,00	4,50	3,1250	,62859
Male	Familiarity Text01	40	1,75	5,00	3,0063	,72829

Both male and female participants demonstrated average rates in familiarity with the female oriented text. The mean of females (3.12) is a bit higher than males' average scores (3.00). In the dispersion of data, the SD (.62) of the female values are more likely to be clustered around their mean than in males, which their SD (.72) are likely to fatter. The range of data depicts plainly this assumption as the scores females range from (2.00) to (4.50), while, males values are from (1.75) to (5.00).

ANOVA is run to measure any possible significant variance between male and female mean values with respect to the variance within each data set as shown in the table below.

Table 4.45

ANOVA of Familiarity by Gender in the Female Passage

ANOVA

Familiarity Text01

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,338	1	,338	,754	,387
Within Groups	43,998	98	,449		
Total	44,337	99			

Owing to the nuance in the means of males and females, the sum of squares and mean square values (.338) are trivial. Similarly, the within group sum of squares (43.998) and its mean square (.449) are very low as long as the data are clustered around their mean with a relatively high range in males data. The resulted F-value (.754) is slight and does not invoke a significant p-value (.387).

There is no variance between males and females in familiarity of the female text as both gender reported a moderate level of familiarity regarding formal and content schemata.

For familiarity of the male passage, descriptive statistics are computed for possible difference across genders as shown in the table below.

Table 4.46

Descriptive Statistics of Male and Female Participants' Familiarity in the Male Text

Descriptive Statistics

		N	Minimum	Maximum	Mean	Std. Deviation
Female	Familiarity Text02	60	1,50	4,75	3,2542	,76398
Male	Familiarity Text02	40	2,75	5,00	3,8500	,60922

Males are more familiar with the male text than females. The males' mean (3.85) is relatively elevated, and the mean of females is increasingly average (3.25). The data are more scattered in the male set (SD .60) than in the female set (SD .76). This can be clearly viewed in the range of scores in males set from

(2.75) to (5.00) which are clustered more than the female set ranging from (1.50) to (4.75).

The mean differences between both genders seem to be important, and the spread of data in the females set is noticeable. ANOVA looks for potential variance between male and female means taking into account the variance within each group as shown in the following table.

Table 4.47

ANOVA of Familiarity by Gender in the Male Passage

ANOVA

Familiarity Text02

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8,520	1	8,520	17,072	,000
Within Groups	48,911	98	,499		
Total	57,432	99			

The mean differences between both genders regarding their grand mean depict large sum of squares and mean square between groups (8.520). This value is greater than the within groups mean square (.499), which is stemming from the low SD values and the clustered data in males scores. The resulted F-statistics (17.072) is very elevated and yields a level of significance (.000), confirming the alternative hypothesis.

There are, then, significant gender differences in familiarity of the male oriented passage, for males indicated relatively elevated degrees, and females increasingly moderate levels of familiarity.

For the neutral text, descriptive statistics of male and female participants in familiarity are demonstrated in the following table.

Table 4.48

Descriptive Statistics of Male and Female Participants' Familiarity in the Neutral Text

Descriptive Statistics

		N	Minimum	Maximum	Mean	Std. Deviation
Female	Familiarity Text03	60	2,50	4,50	3,6250	,50736
Male	Familiarity Text03	40	2,50	5,00	3,5188	,55293

The mean of females (3.62) is relatively close to the mean of males (3.51). Both groups reported average degrees of familiarity. Besides, the SD values of males (.55) and of females (.50) indicate that the values in each data set are clustered around their means. Indeed, the range of each data is the same save the nuance in maximum values which are (4.50) for females and (5.00) for males.

As long as the mean variance and the spread of data are small, ANOVA is required to account for any possible discrepancies in the variance between males and females scores with regards to their spread of data.

Table 4.49

ANOVA of Familiarity by Gender in the Neutral Passage

ANOVA

Familiarity Text03

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,271	1	,271	,979	,325
Within Groups	27,111	98	,277		
Total	27,382	99			

The variance in both genders means is equal to their within groups variance. That is, the sum of squares and mean square values between groups (.271) are close to the mean square within groups (.277), for the little spread of data, and the range in each data set invoke the small variance within groups. As a matter of fact, the F-value (.979) does not yield a significant p-value (.325).

No significant differences are unveiled between males and females in familiarity of the neutral text. Both genders indicate relatively equal moderate degrees of familiarity involving acquaintance with topic, vocabulary, organization and information of the text in third RC pre test.

4.6. Effects of Gender Differences in Situational Interest on Gender

Variance in Reading Comprehension

In this study, the second sub-research question about whether gender differences in RC tests are caused by gender differences in SI. In other words, it examines any potential impact of gender variance in cohesion, prior knowledge,

engagement, ease of recollection and emotiveness on gender differences in RC. This can be fulfilled through ANCOVA.

ANCOVA embraces RC tests as dependent variables, gender as a fixed factor and the categories of SI as covariates. Although some SI categories and RC tests do not reveal significant gender differences, it may be important to run ANCOVA even for those variables in order to confirm whether the increase in an independent variable or covariate would affect its corresponding dependent variable or vice versa. Furthermore, this helps controlling the extraneous variables for the ongoing experiment in terms of SI, PI and familiarity.

4.6.1. The first reading comprehension test

Preceding the implementation of ANCOVA for the first RC tests, it is important to reconsider the variation in the dependent variable and the covariates with respect to gender, the fixed factor. For the first reading test, there is no significant gender difference. For the SI, male and female participants vary considerably in cohesion, but no significant differences across genders was reported across the remaining SI.

Table 4.50

ANCOVA for the Effects of the Sources of Interest on Reading Comprehension by Gender in the Female Text

Tests of Between-Subjects Effects

Dependent Variable: TtlRdCmprTst1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	58,829 ^a	6	9,805	2,910	,012
Intercept	12,947	1	12,947	3,843	,053
CohesionText01	,112	1	,112	,033	,856
PKnowledge Text01	33,890	1	33,890	10,059	,002
Engagement Text01	,485	1	,485	,144	,705
EoRecollect Text01	22,812	1	22,812	6,771	,011
Emotiveness Text01	4,652	1	4,652	1,381	,243
Gender	,754	1	,754	,224	,637
Error	313,331	93	3,369		
Total	3160,000	100			
Corrected Total	372,160	99			

a. R Squared = ,158 (Adjusted R Squared = ,104)

The R squared value (.158) indicates that the variables inserted in the model explain the variance in the corrected total (372.162) although the error sum of squares is (313.331), which demonstrates that over (84%) of the gender variation in the first RC test is left unexplained. In addition, the corrected model yields a mean square (9.805) with an F-statistics (2.810), which invokes a level of significance (.012). This means that the variables joint together in the model affect significantly the dependent variable, reading test 01 when gender is a fixed factor.

In the corrected model, the sum of squares type III of prior knowledge (33.89) and ease of recollection (22.81) reveal the highest proportions in the residual sum of squares, which, in turn, invoke respectively F-statistics (10.05) and (6.77). Gender variation in RC test 01 is explained by prior knowledge with a level of significance (.002) and by ease of recollection with a level of significance (.011). Whereas, the remaining factors of SI do not significantly affect gender variance in RC test 01 despite the fact that there are significant gender differences in cohesion.

Gender differences in RC test 01, which are not considerable, are significantly affected by gender differences in interest in its female oriented passage, associated with prior knowledge and ease of recollection. However, gender differences in cohesion for the female text do not have any impact on the variation in RC of their respective test.

4.6.2. The second reading comprehension test

The variables included in the following ANCOVA are mostly revealing significant gender differences. There are significant gender differences in the second RC test. Likewise, all the SI, except emotiveness, for the male oriented passage in the second test reveal significant differences between males and females.

Table 4.51

ANCOVA for the Effects of the Sources of Interest on Reading Comprehension by Gender in the Male Text

Tests of Between-Subjects Effects

Dependent Variable: TtlRdCmprTst2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	24,045 ^a	6	4,008	1,474	,196
Intercept	47,987	1	47,987	17,649	,000
CohesionText02	,012	1	,012	,004	,947
PKnowledge Text02	,193	1	,193	,071	,791
Engagement Text02	6,967	1	6,967	2,562	,113
EoRecollect Text02	,303	1	,303	,111	,739
Emotiveness Text02	1,601	1	1,601	,589	,445
Gender	10,692	1	10,692	3,932	,050
Error	252,865	93	2,719		
Total	1901,000	100			
Corrected Total	276,910	99			

a. R Squared = ,087 (Adjusted R Squared = ,028)

The R squared (.087) is almost null. It means that the residual sum of squares are trivial compared to the total sum of squares type III. That is, the sum of squares of the variables in the corrected total (24.045) in terms of the SI do not account for the variation in RC test, which corrected total sum of squares is (276.910). Therefore, the error sum of squares (252.865) is greater than the corrected model. The latter's F-statistics (1.474) does indicate a significant p-value (.196).

Examining each variable separately provides three SI with very low sum of squares type III namely, cohesion (0.12), prior knowledge (.193) and ease of recollection (.303), which indicated very low F-statistics and non-significant p-values. Similarly, engagement reports a relatively moderate sum of squares type III (6.967) but does not invoke high F-test value (2.562) with low level of significance (.113). Moreover, emotiveness is held constant as both genders do not differ herein. Its sum of squares type III value is low (1.601) as well as the F-statistics (.589) with a non significant p-value (.445).

Gender differences SI for the male oriented passage do not explain variation by gender in RC in the second pre test. Although cohesion, prior knowledge, engagement and ease of recollection vary by gender, they do not affect RC in their respective test. Similarly, emotiveness, which does not vary by gender, does not yield any impact on gender differences in RC of the second pre test.

4.6.3. The third reading comprehension test

In the third reading comprehension pre test, differences between males and females are not significant. For its neutral passage, there are no significant gender differences along the SI.

Table 4.52

ANCOVA for the Effects of the Sources of Interest on Reading Comprehension by Gender in the Neutral Text

Tests of Between-Subjects Effects

Dependent Variable: TtlRdCmprTst3

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3,987 ^a	6	,665	,228	,966
Intercept	2,886	1	2,886	,992	,322
Cohesion Text03	1,752	1	1,752	,602	,440
PKnowledge Text03	,117	1	,117	,040	,842
Engagement Text03	,781	1	,781	,268	,606
EoRecollect Text03	,119	1	,119	,041	,840
Emotiveness Text03	,212	1	,212	,073	,788
Gender	,433	1	,433	,149	,701
Error	270,523	93	2,909		
Total	1931,000	100			
Corrected Total	274,510	99			

a. R Squared = ,015 (Adjusted R Squared = -,049)

The R squared (.015) indicates that the residual sum of squares in the corrected model (3.987) are trivial compared to the corrected total (274.510). Thus, (270.523) error sum of squares type III are left unexplained. In other words, the SI joined together in the corrected model yield a small F-value (.225) with a low level of significance (.966). When put together, gender variance in all SI does not explain gender differences in the third RC pre test.

The sum of squares type III in cohesion (1.752), prior knowledge (.117), engagement (.781), ease of recollection (.119) and emotiveness (212) are very low regarding the error sum of squares III. They neither yield high F-statistics nor provide high significant p-values. In few words, gender differences in SI of the neutral passage do not explain gender variance in their respective reading pre test.

4.7. Effects of Gender Differences in Perceived Interest on Gender Variance in Reading Comprehension

To examine the impact of gender differences in PI on the variance by gender in RC, similar to the previous section, for each RC pre test, there is a PI computed variable in the corresponding questions. In addition, ANCOVA is run including gender as a fixed factor, the three RC pre test scores as dependent variables and PI of each passage as a covariate.

4.7.1. The first reading comprehension test

For the first RC test including the female oriented passage, differences between males and females are not significant.

Table 4.53

ANCOVA for the Effect of Perceived Interest on Reading Comprehension by Gender in the Female Text

Tests of Between-Subjects Effects

Dependent Variable: TtlRdCmprTst1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	14,244 ^a	2	7,122	1,930	,151
Intercept	95,726	1	95,726	25,943	,000
PerceivedText01	13,509	1	13,509	3,661	,059
Gender	,472	1	,472	,128	,721
Error	357,916	97	3,690		
Total	3160,000	100			
Corrected Total	372,160	99			

a. R Squared = ,038 (Adjusted R Squared = ,018)

The R squared value (.038) is trivial indicating that the residual sum of squares III (14.244) are low compared to the corrected total (372.160). Thus, a large error sum of squares III (357.916) is left unexplained. That is, a large

proportion of gender variance in the third test as shown in the corrected total is not explained as indicated in the error sum of squares III. This means that the model does not fit.

However, examining the effect of PI solely in the model may oppose the corrected model F-value (1.930) and its level of significance (.151). Indeed, the sum of squares III in PI (13.509) invokes F-statistics (3.661) higher than of the corrected model. This can be understood through the degrees of freedom which are two in the corrected model and one in PI. The level of significance in PI is (.059). In short, gender differences in PI account for gender variance in RC of the first test containing the female passage.

4.7.2. The second reading comprehension test

Significant gender differences in PI for the male oriented passage were reported.

Table 4.54

ANCOVA for the Effect of Perceived Interest on Reading Comprehension by Gender in the Male Text

Tests of Between-Subjects Effects

Dependent Variable: TtlRdCmprTst2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	14,628 ^a	2	7,314	2,705	,072
Intercept	182,994	1	182,994	67,677	,000
PerceivedText02	4,226	1	4,226	1,563	,214
Gender	13,804	1	13,804	5,105	,026
Error	262,282	97	2,704		
Total	1901,000	100			
Corrected Total	276,910	99			

a. R Squared = ,053 (Adjusted R Squared = ,033)

The R squared value (.053) reveals that the sum of squares III in the corrected model (14.628) including PI is not considerable compared to the corrected total for gender variation in RC (276.910). Thus, the error sum of squares III (262.282) is much closer to the corrected total. This is what justifies the small F-statistics (2.705) with no level of significance (.072).

In the corrected model, PI sum of squares III (4.226) is trivial regarding the corrected total and the error sum of squares. Besides, a large proportion of the corrected total is for gender (13.804) which has indicates the increase of the impact of gender when PI is added as a covariate.

However, gender differences in PI do not impact significantly gender variation is reading of the second test since the F-value (1.563) is not reflecting a high level of significance (.214). Although PI varies by gender in the male oriented passage, it does account for gender differences in its respective test.

4.7.3. The third reading comprehension test

In the neutral text of the third reading test, male and female participants' PI differ significantly with a small increase in the females' scores.

Table 4.55

ANCOVA for the Effect of Perceived Interest on Reading Comprehension by Gender in the Neutral Text

Tests of Between-Subjects Effects

Dependent Variable: TtlRdCmprTst3

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2,595 ^a	2	1,298	,463	,631
Intercept	17,348	1	17,348	6,188	,015
PerceivedText03	2,269	1	2,269	,809	,371
Gender	,035	1	,035	,012	,911
Error	271,915	97	2,803		
Total	1931,000	100			
Corrected Total	274,510	99			

a. R Squared = ,009 (Adjusted R Squared = -,011)

The R squared value (.009) is almost null. This means that the variables inserted as covariates do not impact the dependent variable with regards to the fixed factor. In other words, the sum of squares III of the corrected total (2.595) is very low as the corrected total is (274.510). Thus, a large error sum of squares (271.915), which tend to affect gender variance in RC for the third test, is left unexplained. In few words, the F-statistics of the inserted variables in the model is close to zero (.463), resulting a non-significant p-value (.631).

To consider PI solely, the reported sum of squares III (2.269) is very low and does not result a high F-value (.809) and consequently non-significant p-value (.371) despite the fact that both males and females differ significantly in PI. In short, the significant variance by gender in the neutral passage does not produce any effect on gender differences in their respective RC pre test.

In conclusion, the significant gender difference found in PI of the male passage does not cause variance by gender in the second RC test, and the slight differences in the neutral passage does not account for any gender differences in their tests. For the female text, the non-significant difference in PI affected considerably RC of the first test.

4.8. Effects of Gender Differences in Familiarity on Gender Variance in Reading Comprehension

The fourth sub-research question investigates the impact of gender differences in familiarity across the three gender oriented passages on gender variance in RC of their respective pre tests. Like the two past sections, for each RC pre test, there is the familiarity variable computed for each test's passage.

In this way, ANCOVA is carried out. Herein, RC pre test scores: one, two or three are put separately as dependent variables, while, gender is regarded as a fixed factor, and familiarity is inserted as a covariate.

4.8.1. The first reading comprehension test

In the first reading pre test, no significant differences between males and females are found in the female oriented passage.

Table 4.56

ANCOVA for the Effect of Familiarity on Reading Comprehension by Gender in the Female Text

Tests of Between-Subjects Effects

Dependent Variable: TtlRdCmprTst1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3,783 ^a	2	1,892	,498	,609
Intercept	88,619	1	88,619	23,335	,000
FamiliarityText01	3,048	1	3,048	,803	,373
Gender	,492	1	,492	,130	,720
Error	368,377	97	3,798		
Total	3160,000	100			
Corrected Total	372,160	99			

a. R Squared = ,010 (Adjusted R Squared = -,010)

Dividing the residual sum of squares type III (3.783) by the corrected total sum of squares (372.160) then subtracting it from one results a trivial R squared value (.010). Specifically, the covariate, familiarity with the fixed factor, gender, do not account for the variation in RC of the first test since the corrected model sum of squares III is very low when compared to the error sum of squares III (368.377). This means that a large variation in RC test 01 is not affected by the corrected model.

In this way, the F-statistics (.498) for the corrected model does invoke a significant p-value (.609). For the covariate, the sum of squares III of familiarity (3.048) is trivial, resulting in an F-value (.803) with a non significant level (.373). It can be assumed, then, that the small variance by gender in familiarity of the female oriented passage does not affect gender differences in its respective RC pre test.

4.8.2. The second reading comprehension test

Male participants differ significantly from their counterpart in familiarity of the male oriented passage in the second RC pre test.

Table 4.57

ANCOVA for the Effect of Familiarity on Reading Comprehension by Gender in the Male Text

Tests of Between-Subjects Effects

Dependent Variable: TtlRdCmprTst2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	10,428 ^a	2	5,214	1,898	,155
Intercept	65,064	1	65,064	23,684	,000
FamiliarityText02	,027	1	,027	,010	,922
Gender	9,237	1	9,237	3,362	,070
Error	266,482	97	2,747		
Total	1901,000	100			
Corrected Total	276,910	99			

a. R Squared = ,038 (Adjusted R Squared = ,018)

The R squared value (.038) indicates that the variables in the corrected model, which sum of squares type III is (10.428), do not explain the variation in the corrected total (276.910). This means that the error sum of squares III is high (266.482) and that the corrected model, including gender and familiarity, does not significantly affect the variation in RC. The resulted F-value is (1.898) with no significant p-value (.155).

The sum of squares III of familiarity is almost null (.027). It has resulted in very low F-statistics (.010) with a p-value (.922). Although, familiarity of the male passage varies by gender, it does not explain the gender differences in the second RC pre test. In few words, there is no significant effect of gender differences in familiarity of the male oriented text on its respective RC test.

4.8.3. The third reading comprehension test

In the third RC pre test, gender differences in familiarity of the neutral passages are not significant.

Table 4.58

ANCOVA for the Effect of Familiarity on Reading Comprehension by Gender in the Neutral Text

Tests of Between-Subjects Effects

Dependent Variable: TtlRdCmprTst3

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	,632 ^a	2	,316	,112	,894
Intercept	28,147	1	28,147	9,969	,002
FamiliarityText03	,305	1	,305	,108	,743
Gender	,264	1	,264	,093	,760
Error	273,878	97	2,823		
Total	1931,000	100			
Corrected Total	274,510	99			

a. R Squared = ,002 (Adjusted R Squared = -,018)

The sum of squares III values in the corrected model (.632) is trivial compared to the corrected total sum of squares (274.510). This can be discerned from the R squared value (.002). It is an indicator of the null effect of gender variance in familiarity, and so much gender variance in RC as shown in the corrected total. The latter's value is close to the error sum of squares III (273.878). Accordingly, the low F-statistics (.112) of the residual sum of squares yields a non significant p-value (.894).

More specifically, the sum of squares III in familiarity (.305) is very low and results very few F-statistics (.108) with a p-value (.743) indicating that there is no perceived impact of familiarity on RC by gender. In short, variance by gender in familiarity of the neutral text does not affect gender differences in RC of the third pre test.

In brief, the considerable difference in familiarity of the male text does not affect significantly RC of the second text, and the slight differences reported in the female and neutral texts do not account for the variance by gender in their RC tests.

4.9. Gender Differences in Reading Strategy Use

The second set of the alternative and null hypotheses examines gender differences in EFL students' reading strategy use. In this concern, the Survey of Reading Strategies (S.O.R.S) was administered to all participants in both experimental and control groups. Once the means of the items corresponding to global, problem solving and support strategies have been computed in three different columns, male and female participants' responses in those categories are considered separately for comparison utilizing mean, minimum, maximum values and the SD as a measure of data spread.

4.9.1. Global strategies

There are 13 items corresponding to global strategies, which were computed in one mean labeled global strategies. The table below indicates the descriptive statistics for male and female participants in global strategies use.

Table 4.59

Descriptive Statistics of Global Strategies Use among Male and Female Participants in the Pre Test

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	GlobalStrategies	60	2,08	4,54	3,3718	,53014
Male	GlobalStrategies	40	2,62	4,38	3,5692	,45485

Both male and female participants indicated an average level of the use of global strategies. This can be clearly viewed in the computed means of global strategies items as the male mean is (3.56) and female (3.37). These two values are relatively equal with values scattered around their means. That is, the SD of the males' responses is (.45) and the female one is (.53). These two values are close to (.00). In addition, minimum and maximum values tend to be alike for both genders.

Owing to the variance of the values in both genders responses, the slight difference in the mean values between males and females may yield a variance moderated by gender. ANOVA, then, reveals any possible differences between the groups.

Table 4.60

ANOVA of Global Strategies Use by Gender in the Pre Test

ANOVA

GlobalStrategies

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,936	1	,936	3,719	,057
Within Groups	24,650	98	,252		
Total	25,586	99			

The sum of squares within groups (24.65) is high. This indicates that variances of the values along the minimum and maximum values to the means of both genders are great, yet dividing that sum of squares by the degrees of freedom, the number of participants minus the categories, results a small mean square (.252).

On the other hand, despite the trivial mean differences between each gender, the mean square between genders (.936) yields a considerable F statistics (3.71) when divided by within groups mean square. Thereby, a level of significance (.05) is reported, enabling to reject the null hypothesis. In short, there are considerable gender differences in EFL students' metacognitive strategy use in reading EFL materials.

4.9.2. Problem solving strategies

The second set of items in SORS is problem solving strategies with eight items. Descriptive statistics were computed for each gender in the pre test for all participants in the study. The following reveals possible gender differences between males and females in cognitive strategy use.

Table 4.61

Descriptive Statistics of Problem Solving Strategies Use among Male and Female Participants in the Pre Test

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Female ProblemSolvingStrategies	60	2,00	4,86	4,1000	,53407
Male ProblemSolvingStrategies	40	1,43	4,86	4,0500	,64584

Both genders indicated high degrees of problem solving strategies, and at the same time, nuances are revealed as males computed mean is (4.05) and females' is (4.10). In addition, the responses of both gender are dispersed around their means with a SD (.53) for females and for males (.64) since these values are close to (.00). However, minimum values are not similar with (2.00) for females and (1.43) for males. On the other side, the maximum values are alike (4.86). This may imply that the variance of the values is scattered to the minimum values.

Accounting for the trivial differences in the mean scores, SD and the minimum values, it may be plausible to run ANOVA in order to discern any variance of problem solving strategies between male and female participants stemming from inter and intra group computed responses. Table 16 demonstrates ANOVA for gender differences in problem solving strategies use.

Table 4.62

ANOVA of Problem Solving Strategies Use by Gender in the Pre Test
ANOVA

ProblemSolvingStrategies	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,060	1	,060	,178	,674
Within Groups	33,096	98	,338		
Total	33,156	99			

It can be viewed that the total variance within groups is great (33.096) but does not yield high mean square (.338) for the so many degrees of freedom. Besides, the sum of square and its mean square are trivial (.060) although there are differences in the mean scores and the minimum values as well as the likeliness of the values to differ along the lowest scores. In this way, a few F statistics has been revealed (.178), which is associated with a high p-value (.674). The latter indicates that the null hypothesis is accepted. In conclusion, there are no differences between male and female students in problem solving strategies use in reading EFL materials.

4.9.3. Support strategies

The category of supporting strategies in SORS includes nine items. These items had their means computed in one variable. Then, the mean, minimum, maximum values and the SD for all participants were counted as shown in the table below.

Table 4.63

Descriptive Statistics of Support Strategies Use among Male and Female Participants in the Pre Test.

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
Female	SupportStrategies	60	1,78	4,67	3,5130	,70365
Male	SupportStrategies	40	1,89	4,11	3,2361	,54444

Both participants reported average use of support strategies. This can be discerned in the mean of males (3.23) and females (3.51). Besides, these values indicate that females are a bit higher in their use of these strategies with a high maximum value (4.67), yet the dispersion of the scores in males data set is more around the mean for males with a SD (.54) than for females (SD .70). That is, the values in females set are largely spreading along the minimum (1.78) and maximum (4.67) values. Therefore, possible variances within groups could be high.

Accounting for the variance in the females' data set and the slight mean and maximum values differences across genders, it is important to measure any possible variance between male and female groups taking congruently into account variance within and between groups. Table 18 reveals ANOVA for gender differences in support strategies

Table 4.64

ANOVA of Support Strategies Use by Gender in the Pre Test

ANOVA					
SupportStrategies	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,840	1	1,840	4,421	,038
Within Groups	40,772	98	,416		
Total	42,612	99			

As expected, the mean differences and the values of SD of both genders indicate large variance between and within groups. In other words, the sum of squares and mean square (1.840) between groups is greater than the mean square within groups (.416). This can be understood from the small value of the SD of males as well as the large number of degrees of freedom turning out the sum of squares (40.772) to a small value.

Then, the obtained F-statistics in this case is considerable (4.421), which results a significant p-value (.038), allowing to reject the null hypothesis and to accept the alternative. In few words, there are significant differences between males and females in support strategies use.

Conclusion

This chapter unveils a number of noticeable results in which gender is the core element along the three types of passages. For reading strategy use, significant gender differences are found in global and support strategies. In the three RC pre tests, variance by gender is significant in the test with the male oriented passage. For the SI, PI and familiarity, males and females vary significantly in cohesion of the female passage. In the male oriented passage, there are significant gender differences in PI, familiarity and all SI except in emotiveness, while, in the neutral passage, differences between males and females are only found in PI.

The significant gender differences in SI, PI and familiarity do not account for variance by gender in their respective RC tests, yet non-significant gender differences in prior knowledge, ease of recollection and PI affect significantly the variance by gender in the first RC pre test. Due to these unexpected outcomes in the ANCOVA, possible extraneous variables related to the variability for gender tend to be hard to control and may affect the results of the experiment. Thus, the claim for a factorial design is supported in this research

**CHAPTER FIVE:
COMPARISON:
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Introduction

The aim of this chapter is to analyze the findings, that are directly associated with the implementation of Collaborative Strategic Reading (C.S.R). The analysis embarks three essential steps. The first phase includes assigning study group participants into cooperative groups, taking into account the data collected in the Reading Comprehension (R.C) pre tests and the questionnaire of Cooperative Learning (C.L) preferences. The second section considers the analysis of reading strategy use before and after the treatment. Then, RC pre and post test scores are compared to examine the impact of CSR. All of these findings are analyzed within a factorial design.

5.1. Assigning Cooperative Groups

Sociograms are basically used to assign learners into cooperative groups on the basis of their social relationships or friendship. However, due to the large number of participants (100) and due to overlapping resulting from participants choice of peers, further requirements were added in terms of gender, achievement in the pre test, age, marital status and first language. For instance, in formulating mixed groups on the basis of gender and achievement, some participants chose peers who had already been in other groups. To obtain congruent groups, compliances based on different age and first languages were taken into account.

5.1.1. Questionnaire of cooperative learning preferences

Analysis of the data of the cooperative learning (C.L) preferences questionnaire considers only participants who chose to work with different gender peers in order to formulate mixed gender groups including two males and three females; In this concern, it is important to note that 35 female participants who were selected by male participants are considered only in the analysis and in the experiment because there was no sufficient number of males to form more mixed gender groups. Thereby, further analysis on the basis of achievement, age, first language and marital status is necessary.

In this way, the first question including the name and group of participant is used to convert the name of the subject into a number in order to respect the

confidentiality of participants. In addition, question three is related to the gender of participants to ensure that the ratio of males to females in each group is acceptable, and it is constantly deployed along the analysis of the remaining questions.

The findings for the second question of participants' age are reported in the following pie charts including the percentages of ages of males and females.

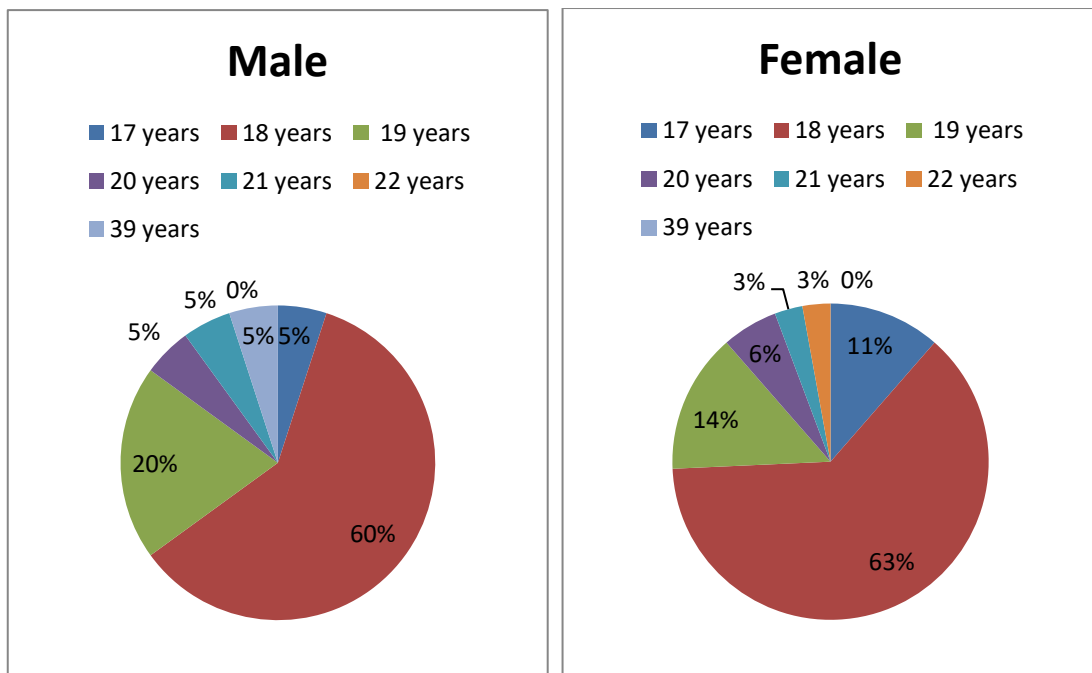


Figure 5.1. Age Proportions of Participants Opting for Mixed Gender Peers

In the figure above, it is plainly viewed that the category of “18 years old” is prevailing across both genders with relatively equal rates. In addition, slight differences are perceived for the age category “19 years” as the females’ frequency is five out of 35, while, amid males, it is four out of 20. In the category “17 years”, female participants are higher than males as the percentage of the first is 11 while the second is only five percent. In the remaining age categories, there are slopes in the records especially in the categories of “39”, which is only for males, and of “22” for females solely with one frequency for each.

Analysis of the fourth question reveals consistent findings between male and female participants, except in one married male participants, but the rest of the participants were single. This means that one of the selection criteria that

males took into account is the marital status of their female counterpart. The results are demonstrated in the following pie charts.

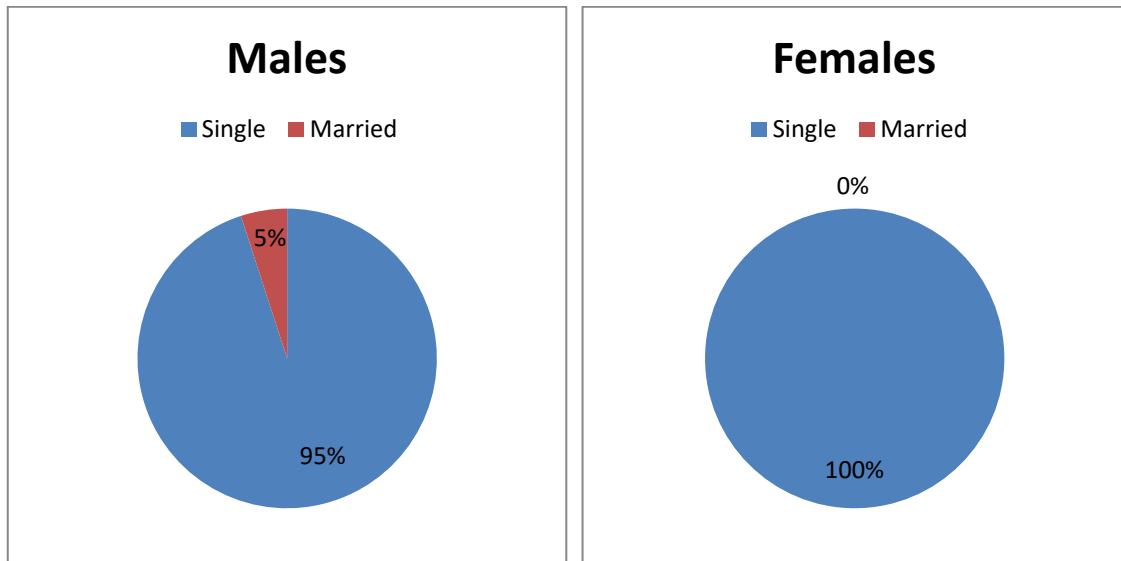


Figure 5.2. Marital Status of Participants Opting for Mixed Gender Peers

Data of the fifth question related to the first language of each participant are presented in pie charts including percentages for each category as shown in the figure below, yet some participants added in the section of “other” languages in addition to the first language, which they had already selected. These responses are disregarded, and only one response is selected for analysis.

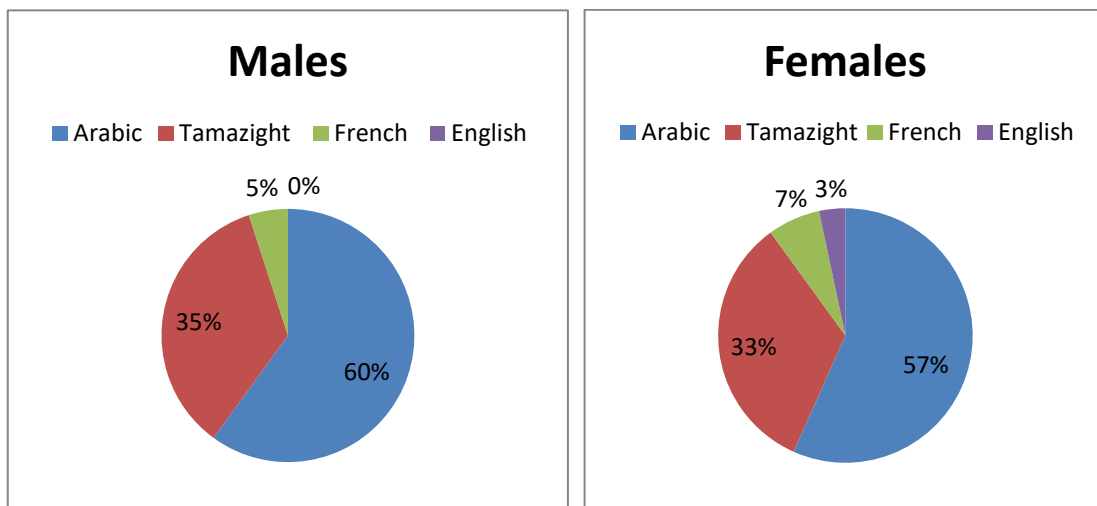


Figure 5.3. First Language of Participants Opting for Mixed Gender Peers

The first language of male and female participants seems to be equal especially in large proportions including Arabic language as its percentage for males is (60%) which is a bit higher than of females (57%). Besides, Tamazight

language percentages are mostly the same in males (35%) and in females (33%). It comes the second after Arabic.

Moreover, a small percentage is reported for French in each gender with (5%) for males and (7%) for females. In the subsidiary question “others, please specify”, only one female participant who mentioned English as a native language. To sum-up, the rates of first language use are simply reflecting the sociolinguistic situation in Algeria.

5.1.2. High and low achievers in the reading comprehension pre test

In order to divide participants into high and low achievers, the totals of the three reading comprehension scores were computed in one variable, which value is out of 30. Besides, the median in those total scores is counted for male and female participants separately in the table below to determine high and low achievers.

Table 5.1

Median, Minimum and Maximum values in Reading Comprehension of Participants Opting for Mixed Gender Groups

Statistics					
Total scores in the three tests					
	Valid	Missing	Median	Minimum	Maximum
Female	35	0	14,0000	6,00	23,00
Male	20	0	15,0000	9,00	19,00

The median values in both genders are almost equal with (14.00) for females and (15.00) for males, yet the range of the scores among males from (9.00) to (19.00) is lower than among females from (6.00) to (23.00). In this way, the values of low achievers below the median vary considerably across genders or vice versa. The following frequency table of males and females confirms this assumption.

Table 5.2

Frequency Total Scores in Reading Comprehension of Participants Opting for Mixed Gender Groups

Female			Male		
Frequency			Frequency		
Valid	6,00	2	Valid	9,00	2
	8,00	2		11,00	2
	11,00	2		12,00	1
	12,00	3		13,00	1
	13,00	6		14,00	3
	14,00	2		15,00	6
	15,00	4		16,00	1
	16,00	3		17,00	2
	17,00	4		19,00	2
	18,00	3		Total	20
	19,00	1			
	20,00	2			
	23,00	1			
	Total	35			

For females, 17 participants whose total scores are (6.00), (8.00), (11.00), (12.00), (13.00), (14.00), are considered as low achievers, and the participants who obtained (15.00) onwards are categorized as high achievers. For males, low achievers obtained the following scores: (9.00), (11.00), (12.00), (13.00) and (14.00), while, participants scoring (15.00) or more are high achievers.

5.1.3. Sociogram of cooperative groups

To obtain equal distribution of participants in the cooperative groups, five female participants must be excluded from the experimental group. In addition to the participants' choice of male and female peers on the basis of friendship, other factors such as the achievement in the RC tests, age, marital status and first

language must be taken into account, yet marital status is not considered since there is only a male married participant.

Furthermore, CSR as a CL technique may fall within formal CL, yet other aspects stemming from base CL or constructive controversy may intervene leading group members to interact and to communicate in or outside class using other linguistic codes in terms of their mother tongue. Accordingly, the second criterion for assigning groups is first language use. It may be plausible to rank it as such as long as promotive interaction is one of the core principles in CL, requiring encouragement and helping behavior. It, in turn, serves for the remaining CL elements.

The last criterion to consider is the age of participants. Variability in terms of age is preferred in cooperative groups. This helps establishing heterogeneity in groups. To assign heterogeneous groups enables group members to view learning tasks from different perspectives on the basis of diverse background knowledge of participants from various ages. When the previous possibilities are expired, mixed age groups are implemented.

In this way, the sociogram of mixed gender groups based on friendship, achievement, first language and age appears in *Figure 5.4*. The latter is just a sample of one group (01), yet the remaining groups are reported in (Appendix IX)

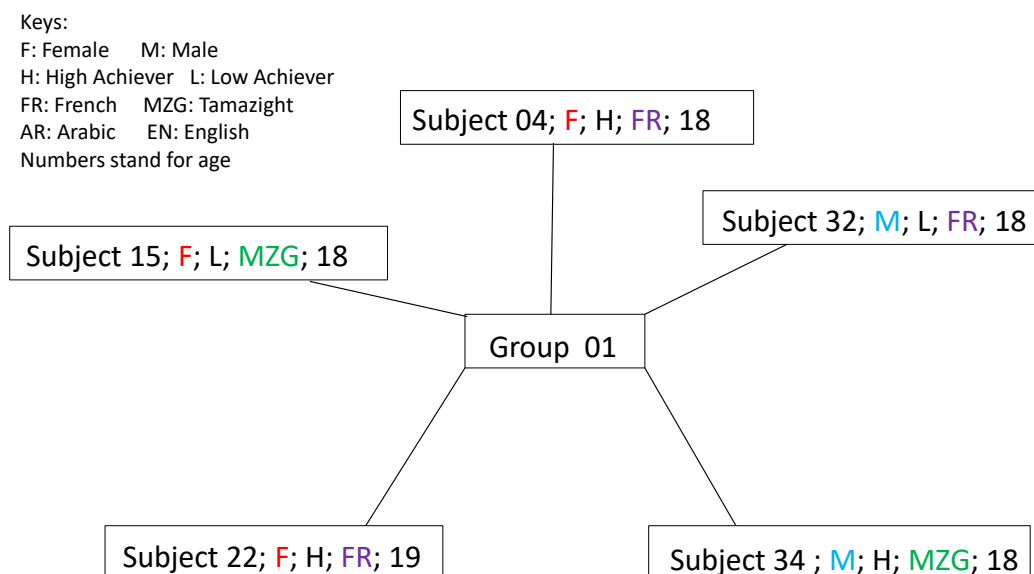


Figure 5.4. Sociogram of Cooperative Groups

The criteria for assigning cooperative groups do not include age of the participants as the level of achievement and first language use account for setting congruent heterogeneous groups. However, the age of each participant was reported in each participant's square. They indicate that participant selection of peers is also based on same age. As a result, assigning groups upon mixed age does not comply with assigning groups on the basis of friendship.

5.2. The effect of Cooperative Learning

The factorial design is indispensable in this research. The study examines differences between males and females who studied RC with CSR, and those who did not. In addition, gender differences have been reported in RC of male and female oriented passages. Part of these differences is due to variance by gender in situational, perceived interest and familiarity in the pre test. Indeed, these variables are confounding and can impact the outcomes of the experiment.

Accordingly, the analysis of the findings considers each gender separately. In other words, the design in this study is (2X2), and the groups to analyse their findings are as follows: Female-study, female control, male study and male control. In this respect, the results in the pre and post tests in each of the following groups are compared to identify any potential impact of CSR on RC and reading strategy use of the participants.

In the following paired samples t-tests, it is important to note that the degrees of freedom of male and female data sets are respectively (19) and (29). Examining the significance of the differences between pre and post test findings may yield positive and negative values as there might be an increase or decrease in participants' achievement.

In this way, the t-distribution is certainly two tailed with a level of significance (0.05) divided equally into (0.025) for each positive and negative side. Similarly, the critical values are for the males set (2.43) and for the females (2.36). To confirm the alternative hypothesis, any positive t-value should exceed the positive critical values, and the negative one should be less than (-2.43) for males and (-2.36) for females, yet some exceptions may occur when the

confidence interval of the difference includes both negative upper and low values, or both positive upper and low levels.

5.2.1. The effect of cooperative learning/ collaborative strategic reading on EFL male and female students' reading strategy use

Participants' reading strategy use before and after the experiment is compared and contrasted within the four study and control groups. In this concern, measurement takes into consideration the computed means of global, problem solving and support strategies in the pre and post Surveys of Reading Strategies (S.O.R.S).

5.2.1.1. Female study group findings

For the female experimental group, descriptive statistics of the pre and post SORS are counted in the following table including the computed means of global, problem solving and support strategies.

Table 5.3

Descriptive Statistics of Reading Strategy Use in the Pre and Post Tests of the Female Study Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
GlobalStrategies	30	2,54	4,54	3,4385	,49899
Post.GlobalStrategies	30	3,00	4,62	3,7051	,42137
ProblemSolvingStrategies	30	2,00	4,86	4,0333	,56484
Post.ProblemSolvingStrategies	30	3,43	4,86	4,1524	,37691
SupportStrategies	30	1,78	4,33	3,4037	,71503
Post.SupportStrategies	30	2,56	4,33	3,6704	,47989

In global strategies, the mean (3.70) of the post test is relatively higher than the mean of the pre test (3.43), yet they both indicate average use of strategies. Besides, the SD (.49) of the pre test scores and (.42) of the post test indicates that the values are clustered around their means with small dispersion of the pre test values to the minimum value. In this way, the difference in the mean scores tends to be considerable.

In problem solving strategies, the mean values are mostly alike in the pre (4.03) and post (4.15) measurements. For the measures of spread, the post test values are more clustered around their mean compared to the pre test scores with a SD (.56). This slight difference in the dispersion of scores is viewed in the distinct minimum values, (2.00) in the pre test and (3.43) in the post. The descriptive statistics, then, reveal nuances along the pre and post tests.

In support strategies, the mean value of the post test (3.67) demonstrates a small change from the pre test (3.40), yet the SD (.71) in pre test indicates that scores fatter from the mean compared to the SD (3.67), which posits that post test scores are clustered around the mean. This is discerned in the minimum value (1.78) of the pre test, that is lower than the post test one (2.56). In few words, the difference between pre and post test scores is large.

A paired samples t test is run to confirm the estimations stemming from the descriptive statistics about the collected data.

Table 5.4

Paired Samples T-test of Reading Strategy Use in the Pre and Post Tests of the Female Study Group

	Paired Samples Test							
	Paired Differences							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
			Lower	Upper				
Global Strategies	-,26667	,52083	,09509	-,46115	-,07219	-2,804	29	,009
Problem Solving Strategies	-,11905	,41111	,07506	-,27256	,03446	-1,586	29	,124
Support Strategies	-,26667	,69149	,12625	-,52487	-,00846	-2,112	29	,043

The first pair of global strategies comprises the mean difference value (-.26) indicating an increase in global strategy use amid female participants after the implementation of CSR. The reported t-value (-2.804) is less than the critical value (-2.36), which invokes a high significant p-value (.009) allowing to accept the alternative hypothesis. This means that there is a significant difference

between global strategy use between the pre and post test. In other words, CSR affects global strategy use of the female participants.

The mean difference (-.11905) in the second pair of problem solving strategies reveals a trivial increase in the post test values. It has yielded a t-value (-1.586) greater than the critical value with a non-significant p-value (.124), rejecting the alternative hypothesis. Thus, there is no significant difference between pre and post test scores. In short, CSR did affect female participants problem solving strategy use.

The third pair of support strategies includes the mean difference (-.26) that indicates a considerable increase in the post test scores manifested in the t-value (-2.112). The latter is greater than the critical value, yet it is less than the negative lower (-.52487) and upper (-.00846) confidence intervals. The resulted p-value (.043) confirms the alternative hypothesis on the significant difference between pre and post test scores. Therefore, CSR accounts for the significant difference in support strategy use among female participants.

5.2.1.2. Male study group findings

For the male study group, descriptive statistics of SORS responses before and after the experiment are computed in the following table.

Table 5.5

Descriptive Statistics of Reading Strategy Use in the Pre and Post Tests of the Male Study Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
GlobalStrategies	20	2,85	4,15	3,6077	,46349
Post.GlobalStrategies	20	3,15	4,23	3,8077	,34537
ProblemSolvingStrategies	20	2,86	4,71	4,0857	,48700
Post.ProblemSolvingStrategies	20	3,71	4,71	4,2857	,31435
SupportStrategies	20	2,67	4,11	3,3889	,44953
Post.SupportStrategies	20	2,67	4,11	3,5389	,42237
Valid N (listwise)	20				

Before and after the treatment, global strategy use remains almost the same with a post test mean (3.80) which is slightly higher than the pre test (3.60). Both values are relatively close to the high rate. For the measures of spread, the scores in the post test are clustered around the mean with a SD value (.34), while, the SD (.46) of the pre test reveals scores dispersing around the mean but less clustered than the post test values. That is, the minimum value (2.85) of the pre test differs from the minimum value of the post test (3.15). This implies that the increase in the post test scores may be considerable for the range of the scores.

In problem solving strategies, both means of the pre (4.08) and post (4.28) tests indicate high rates of problem solving strategy use with a trivial increase in the post test. The SD values in the pre (.48) and post (.31) test responses reveal scores distributed over their means, yet the range of the scores differ largely in the minimum values with (2.86) in the pre and (3.71) in the post questionnaire with the same maximum value for each (4.71). In this way, the possible estimation about these descriptive statistics posits a noticeable change in the strategic behavior of the male experimental group.

Both means of the pre (3.38) and post (3.53) support strategies are relatively average and close with a small increase in the post test. The measures of dispersion are close with a SD (.44) for the pre test and (.42) in the post. Likewise, both sets of data share the same range with similar minimum (2.67) and maximum (4.11) values. Support strategy use after the treatment does not vary from the pre experiment in the male study group.

In the following table, a paired samples t test is carried out to compare differences between the scores in the SORS categories before and after the experiment.

Table 5.6

Paired Samples T-test of Reading Strategy Use in the Pre and Post Tests of the Male Study Group

	Paired Samples Test							
	Paired Differences							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
			Lower	Upper				
GlobalStrategies	-,20000	,41039	,09177	-,39207	-,00793	-2,179	19	,042
ProblemSolvingStrategies -	-,20000	,41039	,09177	-,39207	-,00793	-2,179	19	,042
SupportStrategies -	-,15000	,36635	,08192	-,32146	,02146	-1,831	19	,083

Both mean differences (-.20) in global strategies and problem solving strategies pairs are not large. Due to the considerable differences in the minimum values, the increases reported in the mean differences invoke considerable t-values (-2.179). The latter are greater than the critical value, yet both confidence intervals of the difference are negative with lower (-.39207) and upper (-.00793) values, which are, in turn, higher than the t-value.

In this way, the differences between pre and post test scores fall within the rejection proportion of the null hypothesis, yielding a p-value (.04). This implies that there is an impact of CSR on global strategy and problem solving strategy use of male participants.

Although the descriptive statistics of support strategies yield trivial differences between pre and post test response, the mean difference (-.15) appears to be considerable with a t-value (-1.831), yet this value is greater than the critical value and falls within null hypothesis area with a non-significant p-value (.083). That is, there is no significant difference between support strategy use before and after the treatment. In short, CSR does not affect male participants' support strategy use.

5.2.1.3. Female control group findings

For the female control group, the mean, minimum, maximum values and the SD of the SORS categories pre and post tests responses are reported as follows.

Table 5.7

Descriptive Statistics of Reading Strategy Use in the Pre and Post Tests of the Female Control Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
GlobalStrategies	30	2,08	4,23	3,3051	,56000
Post.GlobalStrategies	30	2,31	4,38	3,5641	,48496
ProblemSolvingStrategies	30	3,14	4,86	4,1667	,50205
Post.ProblemSolvingStrategies	30	1,86	5,00	3,8952	,76420
SupportStrategies	30	1,78	4,67	3,6222	,68655
Post.SupportStrategies	30	2,44	4,78	3,8630	,54565
Valid N (listwise)	30				

Both pre (3.30) and post (3.53) scores' means in global strategies are moderate with a trivial increase in the post test. The SDs of the pre (.56) and post (.48) tests indicate a common measure of spread with scores clustered around their means. However, including (2.08) minimum and (4.23) maximum values, the range of the scores in the pre test is relatively larger than the post test range, comprising the minimum (2.31) and maximum (4.38) values. Drawing upon the range in each data set, the differences between pre and post scores may yield considerable differences.

In problem solving strategies, the means of the pre (4.16) and post (3.89) test reveal a decrease in the female control group problem solving strategy use, which was high in the pre test. For the measure of spread, the SD (.50) of the pre test indicates scores clustered around the mean with small range from (3.14) to (4.86). However, the SD (.76) for the post test is relatively large with scores ranging from (1.86) to (5.00). This decrease in scores and the means may indicate significant differences.

The means of the pre (3.62) and post (3.86) scores of support strategies are almost equal with a trivial increment in the post test. The spread of data in the pre test is larger than the post test as the respective SD values are (.68) and (.54). This can be clearly discerned from the range of the pre test scores, which is from (1.78) to (4.67), while, the post test scores range from (2.44) to (4.78). Therefore, the increase in the post test may be significant for the increase in the minimum values of the post test.

To confirm the aforementioned estimations in the descriptive statistics, a paired samples t test measures the differences between the values in the pre and post tests along the categories of the SORS for the female control group.

Table 5.8

Paired Samples T-test of Reading Strategy Use in the Pre and Post Tests of the Female Control Group

	Paired Samples Test						t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
GlobalStrategies -	-,25897	,78355	,14306	-,55156	,03361	-1,810	29	,081	
ProblemSolvingStrategies -	,27143	,82990	,15152	-,03846	,58132	1,791	29	,084	
SupportStrategies -	-,24074	,71479	,13050	-,50765	,02617	-1,845	29	,075	

In global strategies pair, the mean difference (-.25) indicates a decrement in the post test responses. This mean results in a t-value (-1.810), which is noticeable but does not fall within the rejection proportion of the null hypothesis since it is greater than the critical value and the confidence intervals of the difference are positive and negative. This t-value yields a non-significant p-value (.081), meaning that there is no significant difference between pre and post test responses. For the female control group who did not study RC using CSR, their global strategies use remains constant.

The decrease in the post test of problem solving strategies results in a positive mean difference (.27143). Regarding its standard error mean (.15152), the t-value (1,791) is smaller than its critical value (2.36) with positive and negative confidence intervals. Therefore, the difference between pre and post test scores is not considerable as long as the p-value (.084) allows accepting the null hypothesis. In few words, problem solving strategies use in the female control group did not vary considerably in the post test.

In support strategies pair, the mean difference (-.24) demonstrates an increment in the post test scores. The differences between pre and post test values invoke a t-value (-1.845). The latter is greater than the critical value and falls within the null hypothesis proportion with a p-value (.075), which means that there is no considerable difference between pre and post test scores. Therefore, female control group participants, who did not study RC using CSR, did not reveal significant improvements in support strategy use.

5.2.1.4. Male control group findings

For the male control group, pre and post SORS descriptive statistics are shown in the following table.

Table 5.9

Descriptive Statistics of Reading Strategy Use in the Pre and Post Tests of the Male Control Group

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
GlobalStrategies	20	2,62	4,38	3,5308	,45467
Post.GlobalStrategies	20	3,08	4,85	3,8500	,57536
ProblemSolvingStrategies	20	1,43	4,86	4,0143	,78506
Post.ProblemSolvingStrategies	20	3,57	4,86	4,2714	,40908
SupportStrategies	20	1,89	3,89	3,0833	,59767
Post.SupportStrategies	20	1,22	4,78	3,5111	,73738

In global strategies, the mean values of the pre (3.53) and post (3.85) reveal a small increase of strategic behavior. The SD values of each data indicate that the scores are distributed around their means. In addition, the increase in the

mean scores with respect to the measures of spread yields minimum (3.08) and maximum (4.85) values in the post test higher than the range of scores of the pre test whose extremities are (2.62) and (4.38). In this concern, the increase regarding values across the pre and post tests tends to be noticeable.

The means of the pre (4.01) and post (4.27) tests in problem solving strategies indicate high reading strategy use and a trivial increase in the post test. Besides, the SD (.40) of the pre test implies that the scores are more clustered around their mean in contrast to the post test SD (.78) with scores fattering. Moreover, the maximum values are alike (4.86), but the minimum value in the pre test (1.43) is quite smaller than the post test one (3.57). The differences in the range of scores may result in further significant differences.

In support strategies, the post test mean (3.51) is higher than the pre test one (3.08); both reveal average use of strategies. The spread of data in the pre test (SD .59) is relatively small compared to the post test SD (.73). Similarly, the pre test scores ranging from (1.89) to (3.89) are less than the range in the post test, which is from (1.22) to (4.78). The possible estimation for these findings is that the difference would not be large due to the few minimum values as well as the large spread of data in the post test.

Table 5.10

Paired Samples T-test of Reading Strategy Use in the Pre and Post Tests of the Male Control Group

	Paired Samples Test							
	Paired Differences							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
			Lower	Upper				
GlobalStrategies -	-,31923	,72345	,16177	-,65781	,01935	-1,973	19	,063
ProblemSolvingStrategies -	-,25714	,93918	,21001	-,69669	,18241	-1,224	19	,236
SupportStrategies -	-,42778	1,0637	,23780	-,92550	,06994	-1,799	19	,088

The mean difference (-.31) in global strategies reports a large increase in the post test scores. This mean difference has resulted, in turn, a noticeable p-value (-1.973) but higher than the required critical value to reject the null hypothesis. In this way, the level of significance is (.063) and accepts the null hypothesis for the non-significant differences between pre and post scores. In few words, male control group participants' global strategy use does not vary significantly in the pre and post SORS tests.

In problem solving strategies pair, due to the trivial differences in the minimum and SD values, the mean difference (-.25) is slight, and its t-value (-1.224) is small as well. This t-value is quite greater than its critical value. This can be discerned from the p-value (.236) which largely confirms the null hypothesis, and the differences between pre and post tests are not significant. In this way, male control participants, who did not study RC with CSR, did not reveal significant changes in their problem solving strategy use in the post test.

In support strategies pair, the increase in mean scores invokes a large difference (-.42), yet the decrease in the minimum value with the range of the post test scores reduces the t-value (-1,799) for the differences by values. The t-value, in turn, is larger than the critical value for (19) degrees of freedom. This evokes a low level of significance (.088), allowing to accept the null hypothesis for the non significant differences between pre and post test scores. In short, support strategy use in the post test does differ considerably from the pre test amid male control group participants.

5.2.2. Effect of cooperative learning/ collaborative strategic reading on EFL male and female students' reading comprehension

To examine the effect of CL on EFL male and female students' RC, CSR was implemented as a CL technique. In order to test the impact of this technique, the three pre and post RC tests data are utilized for computing descriptive statistics and paired samples t tests for the four experimental and control groups.

5.2.2.1. Female study group findings

For the female study group, the descriptive statistics for the first RC pre and post tests are computed in the table below.

Table 5.11

Descriptive Statistics of the First reading Comprehension Pre and Post Tests of the Female Study Group

	Mean	Std. Deviation	Minimum	Maximum
TtlRdCmprTst1	5,4333	1,90613	2,00	9,00
Post.TtlRdCmprTst1	5,8000	1,49482	4,00	9,00

The mean of the pre test scores (5.43) is slightly different from the mean of the post test (5.80), and the values in both groups are fattering from their means as the SD of the pre test (1.90) is more spreading out than the post test with an SD (1.49). This can be clearly perceived as the range of each data set differ in the minimum values with (2.00) for the first and (4.00) for the latter. Regarding the increase of the scores in the post test, a paired samples t-test is carried out to examine the significance of these differences as shown in the following table.

Table 5.12

Paired Samples T-test for the First Reading Comprehension Pre and Post Tests of the Female Study Group

	Paired Samples Test								
	Paired Differences						t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
			Lower	Upper					
Pre and Post RC test 01	-,36667	,80872	,14765	-,66865	-,06469	-2,483	29	,019	

The negative mean (-.36) indicates that there is an increase in the group achievement after studying RC using CSR. In addition, the resulted t-value stemming from subtracting it from “0” and divided by the standard error mean is less than the critical value (-2.36). Therefore, the alternative hypothesis is confirmed with a p-value (.019), which is less than (.05). In few words, there is

significant effect of CSR on EFL female students' reading comprehension of the female oriented passage.

This can be plainly perceived in the increase of the female participants' achievement. To depict the categories of RC affected by the treatment, the figure below reports the frequency of correct answers before and after the treatment.

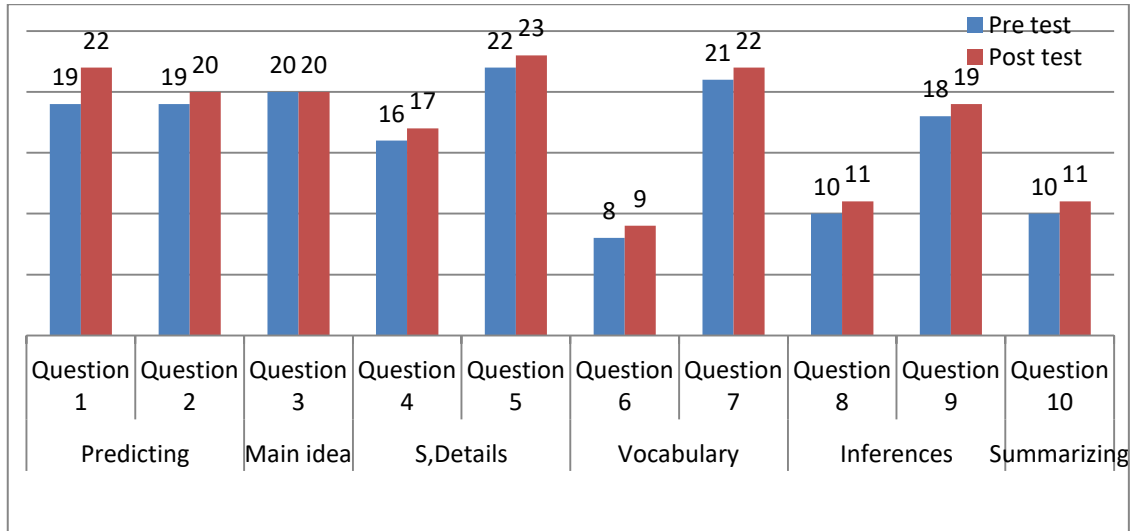


Figure 5.5. Frequency of Correct Answers in the First Reading Pre and Post Tests of the Female Study group

The improvement in females' performance in the post test refers to almost items in the first RC test save question three of identifying the main idea which is held constant. Besides, a relatively noticeable increase is reported in the first question of predicting as the correct responses increase with three right answers, yet all the remaining questions received a change with one additional correct answer. In short, the significant effect of CSR on females' RC in the first test is due to the consistent increase in the items irrespective of the main idea item with no change, and the slight increase in question one of predicting.

For the second RC pre and post tests, the minimum, maximum values, SD and the mean of the female study group are counted in the following table

Table 5.13

Descriptive Statistics of the Second reading Comprehension Pre and Post Tests of the Female Study Group

	Mean	Std. Deviation	Minimum	Maximum
TtlRdCmprTst2	4,2333	1,79431	1,00	8,00
Post.TtlRdCmprTst2	4,5667	1,50134	2,00	8,00

The mean of the scores are relatively close in the pre (4.23) and post (4.56) tests, and both test scores SDs are spreading out from their means with (1.79) in the pre test and (1.50) in the post test. The high dispersion in the pre test over the post can provide an estimation that the scores are likely to fatter to the minimum values in the pre test. In other words, the latter's minimum value (1.00) is less than of the post test (2.00), while, the maximum values are alike (8.00).

To confirm the aforementioned estimation, a paired samples t test for the differences in the values in the pre and post test is demonstrated in the table below.

Table 5.14

Paired Samples T-test for the Second Reading Comprehension Pre and Post Tests of the Female Study Group

	Paired Samples Test							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pre and Post RC test 02	-,33333	,84418	,15413	-,64856	-,01811	-2,163	29	,039

The mean difference between pre and post test scores (-.33) indicates that there is an improvement in the female study group achievement in the second RC test. The t-value (-2.136) is higher than the critical value (-2.36) with respect to the degrees of freedom (29), yet the confidence interval of the difference contains the t-value as both lower (-.64856) and upper (-.01811) are greater. This yields a significant p-value (.039) allowing to reject the null hypothesis.

There is significant impact of CSR on the female study group RC in the male oriented passage, and there is an increment in RC post test. This difference can be interpreted at the level of the test categories as shown in the figure below.

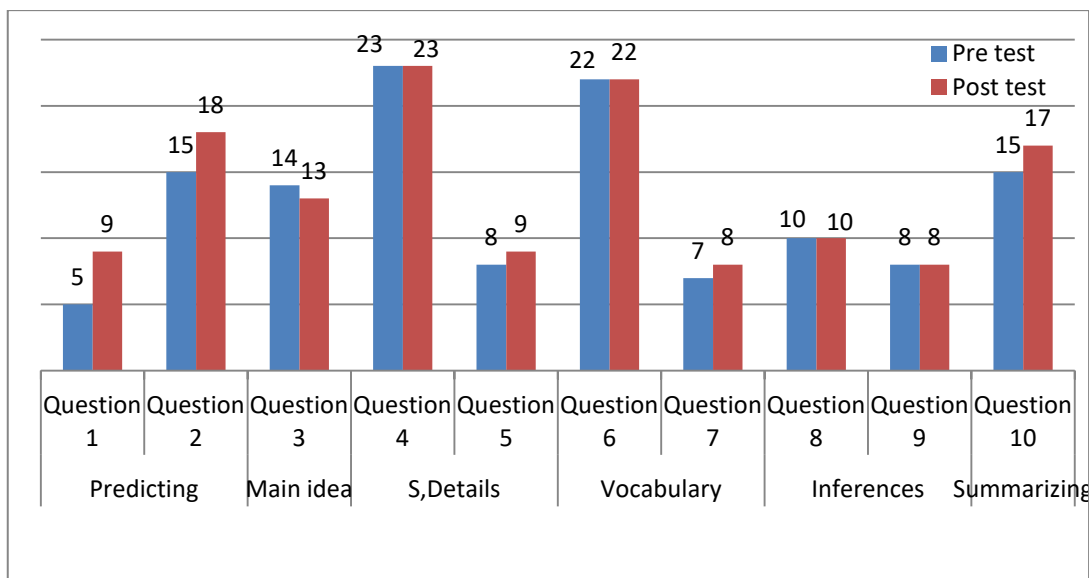


Figure 5.6. Frequency of Correct Answers in the Second Reading Pre and Post Tests of the Female Study group

There have been slopes in the achievement of the female study group, regarding the items of the second RC across the first and second tests. First, the increase in females' achievement is basically related to the enhancement in predicting, summarizing and with the increment of one correct response in question five of supporting details and question seven of explaining difficult vocabulary. However, a decrement is reported in the question of the main idea with one correct answer.

Moreover, the performance of the female study group remains the same in many test items namely, question four of supporting details, question six of explaining difficult vocabulary and all making inferences items. In short, the enhancement in the female study group achievement after the implementation of CSR is manifested in predicting and summarizing with high rates and in supporting details and inferring meaning with small degrees.

For the third RC pre and post tests, descriptive statistics of the female study group are computed in the following table

Table 5.15

Descriptive Statistics of the Third Reading Comprehension Pre and Post Tests of the Female Study Group

	Mean	Std. Deviation	Minimum	Maximum
TtlRdCmprTst3	4,4000	1,69380	1,00	8,00
Post.TtlRdCmprTst3	4,7000	1,31700	3,00	8,00

The mean scores are low in the pre test (4.40) but slightly increased to reach the average point in the post test (4.70) after CSR implementation. For the measure of spread, the scores in the pre test are likely to spread out more than the post. That is, the SD in the pre test (1.69) is very high indicating that the scores are largely distributed along the minimum (1.00) and maximum values (8.00). On the other side, the SD in the post test (1.31) reveals scores to be more clustered around the mean and spreading more to maximum value (8.00) since the minimum value is (3.00), close to its mean value.

The distribution of the scores in the post test implies that there may be a significant difference compared to the pre test. A careful examination of these differences is demonstrated using a paired samples t-test as shown in the table below.

Table 5.16

Paired Samples T-test for the Third Reading Comprehension Pre and Post Tests of the Female Study Group

	Paired Samples Test							
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper				
Pre and Post RC test 03	-,30000	,70221	,12821	-,56221	-,03779	-2,340	29	,026

Due to the distribution of the scores in the pre and post tests, the relatively small increase in the mean scores (-.30) indicates a considerable difference. This can be discerned from the t-value (-2.340) and the confidence interval of the difference values, which are both negative including lower (-.56221) and upper (-

.03779) levels. These two values are higher than the t-value. Thus, the difference between pre and post tests scores falls within the critical value proportions, and results are in a high level of significance (.026).

There is a significant difference between pre and post test scores of the female study group in the third RC test. More specifically, there is a significant impact of CSR on the female study group RC of the neutral passage. This is simply for the improvement in their achievement in the post test. In this concern, possible changes in the frequency of correct answers are likely to occur.

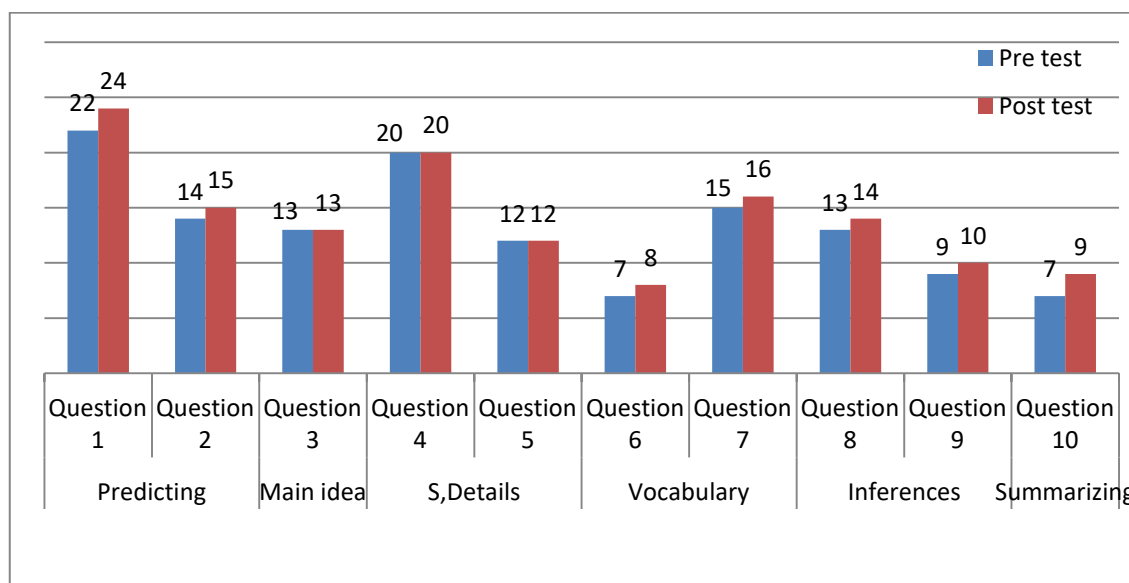


Figure 5.7. Frequency of Correct Answers in the Third Reading Pre and Post Tests of the Female Study group

The increase in the female study group achievement can be discerned in all test items except in identifying the main idea and supporting details questions, which are held the same before and after the experiment. In the first question of predicting and the last question of summarizing, there is an improvement of two correct responses in each question. For the remaining questions, there is an increment of one correct answer in each item.

Despite the fact that the achievement of the female study group in the pre and post tests is under the average point, the slight increase in the mean scores is significant for the effect of CSR on females RC in predicting, inferring meaning, making inferences and summarizing with small rates.

5.2.2.2. Male study group findings

The descriptive statistics of the findings in the first RC pre and post tests for the male study group are revealed as follows

Table 5.17

Descriptive Statistics of the First Reading Comprehension Pre and Post Tests of the Male Study Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TtlRdCmprTst1	20	1,00	7,00	4,9500	1,79106
Post.TtlRdCmprTst1	20	3,00	9,00	5,7500	1,61815

The difference is plain in the mean scores of the pre (4.95) and the post (5.75) tests indicating an increase in the overall performance. For the dispersion of the scores, both sets of data demonstrate values fattering from their means, and the SD of the pre test (1.79) is highly spreading than the SD of the post test (1.61). In addition, the values in the pre test are diverting to the minimum (1.00) value since its maximum value is (7.00) and close to the mean.

The range of the scores in the post test is different with scores to be relatively distributed to the maximum (9.00) value as its minimum value (3.00). The possible estimation of these differences is that the post test scores to increase significantly. However, paired samples t test findings reject this assumption in the table below

Table 5.18

Paired Samples T-test for the First Reading Comprehension Pre and Post Tests of the Male Study Group

Paired Samples Test								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pre and Post RC test 01	-,80000	2,46235	,55060	-1,95241	,35241	-1,453	19	,163

The mean difference (-.80) between pre and post test scores demonstrates an increase in the male study group achievement, yet the t-value (-1.453) is more

than the critical value (-2.43) and falls within the area of accepting the null hypothesis although the mean differences are plain with scores spreading to the maximum values in the post test. The level of significance is, then, (.163). In other words, there is no difference between the achievement the male study group in the first pre and post RC tests.

There is no significant effect of CSR on the male study group RC of the female oriented passage. To interpret this conclusion, differences in the frequency of correct answers in the pre and post test are compared and contrasted.

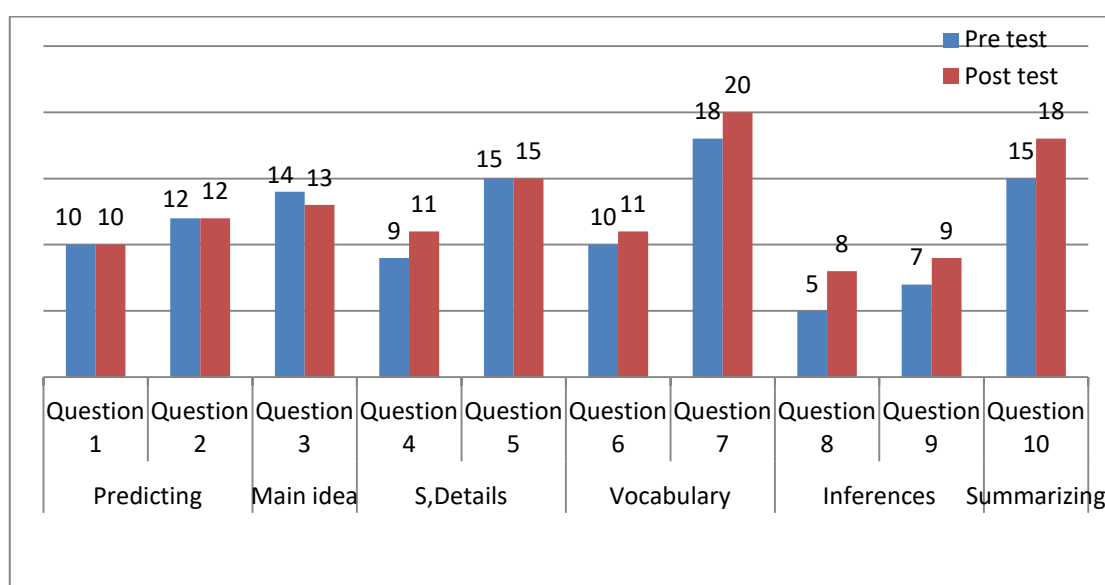


Figure 5.8. Frequency of Correct Answers in the First Reading Pre and Post Tests of the Male Study group

The frequency of correct answers across the test questions is fluctuating. This may explain the non-significant mean differences between pre and post test scores. Equal frequencies in the pre and post tests are found in predicting items and question five of supporting details. In addition, increments are reported along many items in terms of question four of supporting details, inferring difficult vocabulary, making inferences and summarizing.

Whereas, a decrease in the frequency of correct answers is revealed in identifying the main idea with one correct answer. Therefore, CSR does affect male study group RC in the first test for the consistency of the scores in

predicting, question five of supporting details and the decrease in identifying the main idea.

For the second RC pre and post tests, the mean, minimum, maximum values and the SD of the male study group are counted in the following table.

Table 5.19

Descriptive Statistics of the Second Reading Comprehension Pre and Post Tests of the Male Study Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TtlRdCmprTst2	20	4,00	6,00	4,7000	,92338
Post.TtlRdCmprTst2	20	4,00	6,00	5,0000	,85840

Mean differences between the pre (4.70) and post (5.00) tests are slight and do not indicate that there is an improvement in the male study group achievement in the second RC test. Besides, both groups yield the same range with equal minimum (4.00) and maximum (6.00), yet the scores in the pre test are likely to be more spreading out with a SD (.92), and the SD for the post test (.85) reports that the scores fatter with less scattering compared to its counterpart.

Regarding the trivial differences in the measures of spread, a paired samples t test is run to ensure whether the increase in the post test scores is really considerable or not as shown in the table below.

Table 5.20

Paired Samples T-test for the Second Reading Comprehension Pre and Post Tests of the Male Study Group

Paired Samples Test								
Paired Differences								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pre and Post RC test 02	-,30000	,57124	,12773	-,56735	-,03265	-2,349	19	,030

The mean difference (-.30) indicate that the scores in the post test are higher than in the post test. This difference is significant as long as the t-value is (-2.349) and falls within the confidence interval which both upper (-.03265) and

lower (-.56735) are higher than the t-value irrespective of the critical value (-2.43) since the confidence interval's ends are negative. This invokes a high level of significance (.030), allowing to confirm the alternative hypothesis.

For the male study group, there is a significant difference in the second RC pre and post tests. In other words, CSR affects male participants' RC of the male oriented passage with an improvement in their achievement. To discern the aspects affected by CSR, the figure below reveals the frequency of correct answers in the pre and post tests across the test categories.

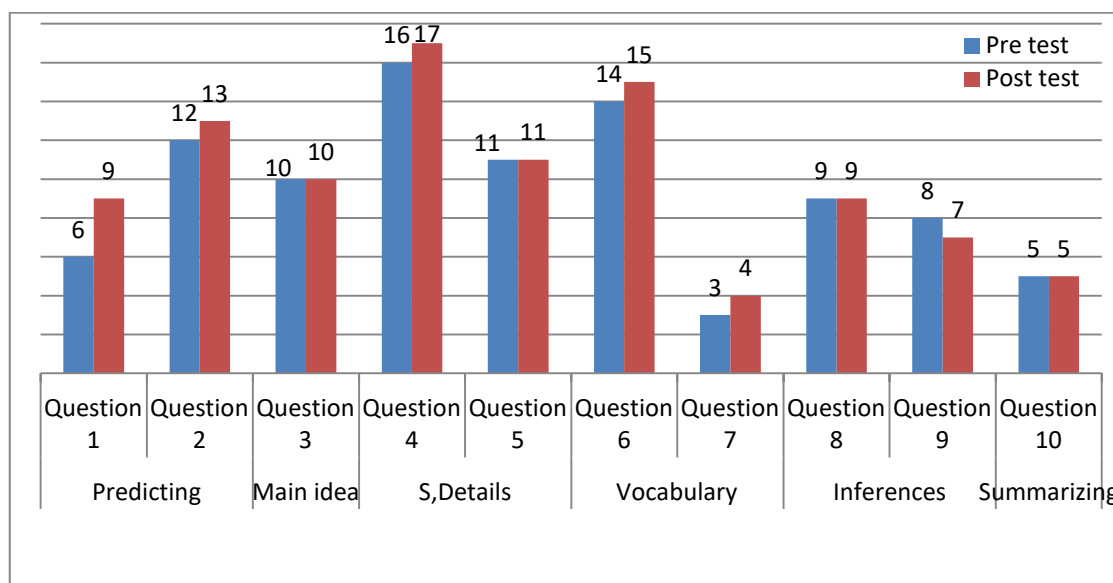


Figure 5.9. Frequency of Correct Answers in the Second Reading Pre and Post Tests of the Male Study group

The frequency of correct answers varies across the categories and their items. First, a considerable increase is revealed in question one of predicting with three additional right responses in the post test, and four items include an improvement of one right response namely, question two of predicting, question four of supporting details and items of explaining difficult vocabulary.

A number of items was not affected by the treatment as the correct answers are consistent along the pre and post tests; these items are: identifying the main idea, question five of supporting details, question eight of making inferences and summarizing. However, there is a decrement in question nine of inferences. In short, the significant increase in males' achievement in RC of the male test

resulted from the implementation CSR can be manifested in predicting, supporting details and explaining difficult vocabulary.

For the third RC pre and post tests, the descriptive statistics for the male study group are reported in the following table.

Table 5.21

Descriptive Statistics of the Third Reading Comprehension Pre and Post Tests of the Male Study Group

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
TtlRdCmprTst3	20	3,00	8,00	4,6000	1,63514
Post.TtlRdCmprTst3	20	3,00	8,00	4,8000	1,50787

The differences between the mean scores in the pre (4.60) and post (4.80) tests are trivial, indicating a little increase in males' achievement after the implementation of CSR. This estimation can be validated accounting for the similar range of both data sets including the minimum (3.00) and maximum values (8.00). Similarly, scores in the pre and post tests are scattered with their respective SDs (1.63) and (1.50).

A paired samples t-test is carried out to examine the extent to which the mean differences between the pre and post tests are significant accounting for the impact of the implementation of CSR.

Table 5.22

Paired Samples T-test for the Third Reading Comprehension Pre and Post Tests of the Male Study Group

	Paired Samples Test							
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper				
Pre and Post RC test 03	-,20000	,52315	,11698	-,44484	,04484	-1,7104	19	,104

The mean difference (-.20) indicates an enhancement of the male study group in the post test; whereas, this difference is not significant as long as the t-value (-1.710) is higher than the critical value (-2.43), and the confidence

intervals encompass negative lower (-,44484) and positive upper (,04484) values. In this way, the p-value (.104) is not significant and confirms the null hypothesis, which implies that there is no significant difference between the pre and post test scores.

The implementation of CSR did not cause any significant change in the male study group achievement in RC of the neutral text. The possible explanation of these statements can be through comparing the ratio of correct responses in the pre and post test along the test categories.

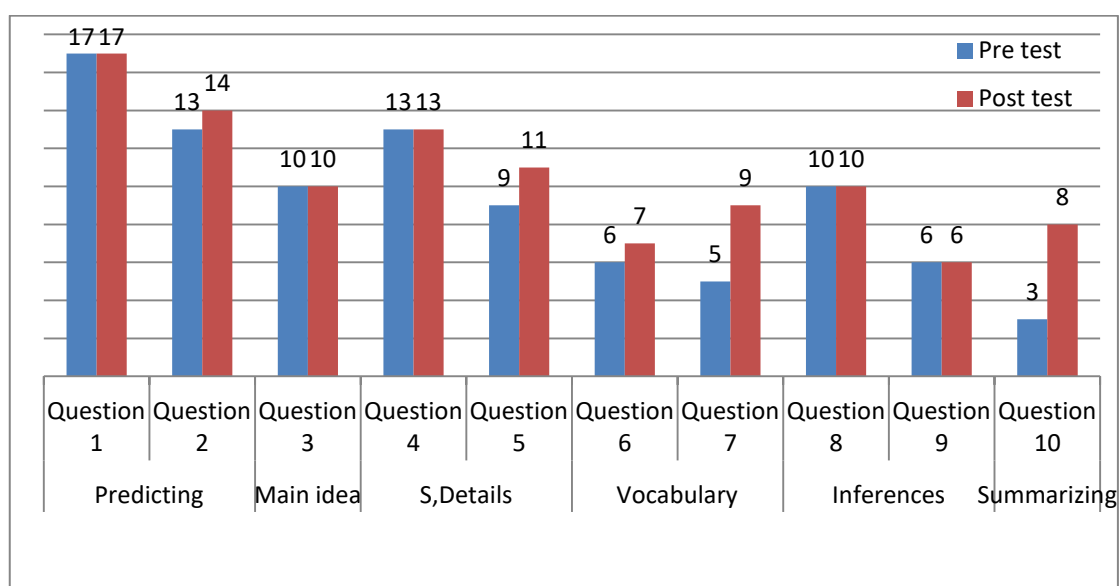


Figure 5.10. Frequency of Correct Answers in the Third Reading Pre and Post Tests of the Male Study group

Inconsistencies in the frequencies of relevant responses across the test items and categories may reveal the null effect CSR on RC of the third test for the male study group. First, there is an increase of one correct answer in a number of items namely, question two of predicting and question six of inferring meaning, and there is a relatively small increment in question five of supporting details, question seven of inferring meaning and summarizing.

The categories and items in which the scores are held constant are question one in predicting, identifying the main idea, question four in supporting details and making inferences. All of these are common indicators of the null effect of CSR on the male study group in RC of the neutral passage.

5.2.2.3. Female control group findings

For the female control group, the mean, minimum, maximum values and the SD of the pre and post tests are computed in the following table.

Table 5.23

Descriptive Statistics of the First Reading Comprehension Pre and Post Tests of the Female Control Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TtlRdCmprTst1	30	1,00	9,00	5,2667	1,87420
Post.TtlRdCmprTst1	30	4,00	8,00	5,7667	,97143

There is a slight increase in the female control group achievement, whose mean of the scores in the pre and post tests are respectively (5.26) and (5.76). For the measures of spread, the SD (.97) of the post test scores demonstrates that the scores are more clustered around their mean unlike the SD (1.87) of the post test, revealing that scores fatter. Likewise, comprising the minimum (4.00) and maximum (8.00) values, the range of the post test scores is less than the range of the pre test, including the minimum (1.00) and maximum (9.00) values.

The range and the spread of data imply that the mean differences may not reflect the actual values in the scores of each data set. In this concern, paired samples t test reports to what degree the differences are considerable or not as shown in the table below.

Table 5.24

Paired Samples T-test for the First Reading Comprehension Pre and Post Tests of the Female Control Group

Paired Samples Test								
Paired Differences								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pre and Post RC test 01	-,50000	1,96082	,35800	-1,23218	,23218	-1,397	29	,173

The mean difference (-.50) reveals an increase in the female control group in the first RC post test, but this difference is not large as the t-value (-1.397) is not contained within the critical value area (-2.36) related to the (29) degrees of

freedom. Therefore, the resulted level of significance (.173) does not indicate a significant difference between the scores of the pre and post tests.

Female control group participants, who did not study RC using CSR, did not reveal any significant change in their achievement in the RC of the female oriented passage. To provide an account for the non-significant difference between pre and post test scores, the figure below demonstrates possible differences or consistencies of correct answers across the first test items and categories.

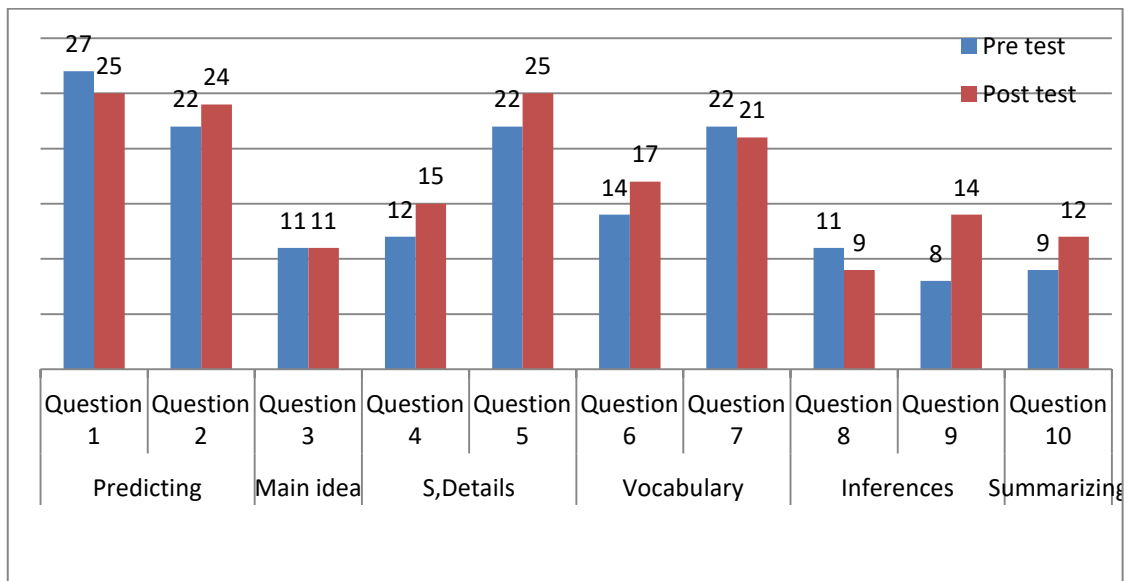


Figure 5.11. Frequency of Correct Answers in the First Reading Pre and Post Tests of the Female Control Group

Considering each set of pre and post test items, there are slopes of increments and decrements. This can be viewed in predicting, inferring meaning and making inferences categories. That is, these categories include a decrease in the first item and an increase in the second question within the same categories, but an increment in three correct answers is perceived in items of supporting details and summarizing.

The items of identifying the main idea remain constant. It can be assumed, then, that the non-significant difference between pre and post RC first test scores for the female control group is due to the consistency of the scores in identifying the main idea as well as the fluctuations in predicting, inferring meaning and

making inferences including increments and decrements between the pre and post tests.

For the second RC pre and post tests, descriptive statistics of the average scores obtained by the female control group are indicated in the following table.

Table 5.25

Descriptive Statistics of the Second Reading Comprehension Pre and Post Tests of the Female Control Group

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	
TtlRdCmprTst2	30	1,00	7,00	3,3000	1,78403	
Post.TtlRdCmprTst2	30	1,00	7,00	3,5667	1,50134	

The mean of the pre test (3.30) is relatively close to the mean of the post test (3.56). In the second RC post test, the female control group achievement is kept low with a slight increase. For the distribution of the scores, both data sets share the same range, including the maximum (7.00) and minimum (1.00) values. These range values can be explained through the large SD value (1.78) in the pre test that contains scores scattered from their mean. Similarly, the SD of the post test (1.50) indicates scores spreading out from the mean but with fewer degrees compared to the pre test.

The mean difference between pre and post tests is trivial with the same range of scores, yet the small difference in the spread of data may account for further differences. Thus, a paired samples t test is run for the significance of the mean differences between the second RC pre and post tests

Table 5.26

Paired Samples T-test for the Second Reading Comprehension Pre and Post Tests of the Female Control Group

Paired Samples Test								
Paired Differences								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pre and Post RC test 02	-,26667	2,40593	,43926	-1,16506	,63172	-,607	29	,549

The small mean difference (-.266) indicates a trivial improvement in the post test. This difference, taking into consideration the standard error mean, yields a small t-value (-.607). The latter is higher than its critical value (-2.36) and falls within the area of accepting the null hypothesis and rejecting the alternative. That is, the level of significance is (.549), which means that there is no significant difference between the pre and post test scores.

In this way, there is no significant difference in RC of the male oriented passage for the female control group, who studied RC without CSR. This result can be elucidated through comparing the frequency of correct answers across the categories and their items in the pre and post tests.

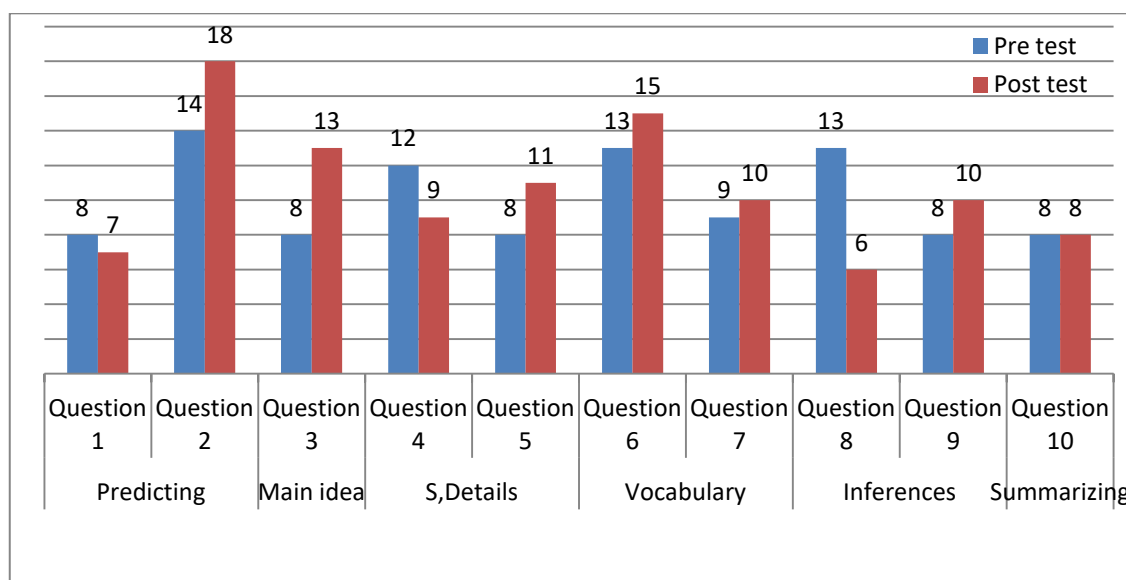


Figure 5.12. Frequency of Correct Answers in the Second Reading Pre and Post Tests of the Female Control Group

Regardless of summarizing which is held constant, there are fluctuations in the pre and post test across the test items. There are increments and decrements in items of predicting, supporting details and making inferences; however, in identifying the main idea and inferring difficult vocabulary, the performance of the participants improved in the post test categories. In short, the non significant difference between the total scores of the second RC pre and post tests is due to slopes of correct answers along the test items.

For the third RC pre and post tests, descriptive statistics of the female control group are revealed in the table below.

Table 5.27

Descriptive Statistics of the Third Reading Comprehension Pre and Post Tests of the Female Control Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TtlRdCmprTst3	30	1,00	7,00	3,8333	1,31525
Post.TtlRdCmprTst3	30	3,00	6,00	4,3333	,92227

There is a difference between the mean of the pre (3.83) and post (4.33) tests although the post test mean is kept under the average level of achievement. Besides, the SD values (.92) and (1.31) indicate that the scores in the pre test are likely to spread out from their mean more than the post test scores. This can be clearly viewed in the maximum and minimum values. That is, in the pre test, the range is from (1.00) to (7.00), while, the posttest scores are ranging from (3.00) to (7.00).

The range of the scores demonstrates that the post test scores do not increase considerably. Thus, to ensure whether the difference between the values of each subject in the pre and post test is great, a paired samples t test counts these differences as shown in the following table.

Table 5.28

Paired Samples T-test for the Third Reading Comprehension Pre and Post Tests of the Female Control Group

Paired Samples Test								
Paired Differences								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pre and Post RC test 03	-,50000	1,67641	,30607	-1,12598	,12598	-1,634	29	,113

The mean difference (-.50) invokes a considerable t-value (-1.634), yet the latter is not less than its critical value (-2.36), and the lower and upper confidence intervals of the difference are both positive and negative. The t-value is not significant as the reported level of significance (.113) indicating that there is no significant difference between pre and post test scores. In other words, the female

control group participants, who did not receive treatment with CSR, had their level of RC achievement of the neutral passage relatively constant.

The following figure 5.13 demonstrates the categories and their items, which account for the non-significant difference in the female control group achievement.

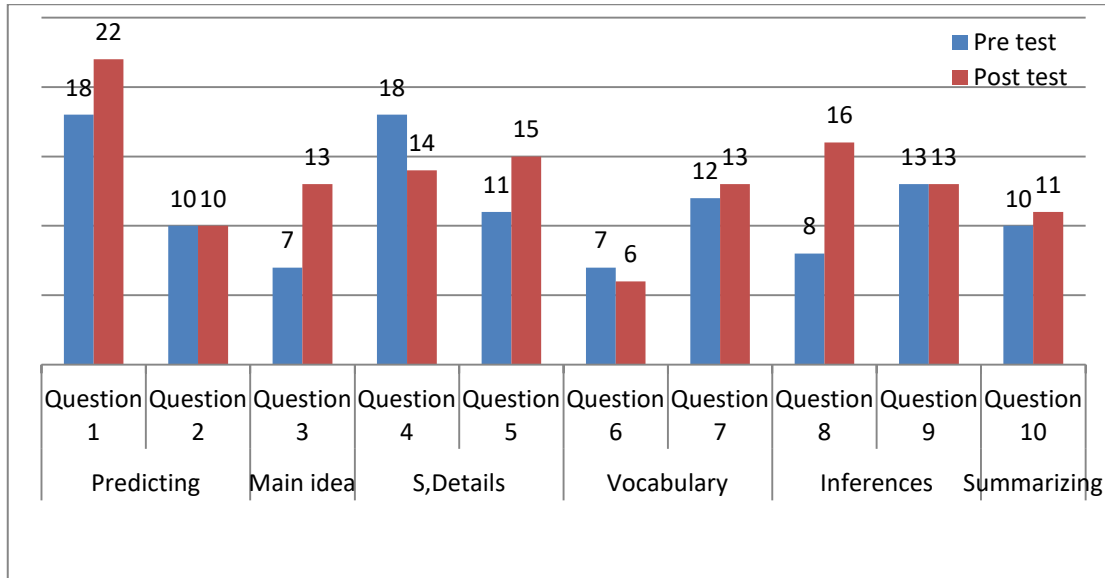


Figure 5.13. Frequency of Correct Answers in the Third Reading Pre and Post Tests of the Female Control Group

Consistency in the pre and post test scores is found in the second question of predicting and question nine of inferences, yet in these categories, the items left indicate an increase in the post test scores in addition to summarizing and the main idea items. Furthermore, in supporting details and vocabulary, there is a fluctuation of increases and decreases. For instance, there is an increase in the post test in question six and a decrease in the post test in question seven of inferring meaning.

In short, the non-significant difference in the pre and post test scores in the third RC is due to the consistency in the identification of main ideas and summarizing with fluctuations in the remaining categories and items.

5.2.2.4. Male control group findings

For the male control group, descriptive statistics of the first RC pre and post tests are computed in the table below

Table 5.29

Descriptive Statistics of the Male Reading Comprehension Pre and Post Tests of the Male Control Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TtlRdCmprTst1	20	1,00	9,00	5,4000	2,30332
Post.TtlRdCmprTst1	20	4,00	9,00	6,0500	1,23438

The mean of the post test (6.05) is higher than the pre test one (5.40). For the spread of data, the SD (2.30) of the pre test indicates that the scores are largely spreading out from their means, and the scores are ranging from (1.00) to (9.00). This range embraces almost possible scores. Besides, the SD (1.23) of the post test scores reveals a large spread of data but less than its counterpart since both tests comprise the same maximum values and a distinct minimum value (4.00).

According to the range and the measures of spread, the performance of the participants could vary across the tests. To confirm this assumption, a paired samples t test computes the extent to which the differences along the values of each test is considerable as shown in the following table.

Table 5.30

Paired Samples T-test for the First Reading Comprehension Pre and Post Tests of the Male Control Group

Paired Samples Test								
Paired Differences								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
		n		Lower	Upper			
Pre and Post RC test 01	-,65000	3,23265	,72284	-2,16292	,86292	-,899	19	,380

The data in the pre test tend to scatter further to the maximum value instead of the minimum. Albeit the high mean difference (-.65) indicating the increase in the male control group in the post test, the resulted t-value (-.899) is very low and does not fall within the critical value proportion (-2.43). Therefore, the level of significance (.380) reveals that the mean difference confirms the null hypothesis.

That is, there is no significant difference between the scores of the pre and post tests.

The participants of the male control group did not study RC with CSR. This has resulted a non significant increase in their RC of the female oriented passage. To support this finding, *Figure 5.14* demonstrates a comparison of the frequency of correct answers between the pre and post tests along the first RC test items.

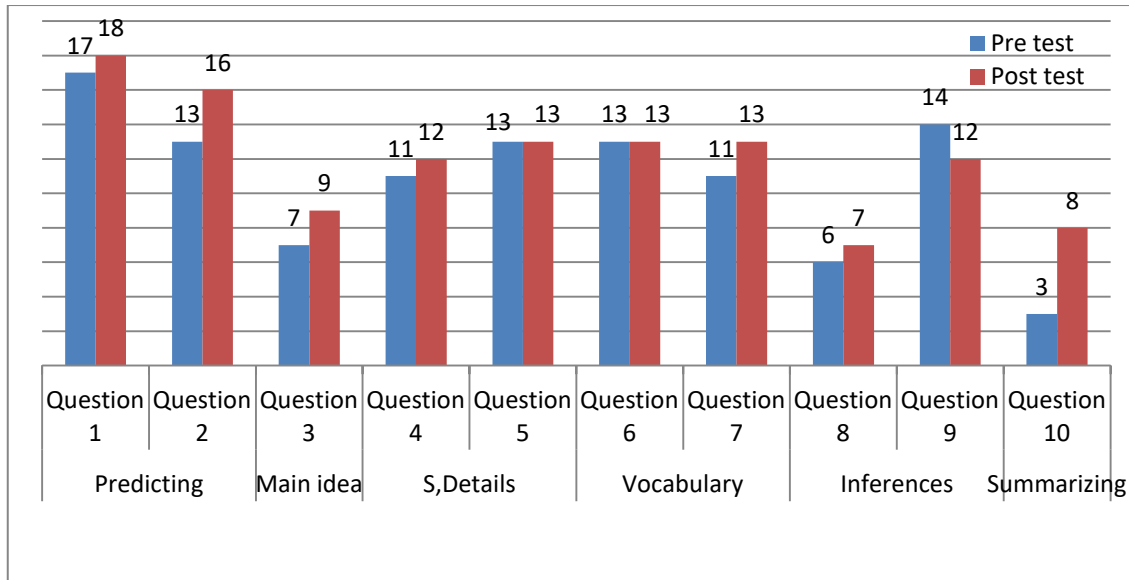


Figure 5.14. Frequency of Correct Answers in the First Reading Pre and Post Tests of the Male Control Group

The slight difference between the pre and post tests' values can be discerned in a limited number of questions. First, the equal frequency of correct answers is perceived in question five of supporting details and question six of explaining difficult words. In addition, there is a decrease in the participants' achievement in question nine of making inferences. However, increments are reported in the remaining items. Some of them increase slightly as in items one of predicting, four of supporting details, seven of inferring meaning and eight of inferences.

Items with noticeable improvement in the post test are question two of predicting, question ten of summarizing and identifying the main idea. In few words, the male control group scores in the first RC post do not vary significantly from the pre test scores for the consistent scores found in question five of

supporting detail and question six of inferring meaning as well as the decrease in question nine of making inferences.

For the second RC pre and post tests, the mean, minimum, maximum values and the SD of the male control group are reported in the table below.

Table 5.31

Descriptive Statistics of the Second Reading Comprehension Pre and Post Tests of the Male Control Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TtlRdCmprTst2	20	1,00	7,00	4,1500	1,59852
Post.TtlRdCmprTst2	20	4,00	7,00	4,8500	,81273

Both mean values indicate that the achievement of the male control group in the second RC test remains low. There is an increase in the post test scores mean (4.85) with regards to the pre test mean (4.15). In addition, the post test scores are likely to be clustered around their mean with a SD value (.81), while, the SD (1.59) of the pre test reveals fattering scores. Accounting for the measures of spread, the maximum values are alike in each data set, but the minimum values are different, which indicate a wide range of data sets in the pre test scores.

Regarding the maximum values and the spread of data, the difference between pre and post tests may be slight. A paired samples t test computes the mean differences for the values in each test.

Table 5.32

Paired Samples T-test for the Second Reading Comprehension Pre and Post Tests of the Male Control Group

Paired Samples Test								
Paired Differences								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pre and Post RC test 02	-,70000	1,68897	,37767	-1,49046	,09046	-1,853	19	,079

The increase indicated in the mean difference (-.70) yields a large t-value (-1.853), yet this value is higher than the allotted critical value (-2.43). Likewise,

the values are found within the rejection area of the alternative hypothesis proportion. The level of significance (.079) is close to reject the null hypothesis, but it remains over (.05). Thus, there is no significant difference between the scores of the pre and post tests.

The increase in the male control group participants' scores in the second RC post test is slight and does not vary significantly. A comparison between the frequency of correct answers in the pre and post tests is shown in the following figure.

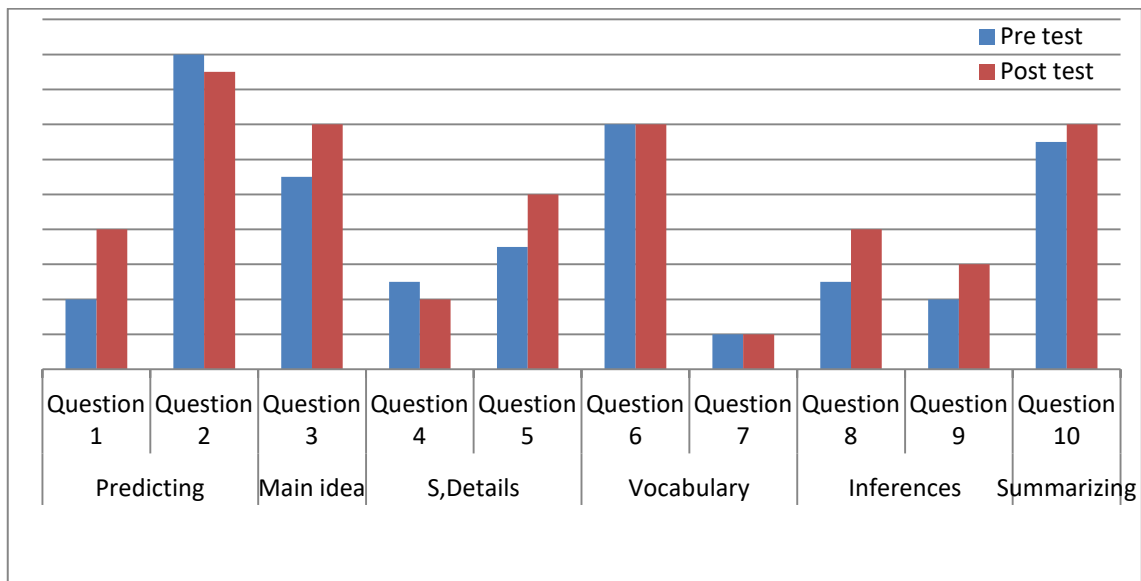


Figure 5.15. Frequency of Correct Answers in the Second Reading Pre and Post Tests of the Male Control Group

The items indicating the increase in participants' achievement are prominent, yet a small number of items could account for the slight difference between pre and post test scores. This can be discerned in explaining vocabulary items which are held constant, and decrements are plain in the post test achievement in the second question of predicting as well as the fourth question of supporting details.

However, all the remaining questions, seven questions, indicate an increase in participants' achievement in the post test. The scores of those items are not sufficient to invoke a significant difference between the total scores in the RC pre and post tests with the male oriented passage.

For the third RC pre and post tests, descriptive statistics of the scores obtained by the male control group are reported in the table below.

Table 5.33

Descriptive Statistics of the Third Reading Comprehension Pre and Post Tests of the Male Control Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TtlRdCmprTst3	20	1,00	7,00	3,4000	1,93037
Post.TtlRdCmprTst3	20	3,00	7,00	4,1000	1,20961

Both means of the pre (3.40) and post (4.10) test scores indicate low achievement but vary considerably as the scores in the post test are higher than the pre ones. For the measures of spread, the SD (1.93) is large indicating that pre test scores fatter and higher than the SD (1.20) of the post test scores, which are spreading out. Despite the increase in the mean value of the post test and the different measures of spread, the maximum values (7.00) in each data set are the same, but the minimum value (1.00) in the pre test is smaller than the post test one (3.00).

The similar maximum values in each data set require further analysis to depict whether the mean difference between the values of each set is significant. In this concern, the paired samples t test is computed in the following table.

Table 5.34

Paired Samples T-test for the Third Reading Comprehension Pre and Post Tests of the Male Control Group

Paired Samples Test							
	Paired Differences				t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower Upper			
Pre and Post RC test 03	-,70000	1,78001	,39802	-1,53307 ,13307	-1,759	19	,095

The mean difference value (-.70) indicates that the male control group achievement increases considerably in the post test. This invokes a large t-value (-1.795), yet this value is higher than the critical value (-2.43), and lower and

upper confidence intervals are respectively negative and positive. The t-value does not yield a significant p-value (.095). Thereby, there is no significant difference between the pre and post test scores.

The male control group participants, who did study RC with CSR, indicated a slight improvement in the third RC post test containing the neutral passage. To interpret this result, the frequency of correct answers in the pre and post tests along the items and categories is revealed in the figure below.

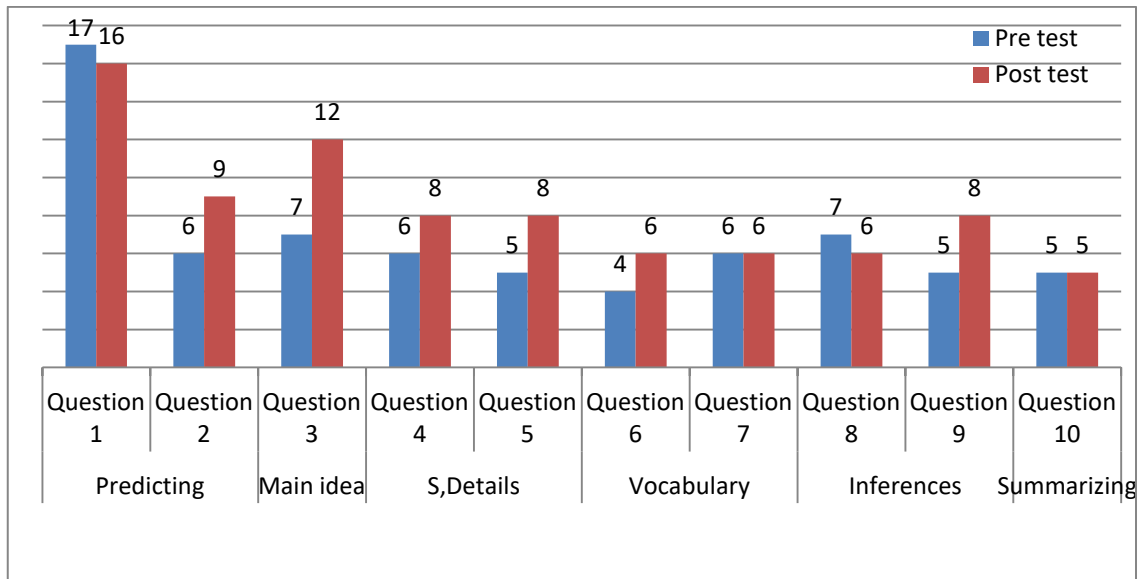


Figure 5.16. Frequency of Correct Answers in the Third Reading Pre and Post Tests of the Male Control Group

The increments found in many items may account for the large mean difference, but the consistency and decrease reported in post test frequencies account for the slight difference in the total scores. The decreases in post tests are found in question one of predicting and question eight of making inferences, and the scores are held constant in question seven of inferring vocabulary and question 10 of summarizing. Whereas, the items left are indicating enhancements in the post test scores.

In short, the slight variance between pre and post test scores of the third RC among the male control group participants are due to the consistencies found in pre and post tests in summarizing and question seven of inferring meaning as well as decreases in question one of predicting and question eight of making inferences.

Conclusion

Taking into account low and higher achievers in the study group, the analysis of the questionnaire of CL preferences enables to draw a sociogram established on the bases of mixed genders, levels of achievement and friendship. Means comparisons between pre and post tests yield s significant effect of CSR RC and reading strategy use of both males and females. On the other hand, no significant differences are reported between pre and post tests in RC and reading strategy for both male control and female control groups.

For the female study group, significant differences are revealed between pre and post tests of the three RC tests with global and support strategies. For the male study group, CSR affects RC of the male passage, global and problem solving strategies. In short, the effect of CSR on females' RC is more considerable than on males' RC.

**CHAPTER SIX:
COOPERATIVE
LEARNING PRINCIPLES
AND VALIDATION OF
THE EXPERIMENT
FINDINGS**

CHAPTER SIX: COOPERATIVE LEARNING PRINCIPLES AND
VALIDATION OF THE EXPERIMENT FINDINGS

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Introduction

This chapter tackles gender differences in Cooperative Learning (C.L) principles while studying Reading Comprehension (R.C) with Collaborative Strategic Reading (C.S.R). Findings of the interview and the questionnaire of CL principle are compared to provide final valid inferences. To confirm the findings in the three RC tests in both male and female study groups, crosschecking of the results is carried out for paired samples t tests with frequencies of correct answers of the three RC tests, paired samples t tests of the SORS, coded categories of the interview and descriptive statistics of CL principles scales. Once the findings are intersected, the validated findings are interpreted through the interview and the questionnaire's results.

6.1. Cooperative Learning Principles

The rationale behind investigating the participants' adherence to CL principles is to validate previous findings of the impact of CSR as a CL technique on RC and reading strategy use among male and female students. In other words, this section depicts how CL elements instilled in CSR tend to account for any possible effect on RC or strategic behavior, and it explains male and female participants' attitudes while working together in mixed level and gender groups. In this way, the findings in the questionnaire of CL principles and the interview are analysed regarding gender differences.

6.1.1. Questionnaire of cooperative learning principles

The questionnaire of CL principles comprises five main categories: positive interdependence, individual accountability, promotive interaction, social skills and group processing. For each category and its items, descriptive statistics embracing the mean, minimum and maximum values and the SD are computed for male and female participants, who sat for the experiment. There is, then, a comparison between males and females across those categories.

6.1.1.1. Positive interdependence

For the female study group participants, descriptive statistics of positive interdependence items and their computed category are shown in the following table.

Table 6.1

Descriptive Statistics of Positive Interdependence of the Female Study Group
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Positive Interdependence	30	3,25	5,00	4,0083	,43788
In my group, we ensure that everyone fulfils her or his share of the work.	30	2,00	5,00	3,6333	1,06620
The success of my group is confined to the achievement of its members including myself.	30	1,00	5,00	2,9667	1,21721
Helping each other is necessary to complete the tasks.	30	1,00	5,00	3,7667	1,04000
I share whatever material and information in order to complete our tasks.	30	1,00	5,00	4,0000	1,23176

The computed mean of positive interdependence (4.00) indicates that female participants confine the attainment of the group to the whole group achievement. The SD (.43) demonstrates that the values are clustered around the mean with a small range from (3.25) to (5.00), that reveals a tendency for increase in the scores. Attempting to explain this estimation, item four of means interdependence encompasses a mean (4.00) which is similar to the computed mean and with a relatively large spread (SD 1.23).

Moreover, the first item of ensuring the fulfillment of one's share of work (3.67) and the third item of reciprocal helping (3.76) means tend to be close to the grand mean with a large spread of scores including respectively SDs (1.04) and (1.04). In few words, the high positive interdependence among female participants is mainly for means interdependence and with little degrees for ensuring the fulfillment of work shares and reciprocal helping.

Table 6.2

Descriptive Statistics of Positive Interdependence of the Male Study Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PositiveInterdependence	20	1,00	4,00	2,9625	,99431
In my group, we ensure that everyone fulfils her or his share of the work.	20	3,00	5,00	4,1500	,74516
The success of my group is confined to the achievement of its members including myself.	20	1,00	5,00	2,9500	1,35627
Helping each other is necessary to complete the tasks.	20	2,00	5,00	4,3500	,87509
I share whatever material and information in order to complete our tasks.	20	2,00	5,00	3,8000	,95145

For the male study group, the positive interdependence mean (2.96) is relatively average and less than the female study group mean (4.00). This moderate level of positive interdependence is related to the second item of associating the success of the group to all members, whose mean is (2.95) with a SD (1.35) indicating a large range from (1.00) to (5.00). These values are relatively the same as positive interdependence SD (.99) and range from (1.00) to (4.00).

On the other side, the remaining items reveal means quite higher than positive interdependence with values ranging from (2.00) or (3.00) to (5.00). in this way, the male participants' average positive interdependence is due to their average rate of narrowing the group achievement to the performance of all members.

6.1.1.2. Individual accountability

In individual accountability, the descriptive statistics for male and female participants are shown in the following tables.

Table 6.3

Descriptive Statistics of Individual Accountability of the Female Study Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
IndividualAccountability	30	3,00	4,75	3,9247	,40679
I can explain what I have learnt to my group mates	30	1,00	5,00	3,5333	1,40770
I always complete my share of the work alone	30	1,00	5,00	3,2667	,98027
I actively facilitate the work of others in the group.	30	2,00	5,00	4,3667	,85029
My personal contribution is essential to the success of my group.	30	1,00	5,00	3,0000	1,20344

The mean (3.92) of individual accountability is high with a small SD (.40) that reveals scores scattered around the mean. This can be discerned from the range from (3.00) to (4.75). Besides, facilitating the task for others mean (4.36) with an SD (.85) as well as the range from (2.00) to (5.00) may be a good indicator of individual accountability. In addition, the ability to explain learnt information to peers mean (3.53) is relatively close to individual accountability with scores scattered from their mean (SD 1.40) along all the possible existing values. In short, in the female experimental group, the increase in individual accountability is attributed to facilitating the work of each other and explaining the newly acquired information to the group members.

Table 6.4

*Descriptive Statistics of Individual Accountability of the Male Study Group***Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
IndividualAccountability	20	3,00	4,53	3,9305	,37911
I can explain what I have learnt to my group mates	20	2,00	5,00	3,2500	1,16416
I always complete my share of the work alone	20	1,00	4,00	2,9500	,94451
I actively facilitate the work of others in the group.	20	2,00	5,00	4,3000	,80131
My personal contribution is essential to the success of my group.	20	2,00	5,00	3,6000	1,04630

For the male study group, the mean of individual accountability (3.93) is similar to the mean (3.92) reported in the female study group, and the SD (.37) with the range from (3.00) and (4.53) indicates consistency of the findings across the two groups. Likewise, the mean (4.30) and the SD (.80) of facilitating the task of the others is quite similar to the female counterpart.

However, the difference lies in the increase in the importance of the personal contribution, which mean is (3.60) in contrast to the female group, wherein the increase is found in explaining information to peers. In this way, the male participants' increase in individual accountability is related to facilitating the work of peers and the importance of personal contribution.

6.1.1.3. Promotive interaction

For patterns of interaction, male and female participants descriptive statistics are computed in the tables below.

Table 6.5

Descriptive Statistics of Promotive Interaction of the Female Study Group
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PromotiveInteraction	30	3,25	4,75	4,0070	,40201
To accomplish the group goals, I encourage my peers to commit more efforts.	30	2,00	5,00	4,2333	1,04000
I provide explanations to assist the understanding of my peers.	30	1,00	5,00	3,6333	1,29943
To improve my group performance, I provide constructive feedback.	30	1,00	5,00	3,8333	1,20583
I exchange ideas and help my peers to solve problems.	30	1,00	5,00	2,9333	1,17248

There is a high rate of promotive interaction amid female participants, whose mean is (4.00), and the SD (.40) with minimum (3.25) and maximum (4.75) values implies that the scores are scattered around their mean. This category encompasses a number of items contributing in its elevated rate. The first item of encouragement behavior mean (4.23) is even higher than promotive interaction mean, yet this recorded value is partially equal to the respective category as long as the SD (1.40) value with the range from (2.00) to (5.00).

In addition, the means of items of assisting the understanding of peers via explanations (3.63) and providing constructive feedback (3.83) are relatively close to the computed category mean with the same maximum (5.00) and minimum (1.00) values owing to their large SD values. In this way, the incremented rates of individual accountability in female participants are associated with encouragement behaviors, assisting the understanding of peers and providing constructive feedback.

Table 6.6

Descriptive Statistics of Promotive Interaction of the Male Study Group

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PromotiveInteraction	20	2,50	4,00	3,5000	,41359
To accomplish the group goals, I encourage my peers to commit more efforts.	20	3,00	5,00	4,5500	,60481
I provide explanations to assist the understanding of my peers.	20	1,00	5,00	3,2000	1,15166
To improve my group performance, I provide constructive feedback.	20	1,00	5,00	3,7500	1,20852
I exchange ideas and help my peers to solve problems.	20	1,00	5,00	2,5000	1,31789

Male participants (3.50) indicated moderate and less face to face interaction degrees compared to their female peers. This estimation is valid since the SD (.41) reveals scores scattered around their mean, ranging from (2.50) to (4.00). This average level of patterns of interaction use can be discerned in fluctuations across the items. That is, high rates are found in the item of encouragement behavior with a mean (4.55) and SD (.60), and constructive feedback item is likely to report elevated degrees but with a large spread (SD 1.20) and a range from (01) to (05).

On the other side, a moderate level is indentified in the mean of the item of assisting the understanding of peers (3.20), and a low level in the mean of exchanging ideas (2.50). Each of these possesses a large spread. In short, the moderate level of patterns of interaction among males is related to the increase in the constructive feedback with encouragement behaviors, to the average rates of assisting the understanding of peers and to exchanging ideas to solve problems.

6.1.1.4. Social skills

Social skills include both group and interpersonal skills in four items. The following two tables report descriptive statistics of those items for both female and male study groups.

Table 6.7

Descriptive Statistics of Social Skill of the Female Study Group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
SocialSkills	30	1,50	4,75	3,4500	,79438
I trust my group mates	30	1,00	5,00	2,9000	1,06188
I communicate with my group members accurately.	30	2,00	5,00	4,1667	,79148
I accept the different viewpoints of my peers	30	1,00	5,00	3,2000	1,44795
I resolve problems with my group members constructively.	30	1,00	5,00	3,5333	1,00801

For the female study group, the responses yield a moderate level of social skills (3.45). For the measure of spread, the SD (.79) indicates the likelihood of the scores to scatter from the mean with a wide range from (1.50) to (4.75). There are two items with quite close means with scores to farther from their means. That is, item three of the coordinating efforts mean is (3.20), and the item corresponding to the solving problems constructively mean is (3.53). Besides, their respective SD values are (1.44) and (1.00) with the same range from (1.00) to (5.00). Thus, coordinating efforts and fixing problems constructively constitute the average level of females' social skills

Table 6.8

*Descriptive Statistics of Social Skills of the Male Study Group***Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
SocialSkills	20	2,00	4,25	3,4875	,79668
I trust my group mates	20	1,00	4,00	2,6000	,94032
I communicate with my group members accurately.	20	2,00	5,00	4,1000	,85224
I accept the different viewpoints of my peers	20	1,00	5,00	3,8000	1,67332
I resolve problems with my group members constructively.	20	1,00	5,00	3,4500	,94451

The mean score (3.48) of the male participants in social skills is quite similar to the mean reported in the female group. Besides, the scores are relatively scattering from the mean as the SD value is (.79), and the range's extremities are (2.00) and (4.25). In contrast to the items indicating average social skills in the female study group, the coordinating efforts mean (3.80) is almost elevated with a large spread (SD 1.67).

Consistencies with the female study group scores are found in the remaining items, with the same measures of spread and ranges. Therefore, the moderate level of social skills of the male participants is essentially due to their moderate skills in fixing problems constructively.

6.1.1.5. Group processing

The group processing variable with its items descriptive statistics are reported in the table below for both female and male study groups.

Table 6.9

Descriptive Statistics of Group Processing of the Female Study Group
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
GroupProcessing	30	1,33	4,67	3,6333	,76988
I always evaluate with my group members how well we did in each task.	30	1,00	5,00	3,4667	1,00801
I always decide with my group mates what to keep as good acts	30	1,00	5,00	3,6667	1,12444
I always decide with my group members what to alter as negative attitudes.	30	1,00	5,00	3,7667	1,10433

The female participants' mean (3.63) indicates group processing practices above the average level with scores fairly spreading out from their mean (SD .76) with a range from (1.33) to (4.67). Corresponding to the evaluation of the overall performance and deciding on what to keep or alter in terms of acts, the three items in this category yield mean values close to their respective variable with fairly equal SD values around (1.00) as well as large ranges from (1.00) to (5.00). In short, all items contribute in their overall average group processing among the female participants

Table 6.10

Descriptive Statistics of Group Processing of the Male Study Group
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
GroupProcessing	20	2,33	4,67	3,9667	,60117
I always evaluate with my group members how well we did in each task.	20	2,00	5,00	3,8500	,74516
I always decide with my group mates what to keep as good acts	20	3,00	5,00	3,8500	,81273
I always decide with my group members what to alter as negative attitudes.	20	2,00	5,00	4,2000	,95145

In the male study group, the mean (3.96) of group processing indicates high reflections on the group overall performance. This estimation from the mean value can be valid for the scores approximately clustered around their mean with a SD (.60) and values ranging from (2.33) to (4.67). This mean value is mainly confined to the item of compromising to alter negative acts, which mean (4.20) is high with scores spreading out from the mean (SD .95) with minimum (2.00) and maximum (5.00) values.

The means (3.85) of the first and second items are mostly close to the overall mean. They share approximate measures of spread, but the range of the scores differs in the minimum values, which are (2.00) for the first and (3.00) for the second. The high rates of group processing are, then, related to all items for the male study group.

6.1.2. Interview

Recorded responses of the participants had been transformed into verbatim transcripts. The written scripts, in turn, were analyzed and coded into categories under main themes related to each questions. Besides, the aim of designing an interview has been to confirm findings reported from RC tests, SORS and the questionnaire of CL principles with regards to the experiment. In this concern, the interview encompasses three main sections.

The first section collected data on the effectiveness of CSR in RC and reading strategy use as well as male and female participants' attitudes towards its implementation. The second section is related to the impact of allowing participants to choose mixed gender peers and to the effect of occupied roles on participants' attitudes and achievement. The last section confirms and clarifies the results found in the questionnaire of CL principles.

6.1.2.1. Attitudes towards Collaborative Strategic Reading

The questions corresponding to the perceptions and attitudes towards CSR aim at revealing whether the actual performance of participants is related to their views about the implemented CL technique or other factors. The questions retrieved responses on participants' views about CSR, its effectiveness, reading

strategies difficult to use with or without CSR and the overall evaluation of the technique.

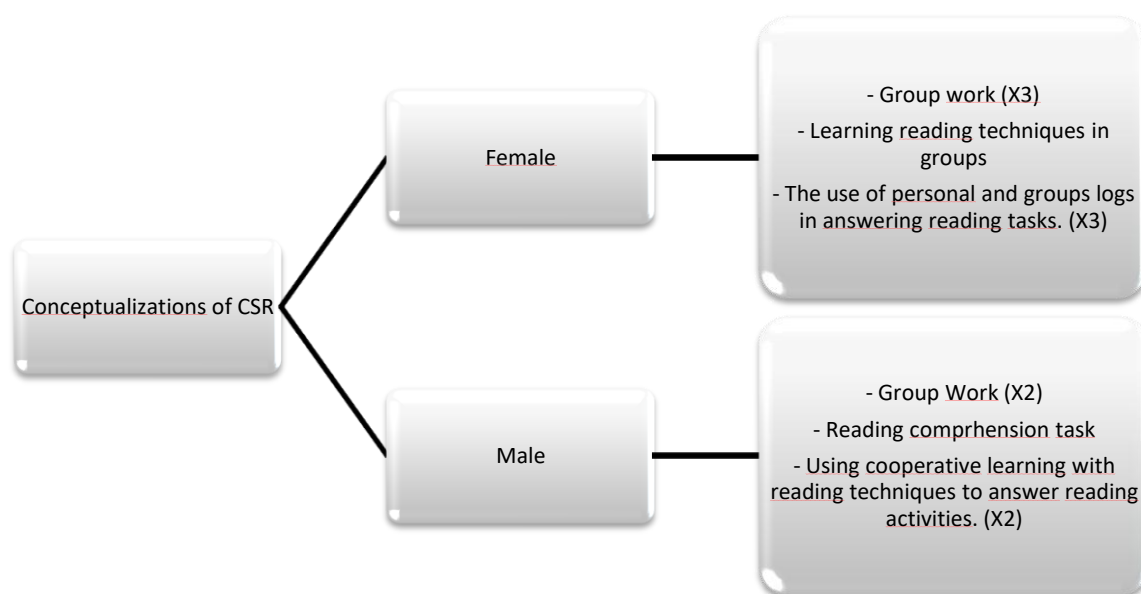


Figure 6.1. Participants Definitions of Collaborative Strategic Reading

Coding the answers of the first question, “Can you explain briefly what collaborative strategic reading is?” reveals a number of categories. First, consistencies are viewed in the category of “group work” between males and females; an instance of males responses is “it is a group work of five people to the category of “learning reading techniques in groups” in the response “Well,[short pause] we work in groups in five students to learn different reading techniques together and understand texts.”(F01) for females and “Using CL with reading techniques to reading activities” for males in the statement: “Collaborative Strategic Reading is cooperative way of learning used with [eh....pause] techniques of reading to be able to answer reading activities in our first year” (M01)

However, female participants appeared to be more task oriented than their male counterparts since the category “The use of personal and group logs in answering reading tasks” appeared three times and inexistent amid male participants. For instance, they stated: “Have reading activities for one text in session and to answer questions of the personal and group logs”(F02) and “...we use our logs then put good response on group logs[...] the logs have questions

about texts.”(F05). Accordingly, female participants tend to be more focused and involved in contrast to their male counterparts, who considered CSR as “a reading comprehension task” once and “group work” twice without referring to the constituents of the technique. That is, M03 stated: “*reading comprehension activity to learn the understanding of types of texts by answering questions about texts*”, and M04 replied as follows: “*...studying reading in group for long texts*”

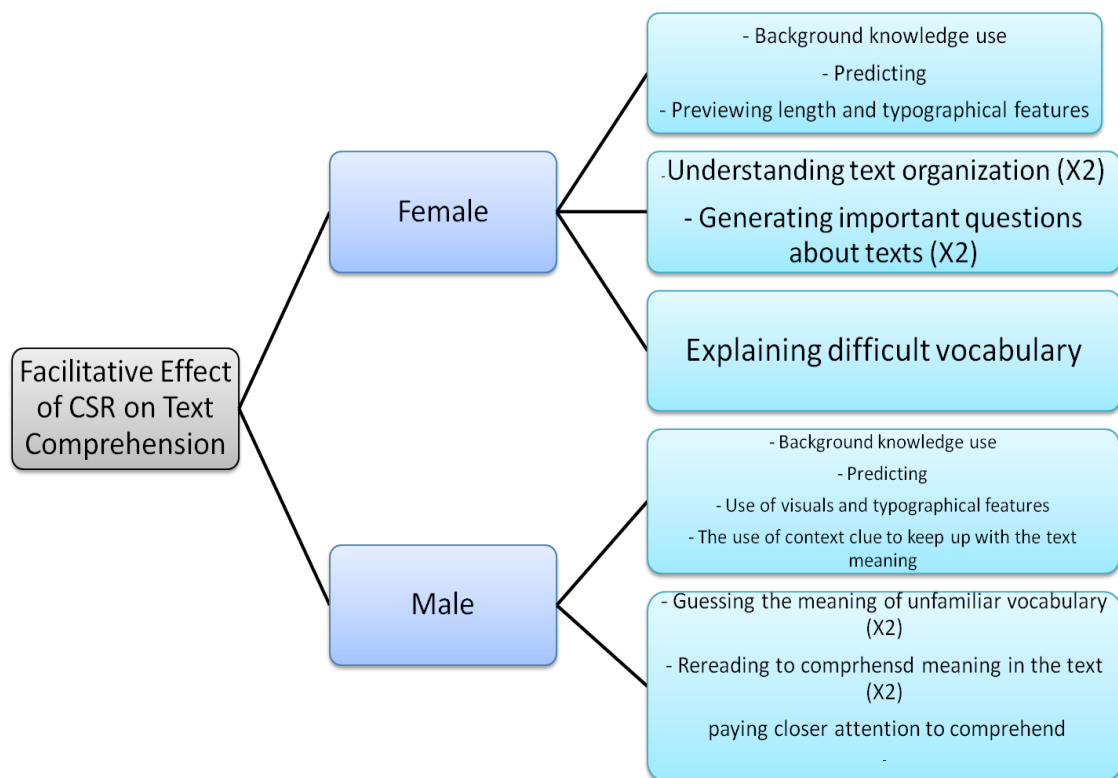


Figure 6.2. Coding of the Effectiveness of Collaborative Strategic Reading on Text Comprehension

According to the figure above, responses about the impact of CSR on comprehension were mostly related to reading strategies in the second question: “How does CSR help you in understanding texts?”. That is, the coded categories are inferred with reference to the items of SORS. This can explain the division of the categories into three for females and two for males.

For females, the implementation of CSR promotes participants’ use of predicting and previewing techniques with another prevailing category “background knowledge use”. They respectively replied: “*I know to guess the*

information of the text and look in the indentation, bold type italics to understand the text.”(F03) and “ I know to to have my information about texts to read...” (F02) The latter entails that CSR enhances content schema use in reading. Each of these categories falls within global strategy use.

The second set of categories includes “understanding text organization” for the statements “I can know the elements of texts and the order of them in order to resume them.”(F04) “...know different types of texts....” (F01) and “generating important questions about texts” as in the responses” ... the questioning of brainstorming...”.(F02) and “...ask many questions about the information in texts..” (F05). The first category may indicate the use of formal schema as well. Moreover, the frequency of each category is two, meaning that they are prevailing among females, and they are related to support strategies. In addition, a direct effect of CSR can be discerned here as generating important questions about texts is part of the post reading phase in CSR in which participants answered in their learning logs.

In the last set, dealing with difficult vocabulary has been indicated once by female participants. It falls within problem solving strategies. Regarding the frequency of categories in each set of strategies, the frequency of this category may not be reliable for drawing conclusions as long as the responses included the following statement once: “....able to help myself to explain hard words in texts...”(F01). Thus, it is disregarded, and the inference of the coded categories of the female responses asserts that CSR enhances predicting, previewing, understanding text organization and generating essential questions under global and support strategies sets

For the male participants, in the set of categories corresponding to global strategies, consistencies are found in predicting and background knowledge use with female participants. Within the same set, two other categories associated with predicting before and during reading, which are respectively the use of visuals and context clues as shown in “I learned to have pictures and the way words written in texts to understand the text is about what ... I can underline words to understand the meaning of the text.”(M03)

In contrast to female participants, a number of categories is depicting problem solving strategies for males. First, two categories indicate that CSR is effective for automaticity and enhancing males keeping up the comprehension flow. They are “paying closer attention” in “: *helps me in concentration in the text and focus more on the information...*”(M04) and “rereading to comprehend meaning in the text” of the statement:” *and to read many times the text to understand the information in the text*”.(M01) The latter is also used as part of during reading phase in CSR. Furthermore, “guessing meaning of unfamiliar vocabulary” is prevailing in this set. The statements “*I can try to find meaning and synonyms of words in texts and answer questions about meaning of texts especially words*” (M05) and “*it is to be able to find out the meaning of words*” (M01) are reflecting guessing the meaning of unclear words. In this way, CSR is likely to elevate participants’ global strategies mainly predicting and problem solving strategies including inferring meaning and enhancing automaticity.

Inferences obtained from the coded categories and themes in question two, “How does CSR help you in understanding texts?” may be confirmed or disregarded in the following two questions.

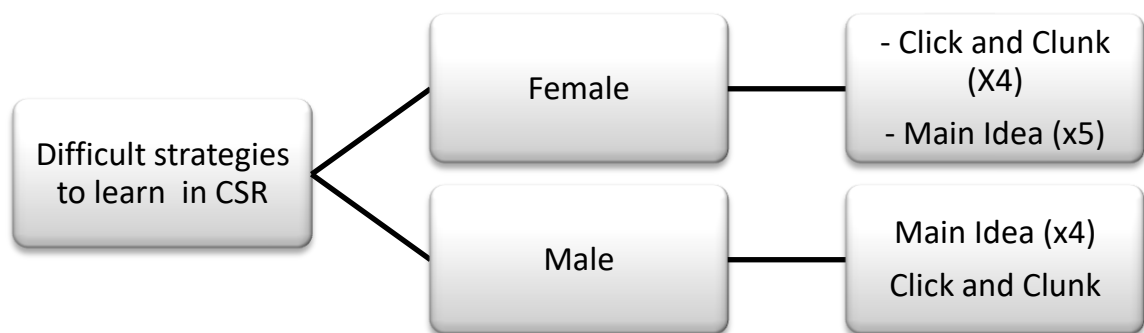


Figure 6.3. Categories of the Difficult Strategies to Learn in Collaborative Strategic Reading

In the third question “What are the reading strategies you have found difficult to learn using CSR?”, both male and female participants asserted that the challenging category to learn while using CSR is identifying the main idea as most of the participants indicated high frequency in this category. For example,

F01 and F04 respectively said: “...to find the main idea in paragraphs...” and “difficult to me to write the main idea”; while, M02 replied: “writing the main idea.”, and M04 said: “finding main ideas ...that’s it”

Similarly, for the effectiveness of CSR, the lacuna in finding the main idea can be interpreted for the participants’ inability to implement the strategy. Besides, “Click and Clunk” is related to explaining difficult vocabulary. The latter as a category is not prominent in problem solving with only one repetition among males “the explanation of some words in the texts” (M01), yet click and clunk strategy was challenging for females with a considerable frequency (X4). This can be perceived from the responses of the participants like in “difficult one is explaining words” (F03) and “...and some words are not clear” (F04°

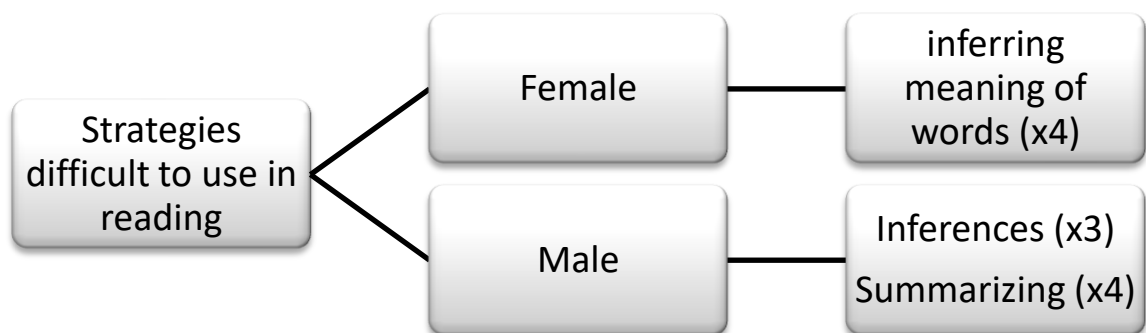


Figure 6.4. Challenging Reading Strategies in Collaborative Strategic Reading

For the strategies found difficult by participants to utilize in reading any text in the fourth question “What are the reading strategies you have found difficult to use in reading texts alone?”, inferring meaning is held the same with or without CSR with a considerable frequency (04) as in “not good in finding out the sense of some words” (F01) and “the most difficult areand the explanation of difficult words.” (F05).

In addition, male participants indicated that making inferences and summarizing are challenging for them. This can be discerned from the responses “I find facts and inferences the difficult thing in reading in this year” (M03) and

“to write summaries of texts...” (M05) Their assumptions might have been stated from their performance in RC pre and post tests. Accordingly, from the categories coded from males and females’ responses, it can be inferred that CSR does not enhance explaining difficult vocabulary among females, and males’ ability to make inferences and to summarize remains constant after the experiment.

Another possible explanation for the aforementioned findings can be identified from males and females’ attitudes towards the implementation of CSR in RC classes in the fifth question” How did you find studying reading using CSR?”.

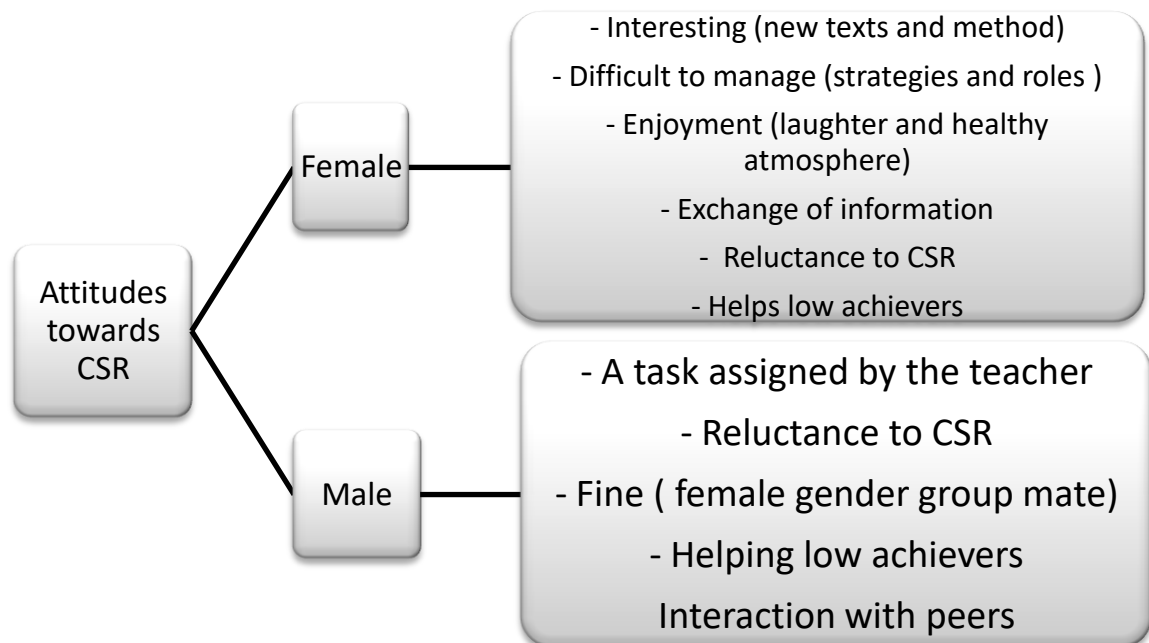


Figure 6.5. Male and Female Participants’ Attitudes towards the Implementation of CSR

Proceeding the implementation of CSR, male and female participants attitudes vary considerably, yet consistent categories in terms of “helping low achievers” in the statement of a female: “It is good... I can get a lot of information from my friends to understand and answers the questions about the texts.”(F04) and of a male: “ ...to be good in understanding the meaning of texts especially words and the ideas...”(M05), and “reluctance to CSR” answers were

“... I am not really seeing myself here....” (F01) and “We have other ways to study reading” (M02).

Those categories are prevailing across genders. The first may be two fold as participants may benefit from positive interdependence or hitchhike, and the second is an indicator for the lack of interdependence. Similarly, a male participant expressed an indifferent attitude as he may not be willing to embark himself in CL groups in the future, *“I will choose individual work”(M02).* Moreover, another female participant pointed out that it was hard to manage strategies and roles at the same time in CSR, *“I cannot understand exactly the roles [a breath] and to have them with the papers (Cue sheets) and to answer the logs using ... with the techniques to write the answers. I find it difficult to do all these at one moment.”(F01)*

For the positive attitudes, female participants demonstrated them at the individual and group levels. A participant revealed that it was interesting because the content and the method are novel as in *“I find it interesting it is the first time I study with it and the texts are good... so many”(F05).* At the group level, it has been indicated that CSR permitted to exchange information and to enjoy working in a healthy atmosphere. A response is identical to this reflection, *“We laughed.... had fun and talk to each other and with you sometimes”(F02).* To exchange information implies that females are likely to be positively interdependent, and to enjoy working in groups may afford a good space for participants to study RC without the teacher centered approach and his “authoritarian style”.

Another positive attitude is reported amid males. The category “fine” may be depicting a state of satisfaction as in *“They are friends... female one..”(M01),* yet the latter can be associated with the relationships between group members as they enjoyed working with their female counterparts. All in all, for both genders, the attitudes are equally divided into positive and negative.

6.1.2.2. Mixed gender peers and cooperative roles

The second section of the interview considers a number of factors namely, the extent to which the choice of male and female peers has been right and the occupied roles and preferred ones by the participants.

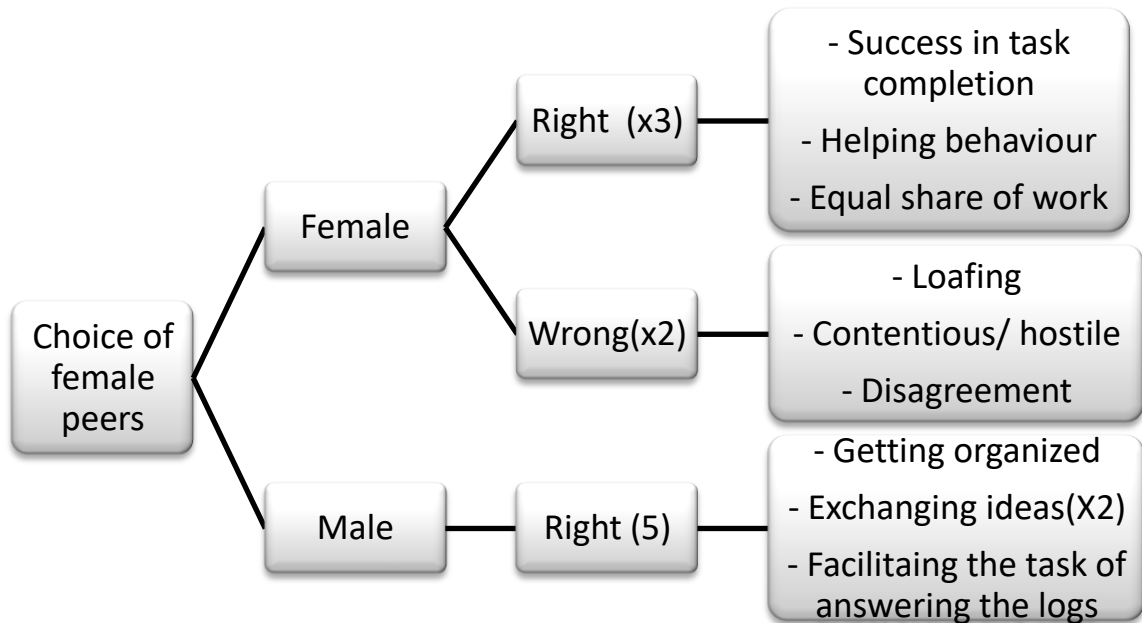


Figure 6.6. Participants’ Self-Evaluation of their Choice of Female Group Mates

Unexpectedly, in the sixth question “Do you think the choice of your female peers was right?”, all male participants asserted that their choice of female peers was right, while, two females out of five were dissatisfied about their selection. Along the male categories for the right choice, “facilitating the task of answering learning logs”, corresponding to “*we make it easy and [.....] answered the questions of the texts with them*” (M03) is an indicator of individual accountability, and “exchanging ideas” for the response “*I give information I know about texts and they gave us more information of the texts they know more than me*”(M02), is meant for face to face interaction.

Another category of positive interdependence is “getting organized” in and “*We are good in organizing ourselves and giving the roles to each other to answer well the activities*”(M01). The latter is intertwined with the female right choice category “equal share of work” as in “*we answered the questions about the texts well together*”(F04) and “*We all do our job we organize the work of us well*”(F05); likewise, “helping behavior” is also confined to positive

interdependence. An instance of this can be: *“We helped one another in the questions we answered...”(F03)*

For the females asserting their wrong selection, two justifications were around loafing behaviours as some female participants relied on their group members to complete their share of the work, *“I can say that when we give our answers some keep repeating our answers...they don’t give their answers but for others it is ok.”(F02)*. In addition, another participant indicated that her female peers are contentious, and they constantly disagree with them as in *“...want only what they say and not letting me feel good”(F01)*

In question seven, *“Do you think the choice of your male peer was right?”*, all interviewees agreed that the choice of their male peers was right. For the male right choice categories, consistent categories are revealed except for one additional, which is *“friendship”* that can largely ameliorate group members achievement. Two statements are reported in this concern: *“He is my friend...it was cool to study together”(M01)* and *“He is my friends I prefer to study with him.”(M02)*.

For the categories similar to the females’ responses, *“exchanging ideas”* has been reported once in male participants’ responses as in: *“He give me the information and explains and [eh ...] about text”(M03)*. Besides, *“means interdependence”* is retrieved twice. Instances of the responses are: *“Sofiane shows me writing the main idea of many types (he meant texts)”(M04)* and *“...we use the ways to explain meaning of the text”(M05)*

On the other side, females’ justifications of their right choice encompass two categories. The first category, *“exchanging ideas”* in the statement *“We share information about different texts especially in texts of males ...I gave them information that I know”(F05)*, falls within promotive interaction. The second category, *“means interdependence”*, in the responses *“We give to each other ways to help us in order to answer the questions about texts”(F02)* and *“They gave me the way to explain words and tell me the way to preview texts fast”(F03)*, is associated with sharing materials and resources to complete the

tasks. In few words, both face to face interaction and positive interdependence categories tend to account for the participants' pertinent choice of male peers.

In question eight “*What are the roles you occupied? Which one you mostly prefer?*”, coded categories of male and female participants' performed roles and the most preferred ones are shown as follows.

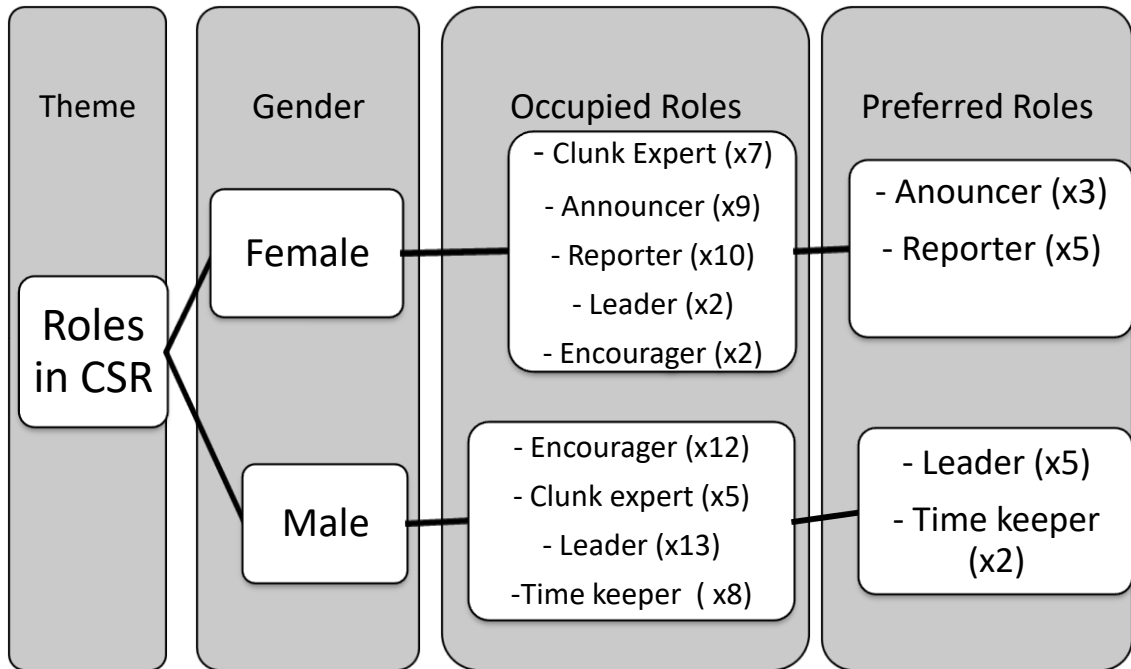


Figure 6.7. Males and Females Occupied and Preferred Roles in Collaborative Strategic Reading

The frequencies of the occupied roles by males and females demonstrate considerable differences. For males, the most performed roles are the encourager, leader and time keeper. For females, the most frequently occupied roles are the announcer and reporter, yet the clunk expert role has been consistent across genders and does not appear as a favourite role. Accordingly, the females' preferred roles are the announcer and reporter, while, the male ones are the leader and time keeper.

The performed roles with the favorite ones across genders indicate that there is no sway or dominance in the selection of the occupied roles as long as the ratio of frequencies in certain coded categories are held constant from the occupied to the preferred role. For instance, for females, the frequencies of the occupied roles: reporter (10) and announcer (nine), and the preferred roles:

announcer (three) and reporter (five). This can be viewed by counting the number of females (30) and the six weeks of the treatment.

Besides, the females and males' favorite roles attribute males to the center of attention through leadership and females to the periphery with serving roles as the reporter or the announcer, who is always directed by the leader to call for other group members.

6.1.2.3. Elements of cooperative learning

The following section reports coding of the transcribed responses for the five CL principles for both male and female participants. For the ninth question "Do all your group members contribute in completing the tasks? How do you ensure this?", the results are shown as follows:

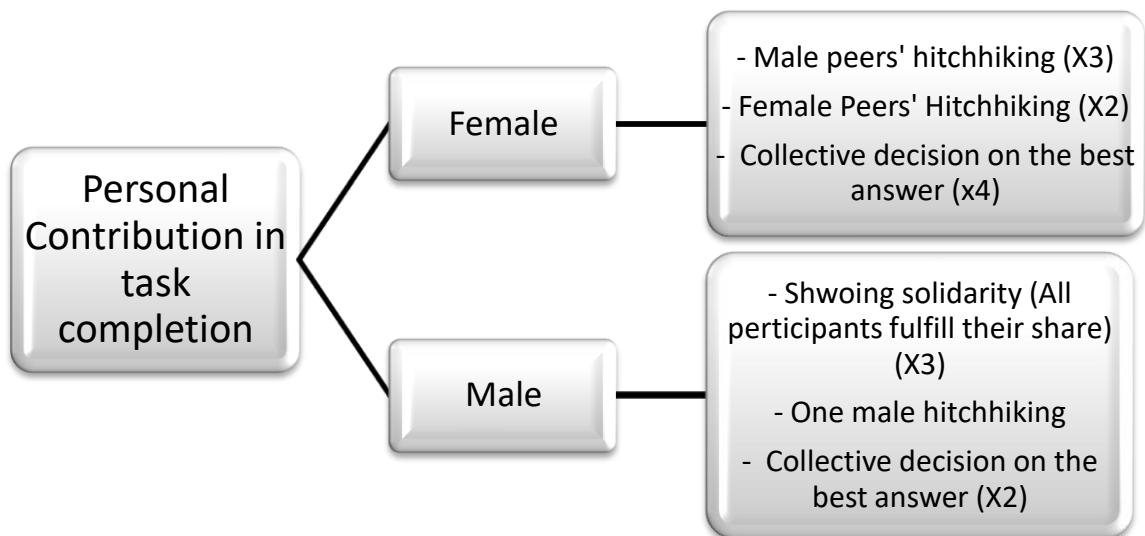


Figure 6.8. Coded Categories of Outcome interdependence

There have been numerous similar categories across both genders responses. First, females reported three times that male peers hitchhike on the work of their peers: "No them all... Some don't answer and wait for us to write the answers" (F04), "No... They don't give the answers" (F02) . Likewise, another male revealed that same gender peer is relying on them as in "... he waits for us to give him the answers ..."(M01). This contradicts previous findings pointed out in the choice of male peers. Moreover, two female participants asserted their female peers' hitchhiking: "They don't all do their job...female",

“No... They don't give the answers...male and female”(F02). These go in line with justifications on the wrong selection of female peers.

However, three male participants had shown solidarity with their peers and replied that everybody in the group fulfilled his share of the work. Further, a consistent category, “collective decision on the best answer” is more prevailing among female participants than male ones. A possible inference can be associated with male and female justifications on the same and different gender peers' choice, containing “exchanging ideas” category. In conclusion, positive interdependence tends to be more prominent in female participants over males.

In the tenth question, “What are the situations in which you helped or received help from your group members?”, categories of facilitating and reciprocal helping are reported in the figure below.

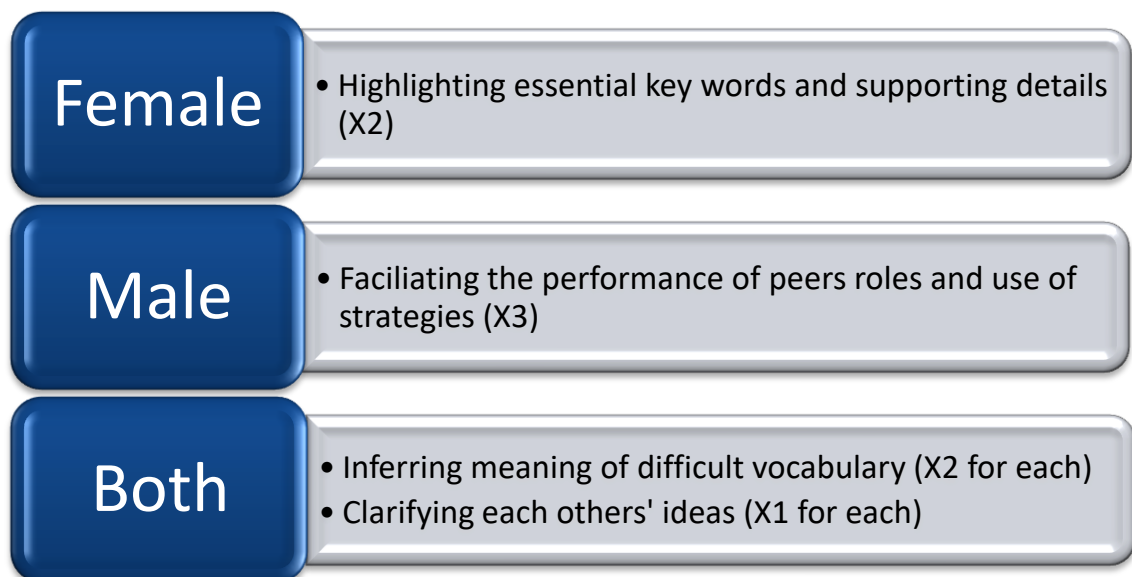


Figure 6.9. Coding of Common Facilitating and Helping Behaviors

The categories of facilitating the task of others are related to individual accountability, and reciprocal helping attitudes relate to positive interdependence. In facilitating others' work, females were likely to help in identifying supporting details. This is content oriented. That is, females responses were as follows: “...to find the keywords... explanation and examples” (F02), when I want to get some information and important words” (F05) ; on the other hand, males pointed out that they helped their peers in role performance and how to use the strategies for learning logs. This is organization and structure related

behavior. Instances of that are “*about the roles and questions and how to do them*” (M01) and “*... about my roles and writing answers of the questions after reading texts*” (M04)

In reciprocal helping behavior, inferring meaning of difficult words is found across genders although difficult vocabulary was revealed only in previous females’ responses. Besides, “clarifying each others’ ideas” category has been reported from the answers, “*I don’t get what my friends saying they explain to me again their answers*” (M02) and “*most of the time in saying again our ideas or explaining them to each other*” (F04). These may indicate communication unintelligibility among group members. This may have appeared due to the mixed level groups. However, this assumption cannot be over generalized as long as the “helping low achievers” category in previous questions has been found. Instead, clarifying the ideas of each other supported exchange of ideas leading, in turn, to positive interdependence.

To examine whether encouragement behaviours account for positive interdependence, verbal acts of both genders who occupied the encourager role are coded into categories from the eleventh question, “*What are the common expressions uttered by the encourager?*”

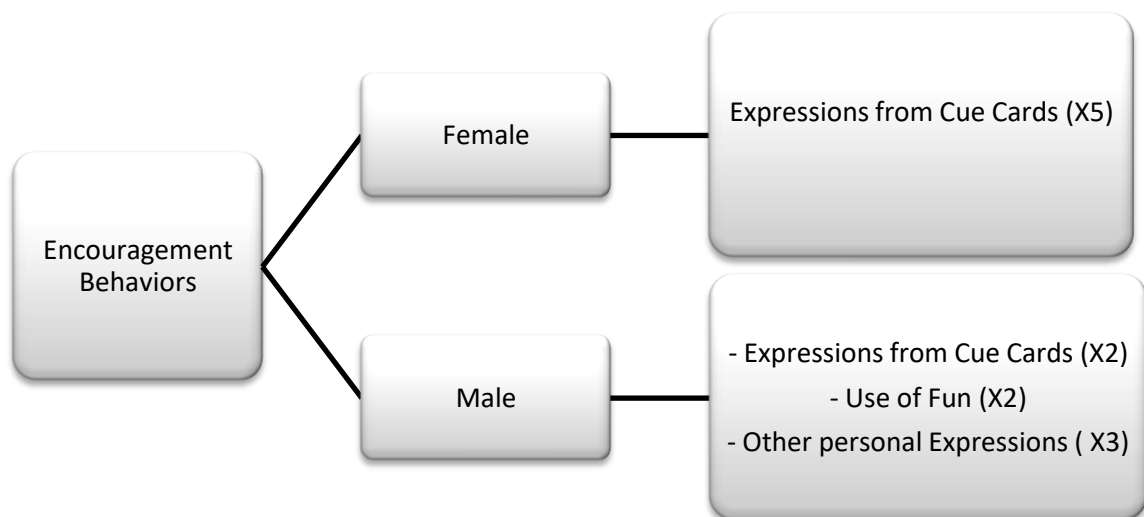


Figure 6.10. Participants Verbal acts in the Encourager Role

It is plainly viewed that females used expressions from cue sheets, and it may be plausible to obtain that number of repetitions (X5) since few females performed the role of the encourager like in “*We made good prediction ... we did*

well in finding the main idea” (F05) and “we did well in our predictions...next time we will be bettergood main idea ...” (F04). On the other hand, a variety of encouragement verbal acts was deployed including expressions from cue cards, use of fun, *” from your answer, I am sure you left your mug today at home” (M02), “...otherwise the boss will be angry..”(M04)* and other personal expressions, *“that’s right guys we are fine [pause] good... let’s stay like this” (M03).* This means that males attempted to be the central figure in the interactions. These results confirm the assumptions about females’ preference to be in the periphery voluntarily.

In question 12 related to equal interaction, both male and female participants across all groups indicated equal exchange of the floor owing to the allotted roles in CSR, and no participant violated turn taking rules despite previous issues reported by females in terms of loafing, hostility and disagreement. The findings of this question are a good indicator for CSR’s structuring of interactions and equal exchange of turns to talk.

Along the six weeks of working in cooperative groups, problems may have occurred between same or different gender peers within the same group. In the figure below, coded categories of problems faced by males and females with their action plans to fix them are found in question 13, “What are the problems you encountered in your group? How did you manage to fix them?”

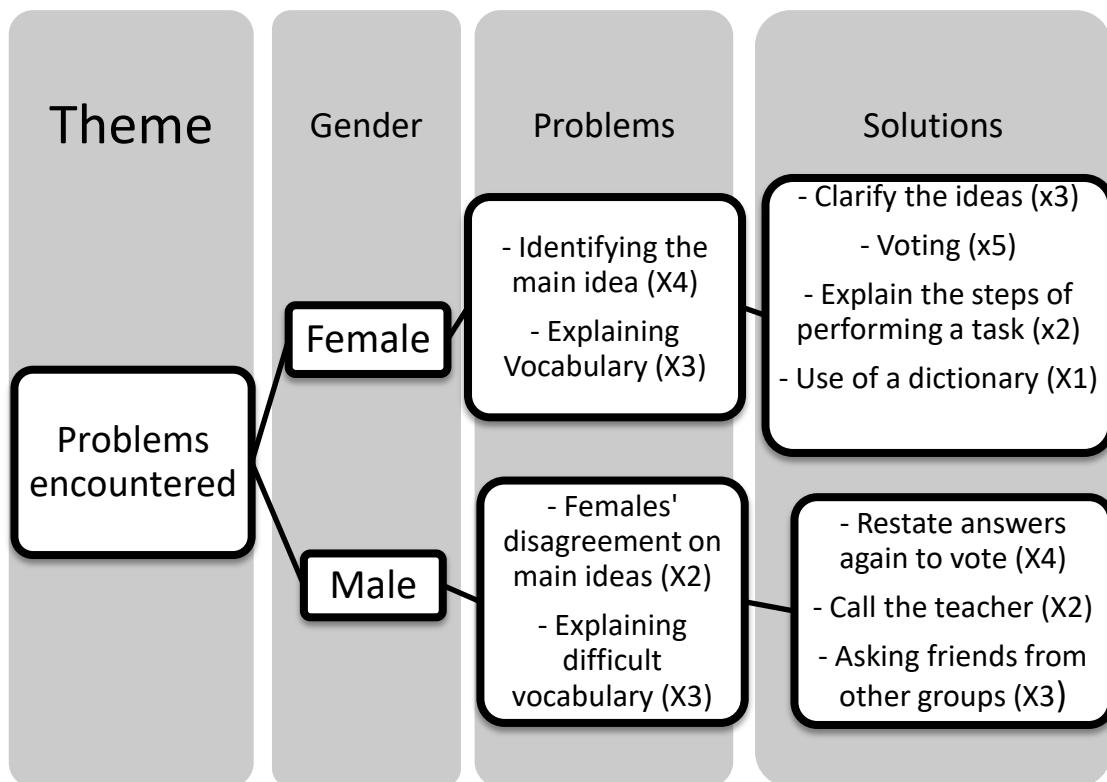


Figure 6.11. Problems Faced and Solutions by Cooperative Groups Members

Common problems in male and female participants are clearly perceived in the category of explaining difficult vocabulary, repeated three times for each gender as in “... have a difficulty in understanding some words” (F01), “...are the correct synonym of words” (F04), “the problems ...the meaning of words ...kind of hard” (M03) and “correct meaning of some words ... “ (M04) . This clarifies reciprocal help related to inferring meaning for all participants. Moreover, problems in identifying main ideas and in explaining difficult vocabulary were also revealed by female participants within the challenging strategies to learn in CSR. For instance, some female participants’ statements about problems were “...and understanding some words in the texts.” (F05) and “we usually have difficulty in understanding some words” (F01). Indeed, identifying the main idea raised conflicts between females, and this was even stated by two male participants: “: girls have problems sometimes on main idea for paragraphs” (M02)

To fix the problems, females employed a variety of acts falling within positive interdependence, individual accountability and face to face interaction. In positive interdependence, outcome interdependence or limiting the success of

the group to all members was deployed by females to fix the problem within the category” Voting” (X5), and the category “use of dictionary” referring to means interdependence is reported once. The statements, “*We choose the best idea all together*” (F01) and “*we agree on the right answer...*” (F04), are typical examples of the first category.

In individual accountability, facilitating the work of peers is retrieved twice in the category” Explain the steps of performing a task” in the responses: “..... *explained more ... especially the way of finding them.*” (F03), “ *we used the steps of clunk expert* “ (F05) and “*tell the how to find the sense of words and the main idea of the texts.*” (F04). In face to face interaction, assisting the understanding of peers is inferred from the category” to clarify the ideas” (X3) like in “*we show more our answers to the friends*” (F03) and “*and explain our answers.* “ (F02)

However, male participants played a relatively passive role by opting only for one aspect of positive interdependence, relating the success of the group to all members, within the category “-Restate answers again to vote” (X4). The latter can be discerned in “*We make a poll and see with other friends ...their answers*” (M03) and “*Voting to have the best synonym.... and see friends to give us the answer*” (M04), and they called for help from the teacher or peers from other groups instead of implementing other social skills or more face to face interaction. To sum-up, females appeared to be more interdependent, individually accountable and using more social skills during conflicts and problems, whenever they are compared to their male counterparts.

Within the argumentation and counter-argumentation, dominance and conflicts tend to rise up especially in group work and in conflicts related, for instance, to identifying the main idea or selecting the best answer. The figure below demonstrates the coded categories of questions 14, “Are there members in your group who do not always accept the others opinions? Are they males or females? How do you react in that situation?”

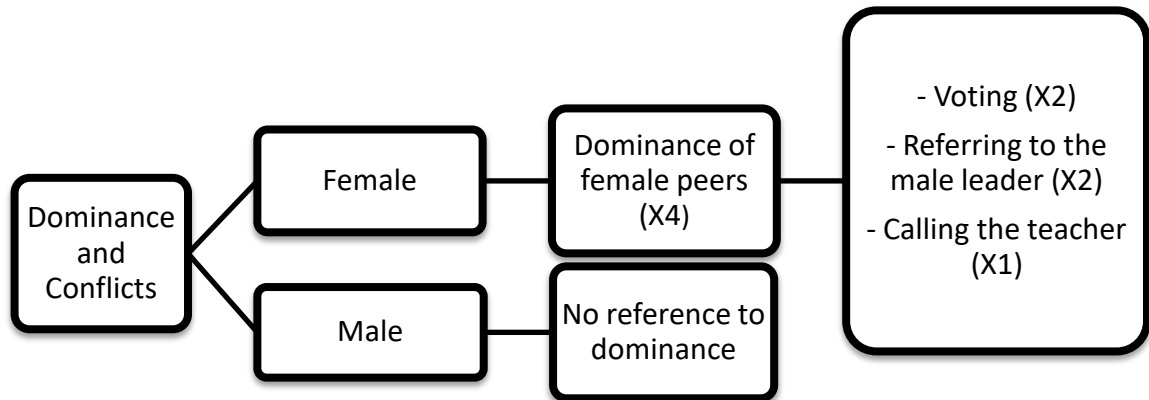


Figure 6.12. Coded Categories of Dominance between Female Peers

Due to the passive role of male participants during problems, these indicated no dominance or sway over their peers in the groups, yet dominance between female peers was prominent and reported three times. Attempting to fix the disagreements intertwined with exerted sway, female participants used outcome interdependence with “voting (X2)” in the responses: “*We make voting*” (F03) and “*We vote to find who is correct again.*” (F05). In addition, they called the teacher to judge or asking the male leader (X2), who, in turn, may call for assistance from the teacher or other peers from other groups (Figure 6.13).

In question 15, “Are there members in your group who are impolite and do not respect the other members? Are they males or females? How do you react in that situation?”, both genders indicated that there were no negative sorts of exerting influence or dominance either within the same gender or across genders despite the fact that female participants reported conflicts with the same gender peers.

In the last question of group processing, both genders demonstrated distinct behaviors and attitudes regarding the evaluation of their performance.

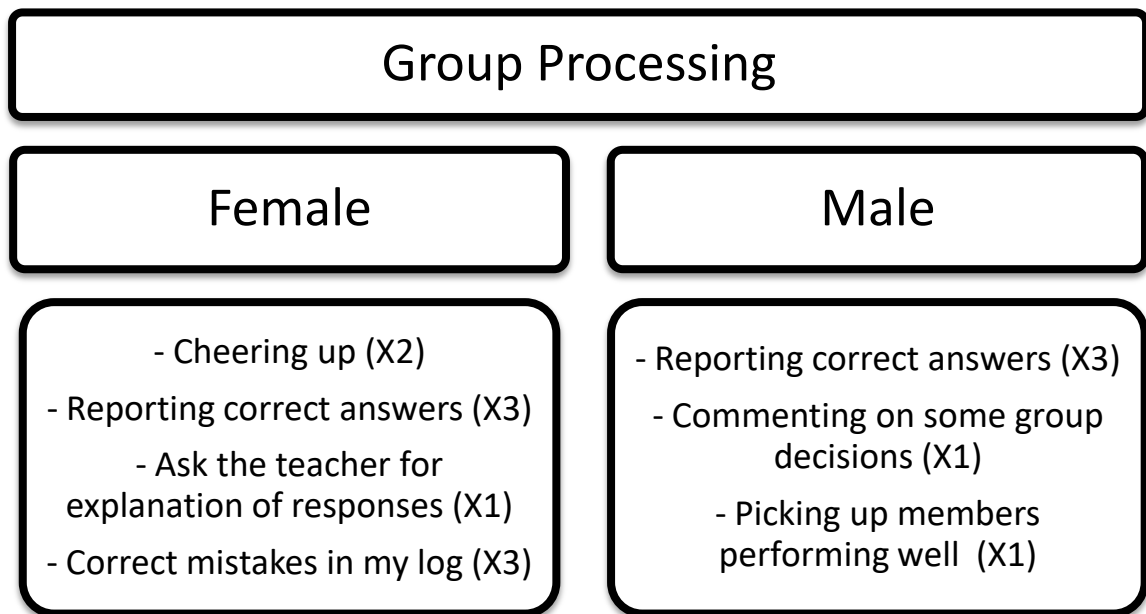


Figure 6.13. Coded Categories of Group Processing

In the figure above, there has been no reference to evaluation of the group performance except in one category “Commenting on some group decisions (X1)” in “...and I tell themin the end that we said is right or bad” (M03), which may be a reaction to disagreements and conflicts, and a male participant had been “picking up members performing well” so that he relied on them. An instance of that is “I try to look on good friends so that I can deal with” (M01). This may be related to loafing.

Apart from comments and picking up good performers, all participants’ attitudes were individualistic as both genders were just reporting correct answers. Besides, three female participants were just conducting self evaluation by “correcting mistakes in their personal logs” as in ... and I correct the mistakes I made in my log” (F01) and “I correct the mistakes” (F03); while, two others celebrated for their good performance. According to the coded categories for both genders, it can be assumed that there is no reference to group processing after the implementation of CSR.

6.1.3. Learning logs

The aim of this section is to demonstrate the findings of content analysis of the participants’ responses in their personal and group logs. For each gender, the frequency of correct and wrong answers in personal and groups logs are

computed in addition to the percentages of correct answers in personal logs. To report the extent to which the ratio of correct answers to wrong ones is the same or different in personal and group logs, Pearson Chi-Square indicates the level of the difference via the Chi-square value and the level of significance (.05).

6.1.3.1. Female participants

Responses of females in the female oriented passages with their respective groups as well as comparisons between personal and group logs frequencies of right and wrong answers are reported in the table below.

Table 6.11

Differences between Females' Personal and Group Logs in the Female Texts

Question	Log Type	Frequency			Pearson	Chi-
		Right	Wrong	Percentage of correct answers	Square Value	Sig.
1	Personal	27	3	90%	.221	.639
	Group	2	0			
2	Personal	26	4	86.66%	.305	.581
	Group	2	0			
3	Personal	40	20	66.66%	2.407	.121
	Group	5	0			
4	Personal	125	40	75.75%	.863	.353
	Group	45	10			
5	Personal	35	5	87.5%	.013	.909
	Group	8	1			
6	Personal	29	4	87.87%	.034	.855
	Group	9	1			

According to the findings in the table above, the percentages of right answers in each question of the personal logs are good indicators of females' individual accountability as long as they provided good responses in large proportions. In addition, the chi-square values in all questions are very low except for the third questions of clunks (2.407), yet it does yield high level of significance with a p-value (.121).

The chi-square values indicate that there are no significant differences between females' responses in the personal logs and their respective group

responses. In other words, regarding the female texts, female participants are positively interdependent for the consistencies in personal and group logs.

The table below demonstrates the frequencies of right and wrong responses in the female personal logs and their group logs for the male oriented passages, and it reveals the level of differences in responses between each type of logs.

Table 6.12

Differences between Females' Personal and Group Logs in the Male Texts

Question	Log Type	Frequency			Pearson	Chi-
		Right	Wrong	Percentage of correct answers	Square Value	Sig.
1	Personal	26	4	86.66%	.305	.581
	Group	2	0			
2	Personal	28	2	93.33%	.142	.720
	Group	2	0			
3	Personal	110	40	73.33%	2.152	.142
	Group	6	0			
4	Personal	145	50	74.35%	.652	.420
	Group	45	20			
5	Personal	23	7	76.66%	1.458	.227
	Group	5	0			
6	Personal	25	5	83.33%	.261	.609
	Group	9	1			

The high percentages of right responses in all questions imply that females are also individually accountable in the reading of male oriented texts. Besides, clunk and the first wrap-up questions chi-square values are elevated (2.152; 1.458) but do not invoke high levels of significant differences. Similarly, there are no considerable differences between proportions of responses in the personal and group logs for the remaining questions. In few words, the similarities in personal and group logs responses mean that females were positively interdependent when they were reading male texts.

For the neutral texts, the following table computed the frequency of right and wrong answers of female personal logs and their group logs as well as the chi-square for the differences in right to wrong response in personal and group logs

Table 6.13

Differences between Females' Personal and Group Logs in the Neutral Texts

Question	Log Type	Frequency			Pearson	Chi-
		Right	Wrong	Percentage of correct answers	Value	Sig.
1	Personal	28	4	87.5%	.093	.761
	Group	10	1			
2	Personal	29	1	96.66%	.342	.559
	Group	10	0			
3	Personal	120	33	78.43%	.411	.522
	Group	12	2			
4	Personal	136	59	96.74%	.300	.584
	Group	10	3			
5	Personal	27	5	84.73%	.105	.746
	Group	8	2			
6	Personal	20	5	80%	.812	.367
	Group	11	1			

The percentages of correct answers are high. This means that, while working in groups, females were highly accountable and fulfilled their share of reading the neutral texts alone. Moreover, the low chi-square values and their non-significant p-values demonstrate trivial differences between female personal logs responses and their group log answers. In this way, females were positively interdependent with their group members in reading the neutral passages.

In short, female participants, when they were answering their personal logs of all texts, were individually accountable and positively interdependent with their group mates.

6.1.3.2. Male Participants

For the male participants, the frequency of right and wrong answers in personal logs of female texts are reported in the following table then compared with the frequency of their group logs utilizing chi-square test of independence.

Table 6.14

Differences between Males' Personal and Group Logs in the Female Texts

Question	Log Type	Frequency			Pearson	Chi-
		Right	Wrong	Percentage of correct answers	Square	Sig.
1	Personal	16	6	72.72%	.727	.394
	Group	2	0			
2	Personal	17	5	77.27%	.574	.449
	Group	2	0			
3	Personal	24	5	82.75%	1.011	.315
	Group	5	0			
4	Personal	75	35	68.18%	3.438	.064
	Group	45	10			
5	Personal	12	2	85.71%	.049	.825
	Group	8	1			
6	Personal	8	2	80%	.392	.531
	Group	9	1			

All the responses in personal logs revealed high rates of correct answers except for the main idea question, which percentage (68.18%) is greatly average. In this way, males were individually accountable when they read the female texts except in finding the main idea in which they indicated that with average rates. For the differences between the proportions of each type of logs, the chi-square value for the main idea is considerable (3.438), yet it is not significant (.064), and all the remaining chi-square values with their level of significance indicate that the personal and group logs are alike. In short, male participants displayed positive interdependence with their group peers for the female oriented texts.

For the male oriented texts, the differences in the ratio of correct to wrong answers between personal logs responses and group logs are revealed in the table below.

Table 6.15

Differences between Males' Personal and Group Logs in the Male Texts

Question	Log Type	Frequency			Pearson	Chi-
		Right	Wrong	Percentage of correct answers	Square	Sig.
1	Personal	18	4	81.81%	.436	.509
	Group	2	0			
2	Personal	14	2	87.5%	.281	.596
	Group	2	0			
3	Personal	25	4	86.20%	.934	.344
	Group	6	0			
4	Personal	105	25	80.76%	3.250	.071
	Group	45	20			
5	Personal	26	4	86.66%	.753	.386
	Group	5	0			
6	Personal	18	2	90%	.000	1.000
	Group	9	1			

The percentages of correct answers are elevated in all questions of the male oriented passages, exceeding (80%). Males, then, can be viewed as highly accountable when they were reading the male oriented passages. Besides, the chi-square values in all questions are low, indicating no difference between the personal and group log answers, except for the question of the main idea, which chi-square value is (3.250). The latter does not invoke a significant p-value (.071). In short, males revealed considerable rates of positive interdependence with their respective groups, regarding the male oriented passages.

Table 6.16

Differences between Males' Personal and Group Logs in the Neutral Texts

Question	Log Type	Frequency			Pearson	Chi-
		Right	Wrong	Percentage of correct answers	Square Value	Sig.
1	Personal	16	4	80%	.624	.429
	Group	10	1			
2	Personal	22	3	88%	1.313	.252
	Group	10	0			
3	Personal	35	7	83.33%	.044	.834
	Group	12	2			
4	Personal	112	18	86.15%	.804	.370
	Group	10	3			
5	Personal	21	2	91.30%	.836	.361
	Group	8	2			
6	Personal	22	3	88%	.113	.737
	Group	11	1			

According to the percentages of correct responses, it is clearly perceived that males are individually accountable and fulfill their share of reading and answering the neutral texts on their own. In addition, the chi-square values are low for all questions save the second question. The latter's chi-square value is (1.313) but does not indicate a significant difference in the proportions of answers in personal and group logs, with a p-value (.252). Owing to the consistencies in personal and group logs responses of the neutral texts, male participants were positively interdependent with their respective groups.

In a nutshell, male participants, when they were answering their personal logs of all texts, were individually accountable and positively interdependent with their group mates.

6.2. Validating the Experiment Results

The aim of this section is to validate the findings related to the effect of CSR on RC and reading strategy use. As long as the categories measured in RC tests are for the strategies that can be also measured in SORS, it is necessary to

compare and to contrast the findings in the three RC pre and post tests with SORS pre and post tests.

Moreover, the first section of the interview is included in the comparison to confirm any conclusion drawn from the comparison. Furthermore, coded categories, personal with group logs findings and the questionnaire of CL principles results are compared and contrasted to explain the findings in the RC and SORS tests and whether CL principles stemming from CSR implementation account for the differences in the study groups achievement.

6.2.1. Female study group findings

For the female study group, it is found that there are significant differences between the first RC pre and post tests scores. These differences are manifested in all test categories except for identifying the main idea. In the second RC pre and post tests, the significant difference in the total scores is parallel with the increase in predicting, supporting details, explaining vocabulary and summarizing. In the third RC pre and post tests, the significant increase in predicting, inferring meaning, making inferences and summarizing invoke the significant differences between pre and post tests totals.

In the SORS pre and post tests, females indicated a significant increase in global and support strategies, while, problem solving strategies are held constant. The categories of the RC comprehension tests with significant differences are consistent with significant differences in global and support strategies, except for inferring difficult vocabulary which pertains to problem solving strategies.

In the interview, the female participants did not mention the identification of the main idea in the facilitative effect of CSR and revealed that identifying the main idea was one of the difficult strategies to learn in CSR. Moreover, this strategy raised group conflicts, and participants, males or females, could not find the appropriate means to overcome this flaw. In addition, the use of “click and clunk” was one the most difficult strategies to learn although females occupied the role of clunk expert many time. Similarly, in the strategies found difficult to use in reading texts apart from CSR, inferring meaning was found to be difficult.

Correlating the interview and SORS findings yield difficulties and non facilitative effects of CSR on inferring meaning and identifying the main idea as well as the non significant effect of CSR on problem solving strategies. Accordingly, it can be deduced that CSR affected predicting, supporting details, making inferences and summarizing of the female oriented passage. For the male oriented passage, increments in predicting, supporting details and summarizing are validated. For the neutral passage, the confirmed findings are for the increase in predicting, inferences and summarizing.

6.2.2 Male study group findings

For the male study group, a significant difference is revealed only in the second RC pre and post tests. This variance affects three categories namely, predicting, supporting details and explaining vocabulary. For the first test, the difference between the pre and post tests is not significant, but increments in supporting details, inferring vocabulary, making inferences and summarizing are noticeable. In the third test, increases are reported in predicting, supporting details and inferring meaning of words but are not yielding significant differences in the total scores.

In SORS pre and post tests, significant differences were solely revealed in global strategies and problem solving strategies, yet summarizing is contained within problem solving strategies. Besides, all the remaining categories are included in the set of strategies differing significantly in the post test.

In the interview, the male participants indicated that both summarizing and making inferences are one of the challenging strategies to use in reading texts. In addition, there is no reference to making inferences in the facilitative impact of CSR in males' responses. Furthermore, males pointed out that identifying the main idea is one of the difficult strategies to learn in CSR. Moreover, explaining difficult vocabulary was identified as one of the problems encountered in CSR implementation, yet problems with vocabulary were not mentioned elsewhere.

Intersecting the results in the SORS and the interview leads to confirm certain differences between RC pre and post tests. In the female oriented passage, CSR affects only supporting details and inferring meaning of words. In the male

and neutral passages, CSR accounts for the increase in predicting, supporting details and explaining difficult vocabulary.

6.2.3 Cooperative learning principles in collaborative strategic reading

The third sections of the interview, the questionnaire of CL principles and learning logs collected data on the same categories. To confirm any finding, it must be consistent in each tool. In addition, these tools explain the results confirmed beforehand in the RC pre and posts and what occurred exactly in those groups to obtain those findings.

For positive interdependence, the chi-square values for correct and wrong answers between personal and group logs for all texts reveals no difference for both genders, yet in the questionnaire of CL principles, the computed mean of positive interdependence for females (4.00) is greater than the mean of males (2.96). This entails that females are more positively interdependent. On the other hand, the findings in the questionnaire are consistent with coded categories in the ninth question of the interview regarding the female participants, but this is not the case for male participants.

For the coded categories of the interview about ensuring that all participants fulfill their share of the work, males were likely to be loafing four times over two for females. The findings in the interview would suggest that the first item in positive interdependence is lower for males compared to females, yet the mean in male scores is higher in the questionnaire of CL principles. Thus, findings in this question are consistent for females and not for males. In the second category of the questionnaire, the equal values can be correlated with the category of taking decisions collectively that was retrieved in both males and females' scripts.

Findings in the items of reciprocal helping are not similar to the tenth question of the interview coded categories. Indeed, inferring meaning of difficult words and clarifying ideas are equally distributed across genders, yet the mean of males is elevated compared to females' one. Moreover, means interdependence item mean (4.00) is higher than the male one (3.80). This can be plainly confirmed in question 13 categories, including the category "use of dictionary".

It can be asserted, then, that positive interdependence is higher among female participants.

In individual accountability items, the computed mean of males (3.93) is fairly equal to females (3.92). The item of facilitating the work of others is considerably elevated in both males (4.30) and females (4.36), while, the remaining items are of average mean values. These findings can be confirmed in the tenth question of the interview, wherein the coded categories related to facilitating the work of others are “highlighting essential key words and supporting details” for females and “Facilitating the performance of peers roles and use of strategies” for males. In the personal logs, both males and females obtained high rates of correct responses in male, female and neutral texts.

In face to face interaction items in the questionnaire of CL principles, there is a slight increase in females’ mean (4.00) over the males’ mean (3.50). The items computed for these means may not reflect the coded categories in the interview. For encouragement behaviors, the means of the items in the questionnaire are (4.23) for females and (4.55) for males. These values are equal and elevated. Whereas, retrieved categories in question 11 of the interview demonstrate that encouragement behaviors are prominent among males in various types including cue sheets expression, personal expressions and fun in contrast to females who used a limited number of cue sheet expressions. This is due to the choice of roles in CSR and males tendency to be the center of attention with the encourager and leader roles as well. Thus, the findings in the questionnaire and interview may not be confirmed.

In assisting the understanding of peers, the mean of females (3.63) is average and a bit higher than males mean (3.20). On the other hand, in question 13 of the interview, females appeared to “explain the task for their peers” and “clarify ideas”, but there is no reference to males in providing explanation to support peers comprehension. In this way, findings in the second item of promotive interaction cannot be validated.

For exchanging ideas and support to solve problems, the mean of males (2.50) is low. This can be asserted from the categories of question 13 in which

the categories “Restate answers again to vote; Call the teacher (X2); Asking friends from other groups” are indicating their passive role during problems. For females, the mean is relatively average (2.93). This value does not comply with the categories in question 13 of the interview, which comprises a variety of means used by females in their attempts to fix problems with their peers related to the identification of the main idea or inferring meaning. These categories are “Clarify the ideas; Voting; Explain the steps of performing a task; Use of a dictionary”. In short, the findings in face to face interaction are not validated across the questionnaire and the interview.

In social skills, the computed means of males (3.48) and females (3.45) are moderate. For females, findings in the items of effective communication (4.16) and coordinating efforts (3.20) cannot be taken into consideration as long as the categories in question 14 of the interview indicate high rates of assertiveness and dominance between females. For males, high effective communication mean (4.10) and the increased coordinating efforts mean (3.80) are reflected in the interview data. For instance, there is no reference to dominance or assertiveness exerted by males in question 14 categories, and females were resorting to males, who were leaders, to fix up their conflicts and debates.

For solving problems constructively item, the means of both genders are average. Those equal values can be discerned in the interview categories. In question thirteen, males, who reported problems in females’ identification of the main idea, called for voting, for their teacher and for help from peers in other groups. Thus, the average mean value is confined to the act of voting.

In question 14, females’ attempts to solve disagreement were through voting, calling for the teacher help or consulting the male leader. Similar to the male findings, the females’ average mean is related mainly to the call for selecting the best answer. However, it should be noted that females’ resorting to the male leaders was not effective since those male peers asked for the help of the teacher and peers from other groups. In few words, in contrast to the female data, male findings in social skills are confirmed.

In group processing items, the computed mean of males (3.96) is fairly higher than the female one (3.63). The items corresponding to evaluation of the performance, keeping good and altering negative acts are in favor of males, yet the coded categories in the last question of the interview do not include categories referring to group processing skills from both genders. In this case, the findings in the questionnaire cannot be valid.

Conclusion

The significant effects of CSR on RC, global strategies and support strategies of female participants are due to their positive interdependence and individual accountability. These are the core elements in CL. For male participants, the partial effect of CSR on RC can be viewed on the significant improvement in the comprehension of the male passage as well as the considerable increase in global and problem strategies. The slight increase in RC with the significant change in global and problem solving is related to their individual accountability and social skills.

**CHAPTER SEVEN:
DISCUSSION,
PEDAGOGICAL
IMPLICATIONS AND
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Introduction

This reading research is a component skills study. It investigates a number of variables and seeks for possible effects on one another. Including numerous variables, the discussion of the findings takes place from different contexts examining the same variables. In addition, it addresses the shortcomings related to the methodology adopted in this study, and lastly, this chapter ends with suggestions for future practices in similar research.

7.1. Discussion

The findings of the current study yielded a considerable number of similarities and differences with previous researches owing to the peculiarity of the context of this research.

7.1.1. Gender differences in reading gender-oriented passages

According to Bernhardt (2001), half of reading in a foreign language is unexplained variance including a wide range of interpersonal variables such as gender and interest. Bernhardt's (2011) compensatory model of L2 reading supports the linguistic interdependence hypothesis, yet the probability to confirm it is equal with the short circuit hypothesis as long as L2 users and contexts differ even in the intrapersonal variables.

In addition to the individual differences which are related to the reader variable, the task and text variables are common in assessing reading (Alderson, 2000). In this study, multiple choice tasks with three types of texts were used: female, male and neutral passages, and readers were males and females. Findings indicated that there was a significant difference only between males and females in Reading Comprehension (R.C) of the male oriented passage with an F-statistics (3.825) and p-value (.05)

7.1.1.1. Gender differences in reading the male oriented passage

The findings reported from the ANOVA by gender in the three RC pre tests confirm to a large extent the linguistic interdependence hypothesis over the short circuit hypothesis since gender with the male oriented passage accounted for the increased achievement in the second RC test as the mean score of females

(3.766) was less than of males (4.425). Similarly, Brantmeier (2003a) and Bugel and Buunk (1996) confirmed this assumption in their studies. These results contrast previous studies' conclusions, regarding the multiple choice tasks and gender oriented passages (Brantmeier, 2003a; Al-Shumameri, 2005; Martinez, 2013)

The findings in this study comply to some degree with previous studies regarding RC of the male passage using multiple choice tasks. For instance, in Brantmeier's (2003a) study, males (6.62) outperformed females (5.92) in the male passage of audience in a boxing match including male characters only, and the multiple choice questions were mainly for predicting, skimming and scanning.

Similarly, Bugel and Buunk (1996) utilized multiple choice tasks for skimming, scanning and making inferences for five male topics. They found out significant gender differences with males' considerable achievement in all texts. However, in Carrell and Wise's (1998) research, ESL participants answered multiple choice tasks mainly for skimming and scanning, there was no significant gender difference in RC of texts interesting to males whereby the mean of males (6.14) was close to the mean of females (6.08)

7.1.1.2. Gender differences in reading the female oriented passage

For the female text, ANOVA (F: .194; p-value .661) indicated trivial differences between the mean scores of males (5.17) and females (5.35); the study findings are consistent with Carrell and Wise's (1998) results, which indicated that there is no significant effect of gender on ESL in reading texts interesting for females (F-statistics .012; p-value .72). In contrast, Brantmeier (2003a) contended that RC achievement varied significantly in favor of females (Mean: 8.57) in reading female oriented passages compared to males (7.59). Likewise, Bugel and Buunk (1996) asserted that females achieved considerably more than males in five female texts out of six.

7.1.1.3. Gender differences in reading the neutral text

In the neutral texts, ANOVA by gender (F: 117; p-value .733) yielded no significant gender differences, yet Pae (2004) pointed out that females obtained

high scores in items of the tone of the passage, and males achieved significantly in logical inferences, while, the remaining items were held constant. These findings are different from the current research results. That is, in the Yuppie passage, males outperformed in predicting and identifying the main idea; they obtained (85%) and (47.5%) in predicting and (42.5%) in main idea; While, females got (66.70%) and (40%) in predicting and (33.5%) in identifying main ideas correctly. On the other hand, females' scores were higher in supporting details (63.3% and 38.3%) questions and summarizing (28.3%) compared to males' supporting details (47.5%) and (35%) and summarizing (20%) questions.

In contrast to the current study results, males' scores were significantly elevated compared to females according to Bugel and Buunk (1996). Even for Martinez (2013) who used two neutral passages, findings revealed that males significantly outperformed females. These differences may be due to the significant interactions between gender and the passage content. This assumption has been stated earlier by Brantmeier (2003a).

7.1.2. Gender differences in situational, perceived interest and familiarity of gender-oriented passages

In the section below, the findings reported in the ANOVA by gender for SI, PI and familiarity for the three reading passages are discussed in addition to the results of the ANCOVA examining the effects of these variables on the variation obtained in RC pre tests.

7.1.2.1 Fluctuations in situational and perceived interest of gender oriented passages

The current study is gender based, it aims at exploring gender differences in RC of three different passages. These passages were female narrative, male expository- comparison/ contrast and neutral argumentative. The choice of this variety of passages is related to the adherence to Balanced Comprehension Instruction, calling for the deployment of different content and genres as Duke and Pearson (2002) asserted.

As a component skill study, an interaction of variables related to RC and gender embraces gender differences in SI, PI and familiarity and how these

variables account for variance by gender in RC of each text. In addition to explaining the variance by gender in RC, the covariance is a setting stage to decide on the appropriate design for the study via determining the extraneous variables.

Fluctuations are found in the differences between males and females in SI and PI regarding the three passages. In the female passage, males' interest based on cohesion (3.69) is considerably more elevated than females' cohesion (3.31), yet all the remaining SI (p.knowledge sig .921; engagement sig .756; e.ofrecollection sig .756; emotiveness sig .640) with PI (F: .208; sig .649) yield no significant differences between males and females, yet Carrell and Wise (1998) argued that clarity, appropriateness and genre cannot be solely drawn upon while attempting to explain gender differences in SI.

For the male text, significant gender differences are reported in PI (F: 11.339; sig .001) and all SI except in emotiveness (F: 756; sig .387). For the neutral passage, no gender differences are revealed in all SI, but a considerable difference between males and females is reported in PI (6.205; sig .014).

Findings in SI and PI contradict a number of previous studies. Using one item scale, Brantmeier (2003a) concluded that L2 male and female students demonstrated interest in the expected direction in reading male and female oriented passages. In addition, Bugel and Buunk (1996), who constructed a different measure, asserted that females were more interested and indicated more prior knowledge than males in the neutral and female texts, and males were more interested than females in the male texts. However, in this study, significant gender differences are reported in PI for the neutral text, and both genders revealed average PI.

To consider the content of the text, it was expected that males would be interested in the male text and females in the female text, or in some case, as Sunderland (1992) concluded that females are expected to be interested in the male text as well, yet this assumption is disconfirmed in this study. Moreover, Maehara (2010) contended that males expressed negative attitudes when reading neutral passages when reading neutral texts.

7.1.2.2. Neutrality towards familiarity of gender oriented passages

Findings in this study revealed that familiarity varies by gender in the male passage (F: 17.072; sig .000) with an increase among males, but no gender differences are found in the female (F: .754; sig .387) and neutral passages (F: .979; sig .325). These findings do not comply with Brantmeier's (2003a;b) conclusions, who used one item scale as she pointed out that male and female L2 students' familiarity varies with respect to the orientation of the passages. That is, each gender revealed higher familiarity with his or her allotted text.

In another L2 context, Young and Oxford (1997) contended that no gender differences were found in familiarity of texts with various topics in terms of history, economics, leisure, and the presence of foreign cultures in work. Using neutral texts in an EFL context, Al-Shumaimeri (2005 as cited in Martinez, 2013) contended that there was no relationship between gender and familiarity.

7.1.3. Gender similarity in the effects of situational and perceived interest

Analysis of covariance was carried out to determine whether variance by gender in Source of Interest (S.I) and Perceived Interest (P.I) account for gender differences in RC with respect to the three types of texts. Results are not in the expected direction. The variances by gender reported in cohesion of the female text (F: .033; sig .856), SI (F: 1.474; sig .196) and PI (F: 2.705; sig .072) of the male passage in addition to PI (F: 463; sig .631) of the neutral text do not affect gender differences in RC of their respective texts. Instead, in the female passage, prior knowledge (F: 10.059; sig .002), ease of recollection (F: 6.771; sig .011) and PI (F: 3.661; sig .059) affect significantly RC achievement in the first test, and all the factors left do not explain any variation in their tests.

The study findings are consistent to some degree with Carrel and Wise's (1998) findings. They pointed out that a significant interaction unveiled between gender, background knowledge and interest did not impact RC along male and female interesting topics. Furthermore, they contended that language proficiency level accounts for the variation in RC; however, in this work, their conclusion

cannot be adopted as long as small variances in SI and PI have affected gender variation in RC.

The current study findings comply with Brantmeier's (2003b) results regardless of her use of one item scale. She found out that the variance by gender in interest in male and female oriented passages did not cause gender differences in RC of their annotated texts. On the other hand, in Bugel and Buunk's (1996) work, it was concluded that variance by gender in RC could be explained by gender differences in interest, reading habit and background knowledge; this does not reflect any finding in the current research, yet in the female passage, slight gender differences in prior knowledge, ease of recollection and PI account for greater variation in RC.

7.1.4. Facilitative effect of familiarity on EFL reading comprehension

ANCOVA demonstrated no significant effect of variance by gender in familiarity of the male passage ($F: .010$; sig .922) in RC of the second test. This is also the case for the female ($F: .803$; sig .373) and neutral passages ($F: .108$; sig .743). These findings support Brantmeier's (2003b) results. In her study, no significant effect of familiarity was revealed in the RC of both male and female passages.

However, using neutral texts in an EFL context, Al-Shumaimeri (2005 as cited in Martinez, 2013) indicated that males achieved higher than males in both familiar and unfamiliar texts, and content familiarity had a facilitative effect on both gender. He supported the linguistic threshold hypothesis over the linguistic interdependence hypothesis. On the other hand, Marinez (2013) confirmed Al-Shumaimeri's results as she used the TOEFL test including two neutral texts, yet she rejected his claim and advocated the linguistic interdependence hypothesis for the type of reading passages. Both studies do not comply with the current study findings

7.1.5. Schemata accounting for gender variation in EFL reading comprehension

Regarding the ANCOVA for the effect of SI, PI and familiarity by gender on RC, the claim for supporting schema theory in RC may not be highly advocated. This can be simply viewed from the considerable differences and high rates of SI, PI and familiarity in the male passage, but they did not account for the variation in their RC test. However, for female participants, the minimum levels of prior knowledge, ease of recollection and PI may trigger variance in RC.

Prior knowledge and PI are associated with content schema and ease of recollection to formal schema. These schemata were activated leading to a difference in RC achievement. Those findings partially support Bugel and Buunk (1996) and Brantmeier (2003b) claims about the impact of schemata on gender variation in RC, and it can be suggested that gender related schemata explain part of the variation in RC. All of these findings tend to provide support for the linguistic interdependence hypothesis in reading in a foreign language.

7.1.6. Variance by gender in the use of global strategies and support strategies

Good comprehension is associated with deploying appropriate and effective reading strategies. In this way, the differences between males and females RC lay in their use of reading strategies. In this study the Mokhtari and Shoerey (2001) Survey of Reading Strategies was used as a scale of measurement.

In the set of global strategies, there is a significant gender difference ($F: 3.719$; $p\text{-value } .057$), with an increase in males' use in this set of strategies. In addition, considerable gender differences were reported in support strategies ($F: 4.421$; $p\text{-value } .038$). However, no considerable gender differences are found in problem solving ($F: .178$; $p\text{-value } .674$), and it is important to note that problem solving strategies means of both males (4.05) and females (4.10) are high, while, the means of support strategies are average, (3.51) for females and (3.23) for males. According to the null differences in these two sets of strategies, the

possible explanation for the sole significant gender difference in RC of the male oriented passage in favor of males may be the increase in their global strategies.

The findings of this study partially comply with Young and Oxford's (1997) introspective study, who concluded that there was no difference between males and females in their reading strategy use in L2 reading with exception in males' overuse of paraphrasing and adjusting reading speed and in females' increased use of problem solving strategies.

In an ESL context, using ANOVA for the Survey of Reading Strategies (S.O.R.S), Shoerey and Mokhtari's (2001) results are not the same regarding global strategies results as they found no gender differences in reading strategy use across all the categories except in three items of support strategies. Similarly, Pool (2005) pointed out that there were no differences between ESL males and females in their reading strategy after the administration of the SORS except for three items in problem solving. Therefore, this study's findings appear to be consistent with previous studies except in global and support strategies.

7.1.7. Positive impact of collaborative strategic reading

The aim for the examination of reading strategy use of male and female participants' before and after the treatment is two-fold: to examine the effect of CSR on participants' reading strategy use and to correlate the findings reported from the SORS with the RC pre and post tests in order to obtain valid results.

In this way, findings revealed that CSR affects both male and female participants' global strategy use with an increase in the means of males (t-value: -2.179; sig .042) and females (t-value: -2.804; sig .009) . For problem solving strategies, significant changes are found in the male study group (t-value: -2.179; sig .042) after the implementation of CSR, yet there is no change in the female group (t-value: -1.586; sig .124). In support strategies, there is a significant increase in the female strategy use (t-value: -2.112; sig .043), but no difference is indicated amid males (t-value: -1.831; sig .083).

The current study findings disconfirm Alamin and Ahmed's (2014) conclusions who pointed out that CSR had no effect on both EFL male and female students reading strategy use. For both male and female groups, their

reported results indicated no significant difference in the pre and post reading strategies questionnaire for the following categories predicting, finding out the main idea, dealing with vocabulary, finding supporting details and making inferences. Indeed, the identification of the main idea and supporting details fall within global strategies, and dealing with vocabulary and making inferences are respectively pertaining to problem solving strategies.

7.1.8. Higher achievement for female students in reading comprehension

To examine the effect of CSR on male and female participants, paired samples t-tests were carried out for RC pre and post tests in the three types of tests across the male study and control groups as well as the female study and control groups. The major findings indicated that no significant differences are found in the three RC pre and post tests in the female (t01 t-value -1.376, sig .173; t02 t-value -.607, sig .549; t03 t-value -1.634, sig .113) and male control (t01 t-value -.899, sig .380; t02 t-value -1.853, sig .079; t03 t-value -1.759, sig .095) groups.

However, significant differences are revealed in the female study group along the three RC pre and post tests (t01 t-value -2.483, sig .019; t02 t-value -2.163, sig .039; t03 t-value -2.340, sig .026). In addition, significant differences are indicated in the male RC pre and post tests for the male study group (t-value -2.349, sig .030). In few words, CSR affected largely female RC achievement, but it had a partial impact on males' RC.

In a study including only EFL male students, Al-Roomy's (2013) results indicated the significant impact of CSR on dealing with unfamiliar vocabulary and getting the gist, with no effect of CSR on previewing and wrap-up strategies. On the other hand, the current study indicated that CSR improved male participants' predicting, indentifying supporting details and explaining difficult vocabulary. Another major difference to note is in Al-Roomy (2013) study, participants were medical students and worked in same gender groups, and the RC pre and post tests comprised a neutral text. Here, the significant difference is reported in the male passage rather than the neutral one.

In another study including only EFL female participants, Al-Safadi (2017) reported a significant effect of CSR on RC in a number of categories namely, predicting, identifying main idea, scanning, deducing meaning, finding out synonyms and antonyms, making inferences and using prior knowledge. These findings are consistent to some degrees with the findings indicated in the three pre and post tests as in the first test; there was an increase in all test categories except the identification of the main idea. In the second test, increments are found in predicting, supporting details and summarizing, and predicting, making inferences and summarizing are elevated in the neutral text.

It is important to note that the RC test in that study comprised a neutral text, and Al-Safadi (ibid.) examined CSR with same gender groups, while, in this research participants worked in mixed gender groups. Similarly, Babapour Ahangari Ahour (2018) implemented CSR with same gender groups and tested participants via KET tests, which are characterized by neutral passages and focusing on predicting, main idea, finding supporting details and explaining difficult vocabulary. The overall scores in the pre and post tests indicated that females' RC improved considerably in the post test, which tends to be consistent with the results in the third RC pre and post tests.

7.1.9. Cooperative learning principles and gender

In this study, participants worked in mixed gender groups including two males and three females in order to collectively answer CSR tasks. As a Cooperative Learning (C.L) technique in teaching RC, the principles of CL tend to play a vital role in enhancing the group performance. Accordingly, the improvement in female participants' RC after the implementation is also associated with their indulgence and predisposition to work in mixed gender groups.

7.1.9.1. Females' high rates in positive interdependence and individual accountability

The validated results from the experiment data reveal that females demonstrated high positive interdependence (4.00) and individual accountability (3.92) for the confirmed mean scores in CL principles questionnaire and the chi-

square tests for the personal and group logs of all reading passages in the treatment, not to mention the high rates of the correct responses in all texts.

Besides, the partial impact of CSR on males' RC tends to be explained through their individual accountability (3.93) and social skills (3.48) in addition to the elevated percentages of correct responses in the personal logs in all reading passages of the experiment, yet social skills are not the core elements of CL. These findings comply with the assumptions of Dornyei and Murphy (2003) about the correlation between cohesiveness, which is the actual manifestation of positive interdependence, with the group performance.

A large body of research confirms the findings in these results about females' large positive interdependence compared to their male counterparts. Rodger, Murray and Cummings (2007), for instance, asserted that as long as any method pertains to CL, it is surely feasible for females, who prefer being cooperative and interdependent, while, individualistic and competitive learning are helpful for males, but for males, the CL technique implemented in this study helped them to improve a third of the required level of achievement. Their assumption is accepted for females and cannot be confirmed for males regarding this study.

In addition, Jordan, Walker and Hartling's (2004) views about female peers self-concepts about seeking relationships and connections with peers can be confirmed especially with their male counterparts; while, males' likelihood to yearn autonomy and to detach themselves are rejected in this study. That is, in the interview findings, it has been confirmed that males' are loafing and hitchhiking. The latter was a category reported four times in the interview. This was one of the justifications for their low rates of positive interdependence rather than their independence or competitiveness.

However, Sell's (1997) results totally contradict the previous inferences as he concluded that both males and females tend to be competitive and avoid cooperation in mixed gender groups. In another EFL context, Er and Aksu-Atac (2014) assumptions about females' cooperation and motivation to work with same and different gender peers are validated, but males being autonomous, goal

oriented and willing to work individually cannot be accepted in this study although some males indicated reluctance; this reluctance was not about CSR or working in groups.

For individual accountability, previous results in Myaskovsky, Unikel and Dew (2005) study are rejected. They pointed out that females in mixed gender groups are not accountable and not responsible in contrast to their male peers who revealed more accountability. In this study, using CSR, both genders revealed high rates of individual accountability and goal orientation.

7.1.9.2. Gender differences in promotive interaction

Despite the non-validated results in face to face interaction, it is important to relate them to the state of art in CL research, especially the items and coded categories revealing consistency across the questionnaire of CL principles and the interview; first, Carli (2001) contended that males use hostile and aggressive behaviours, yet in this study, males frequently opted for the “encourager” role 12 times and used many forms of encouragement other than the expressions provided in the cue sheets for five times.

Through the preferred occupied roles by males and females, it is clear that females opted for being the periphery and left the center of attention to males as the females’ preferred roles were the announcer and reporter. These attitudes had been even demonstrated in early research in CL by Webb (1984), who added too that males are not assisting their female peers, while, females do.

However, males in CSR did not disregard their female peers call for assistance, but they were passive in contrast to females who were actively providing a variety of means to explain and help their peers. Regarding the center and periphery tendencies, the shifts in cultural norms and gender beliefs did not affect gender perceptions in mixed gender groups. In this study, males’ dominance prevailed in roles’ choice and decision-making.

For the interaction patterns, there was no violation of the floor and all participants did not reveal an excess of verbosity among males and females. However, in an EFL context, Bell (1998) found out that equal opportunities of

participations are in the same gender groups more than in mixed gender groups, in which males dominated and violated turn taking rules.

On the other hand, Myaskovsky et al. (2005) asserted that males are dominating the interaction whatever the composition of the group is. Both claims are not supported in this research, problems and conflicts were between females, whose negotiations and counter-argumentations were not constructive, and they resorted to males. Therefore, CSR tends to structure interactions effectively in mixed gender groups.

7.1.9.3. Males' better use of social skills

For social skills, males indicated high rates, but females were likely to argue, unable to solve problems constructively and most of the time resorted to their male peers who were leaders. These can account for the high social skills of males, and reject Myaskovsky et al. (ibid) claims about the assertiveness and dominance of males over females in mixed gender groups. Instead, dominance is likely to occur even between female peers.

However, there was an insidious dominance exerted by males, who might have exploited in the females issues to stay in the leader role. Indeed, males occupied many times the leader role more than females, who seemed to have accepted other roles in terms of reporter, announcer and clunk expert. Dominance of males in role choice has been advocated in a number of studies (Crocker & McGraw, 1984; Butler & Geis, 1990). Although the selection of peers in CSR had been mainly on the basis of friendship, dominance of males in role choice prevailed; similarly, Myaskovsky et al (2005) contended that there was no effect of group composition and friendship on dominance in mixed gender group.

7.2. Pedagogical Implications

A considerable number of insights stem from the findings of this research. These insights help promoting RC performance and teaching practices through implementing CSR in EFL RC classes at the tertiary level. Pedagogical implications, then, embrace assessment of RC regarding the text and reader

variables, reading strategy use, CL and CSR. Each of these aspects are unveiled taking into account gender differences.

7.2.1. Text, reader and task variables

The choice of different texts on the basis of linguistic orientation in terms of firstness, omission, occupational roles and adjectives may yield different levels of performance for both genders. Considering gender orientation of reading passages, texts also can trigger different degrees of SI, PI and familiarity. More specifically, small rates of these variables may lead to various levels of RC achievement across genders owing to formal and content schemata.

Both content and formal schemata are critical in determining the levels of interest and familiarity and their impact on variance by gender in RC. For instance, for cohesion in SI, the text structure and organization can be interesting for males in a female oriented passage, which content is not interesting for males, yet this may not be sufficient to invoke outperformance of males. Instead, background knowledge and attention are essential for both genders to comprehend any text.

In the construction integration model of reading, comprehension is two elements: textbase and situation model. Comprehension occurs when both microstructures and macrostructures are decoded. Then, the reader deploys schemata to comprehend the text (Kintsch, 2013). Likewise, it is important for teachers to obtain an account of the texts that are interesting and familiar to their learners. This stimulates their schemata and provides a detailed description of their RC achievement, and this can help controlling variables stemming from gender hindering the success of text comprehension.

Accordingly, the impact of gender related variables in reading should be facilitative so that the actual performance would be measured, yet this may be far reaching as long as L2 researchers in reading claimed that (50%) in foreign language reading is unexplained variance, including as well motivation and other affective factors (Bernhardt, 2011). On the other hand, informal inquiries before and after the administration of any test should be run in addition to the use of ANCOVA, that help for adjusting unwanted variables (Spaulding et al, '2010).

Moreover, for content and formal schemata, teachers can run an investigation in the beginning of each year to set a list of passages that are interesting and familiar to them, adhering to the questionnaires of SI, PI and familiarity. These practices enable teachers to design tests that are valid in terms of criterion, construct and content validity, and one of the best solutions, if manageable, is to vary between different passages in terms of content and structure.

Whereas, in familiarity or cohesion, teachers can adjust the content and structure according to the constructs they want to measure. For instance, in inferring meaning of difficult words, the test should include some challenging and novel words to students in order to help them use appropriate strategies to overcome comprehension flaws.

The choice of reading passages in testing or teaching plays a vital role in determining students' attitudes. Selecting texts according to cultural universals tend to have detrimental impact on both males and females. The evidence can be retrieved from the SI questionnaires. In some cases, universal cultural norms and contexts are not always complying with gender perceptions in some contexts. Algeria is an instance of these contexts despite the persistent efforts of EFL textbooks designers to instill cross-curricular competencies with universal norms and beliefs in the middle and secondary school levels (Yassine, 2010; Abdelhay & Benhaddouche (2015).

As a matter of fact, EFL teachers at university are required to manage the enduring traits and beliefs confined to gender among students. Therefore, teachers should select reading materials taking into account different beliefs and perceptions of both male and female students. In this concern, the framework suggested by Arias (2007) can be supportive in such situations only if the teacher considers the data collected for each gender separately.

This study did not comprise product approach tasks in testing RC such as written recall. This approach relies heavily on long term memory and depicts a limited range of reading strategies in terms of identifying the main idea and the supporting details. On the other hand, the evaluation of RC using multiple choice

tasks supports the claims for the process approach. Designing multiple choice tasks enables to measure various numbers of categories confined to reading strategy use of students. Besides, the process approach is mainly related to the working memory and how learners interact with the text using global, support or problem solving strategies.

7.2.1. Metacognitive deficiencies in males and females' reading strategy use

The amount and types of reading strategies used by students are common indicators of their good comprehension. Depending on the purpose and the nature of the task and texts, males and females are likely to differ in their reading strategy use including cognitive, metacognitive and support strategies. Teachers are, then, called for considering and holding equilibrium between males and females in reading strategy use especially in the cognitive or problem solving strategies.

Pre-planned strategies are necessary for any reading, and any possible variance by gender in these strategies may evoke variance in RC comprehension achievement. Besides, when some extraneous variables are controlled for testing, a minimum threshold of language proficiency is necessary to comprehend a text and reading strategies may not fulfill the task solely. For limiting students' comprehension to global strategies, the short circuit hypothesis may be accepted for learners in early stages of EFL learning.

Metacognitive or global strategies and problem solving strategies are one the major deficiencies in EFL male and females students' RC. At early stages of EFL university instruction, teachers should equip their students with these strategies using a variety of gender oriented passages in the explicit instruction of reading strategies. Next, the lacuna in support and problem solving strategies necessitates teaching reading with a variety of tasks and to direct students to specific aims while reading. Thus, both genders would not spend much efforts in the cognitive strategies and devote working memory chunks to support and problem solving strategies.

7.2.3. Cooperative learning and gender

Mixed gender groups may not be convenient for some students especially when it comes to male-female relationships. Males, with distinct levels of reading proficiency, tend to be dominant and to overtly rely on their female peers without being assertive or hostile. Females, in turn, are subtle and submissive in front of the dominant males and accept subsidiary roles and stand in the periphery, while, males seize the center of attention.

Accordingly, teachers should pay closer attention to male-female interactions in mixed gender groups and eliminate any act of dominance especially in negotiation, argumentation and choice of roles. Besides, teachers, assigning groups on the basis of friendship, are required to allow learners to switch their groups even to form mixed gender groups for many times. Furthermore, formulating cooperative groups taking into account friendship is affecting the group performance more than when groups are formulating according to their level of proficiency.

Therefore, it can be feasible to allow participants to form even same gender groups and to allow them to switch groups freely since they, as first year students, establish new social relationships, but this cannot be possible without having heterogeneous groups in terms of high and low achievers since the major aim of CSR as a CL technique is to support low achievers to reach their high achievers peers' level through group work.

In mixed groups, conflicts and disagreements are likely to occur not only between male and females but also between females only. Moreover, when learners call for assistance and help from their teacher in cooperative groups, teachers should not only provide help when necessary, but they are also requested to explore the reasons why group members could not solve problems constructively, exchange idea or reciprocally help each other.

Thus, teachers would obtain an account for potential dominance, conflicts or loafing, that are associated with social skills, face to face interaction. Enabling students to apply the five principles of CL especially group processing and social

skills may allow surpassing formal CL to other modes such as cooperative base groups.

Cooperative base groups may sustain up to more than a year and help creating healthy sociable learning environment inside and outside the classroom. These newly established groups outside CL can solve further tasks other than RC tasks, via organizing themselves into cooperative groups. In short, formal CL may serve as habit formation to learn cooperatively in everyday tasks.

7.2.4. Collaborative strategic reading and females outperformance

One of the main goals of CSR is to help low achieving readers to promote their level of RC achievement through using mixed groups including males and females with high and low achievement in RC. The findings of this research imply that CSR promotes RC comprehension greatly for females and partially for males. This can be also viewed in reading strategy use of both genders. In other word, CSR enhanced males' problem solving strategies and females support strategies.

Owing to studying reading techniques in cooperative groups, this technique helps low achieving female readers in elevating their achievement mainly in predicting, summarizing and identifying supporting details along the three RC tests, and males in predicting, findings supporting details and inferring meaning of difficult words.

From the findings of the experiment, CSR appeared to have promoted positive attitudes and triggers both males and females interest and motivation to study RC since the technique was novel to them and the various reading materials were equally neutral, male and female oriented passages. The use of gender oriented passages is a good opportunity for males and females to exchange background knowledge bound to the interest of a particular gender. For instance, in the text of body weight training, many males were acquainted with the topic of the text. On the other sides, in cooking food in salted water text, females were supportive and provided the necessary assistance and help to support their males peers' comprehension.

Another advantage is the creation of a healthy atmosphere by studying RC in groups. Many introvert and low self-esteem students benefited from CSR by interacting with their peers in a structured manner as each student fulfilled a particular share of work within a precise role. In addition, CSR helps establishing a learner-centered approach and mitigates the traditional teacher-centered approaches to teach reading. Similarly, CSR overcomes some flaws in reading teachers' style and methods of delivering reading instruction. For example, the teacher-researcher's teaching style is authoritarian, and whenever students shift from writing, which is whole class interaction, to reading with CSR method, they felt at ease and appeared to be involved as well as to enjoy working in groups, except for some participants with conflicts and disagreement.

CSR embarks a large number of principles from reciprocal teaching. One of these principles is the gradual release of responsibility; that is, teachers provide an explicit instruction of reading strategies to be used by learners in CSR. As long as the teacher ensures that learners are familiar with those strategies, learners practiced them in groups with the assistance of their teachers in the first weeks of CSR implementation.

This gradual release of the use of strategies taught explicitly enables both males and females to overcome any deficiency in their reading strategy use and to assist them in comprehending the content of other courses during their first weeks at university. Besides, letting students work in groups after the explicit instruction of strategies and modeling roles in CSR promotes learners' autonomy and interdependence.

That is, they are autonomous by knowing the patterns of strategy use and interdependent by sharing common goals as well as exchanging the outcome of their strategy use to agree upon the best response. Indeed, this provides more evidence for the effect of CSR in promoting males' problem solving strategies and females' support strategies.

Summative assessment of RC may not be feasible in many situations due to the fact of being a discrete point, the reader affect, test difficulty or testing environment, yet informal assessment in RC and the degree and types of reading

strategies can be carried out through CSR. That is, teachers can collect personal logs of each task and consider them for evaluation. The learning logs also help teachers examining the progress of their students along a learning unit. Moreover, group logs can also serve examining loafing and dominance as well as reluctant learners to CSR and group work. However, in case of students' reluctance, teachers are required to find a remedial for either strategic behavior or interactions between group members.

7.3. Limitations

Despite the efforts to achieve validity and reliability in this study, a number of limitations and drawbacks have been found along with the research process. These limitations are mainly confined to the sample, research instruments and the context of the research.

In this study, the ratio of males to females is relatively small. Males constitute around 40% of the whole sample. This might affect the validity of research. In other words, the sample of the study comprises 100 participants and included sixty females and forty males. To analyze gender differences in RC and reading strategies in the pre test, the degrees of freedom ($100-2=98$) are acceptable, yet when we consider the degrees of freedom in each gender separately is (59) for females and (39) for males. Thus, the estimation for the variance by gender in RC and strategies might not be fully correct due to the difference in the size of each group.

For the experiment, to overcome the small ratio of male participants in assigning groups, the leader and time-keeper roles were joined together. These roles were always taken by males and probably may have led them to have their performance and interdependence lowered for occupying two roles at the same time and for not varying other roles except the encourager.

In the two tailed paired samples t tests, for the female study group, the degrees of freedom (29) and two-tailed level of significance (.025) need a critical value (2.36); for the male study group, the degrees of freedom (19) and the level of significance (.025) invoke a critical value (2.43). Besides, the possible range of the scores in RC tests is from (00) to (10), the SORS values are ranging from

(01) to (05). Due to the differences in the critical values across genders and the range of scores in the findings, the male scores necessitates higher values in the SORS and RC pre and post tests to reject the null hypothesis. In contrast, in the female study groups, the probability to reject the null hypothesis is higher than males data, simply, for the group size. In this way, the ratio of males to females might have affected the outcomes of this study.

The selection of reading passages was based on previous literature and assumptions of former researchers. The passages were adopted according to Bugel and Buunk's (1996) classification of interesting topics to males and females, and the genre was partially taken from Brown (2004). Besides, the microstructure components of texts were informally adapted from Sunderland (1992) and Brantmeier (2003). The components are firstness, omission, occupational roles and adjectives. Although these factors were considered, the results in the SI, PI questionnaires were not in favor of females in contrast to the male oriented passage. Thus, the selection of texts with regards to the Algerian context does not totally comply with the universal norms and cultural beliefs.

During the experiment, participants stopped for a break of fifteen days and then proceeded again with the treatment. Similarly, the control group participants also went for holidays, yet this may yield problem related to history validity within the experimental group despite the equivalence in terms of testing and maturity validities. At the University of Algiers 2, reading and writing module is studied in three hours, divided equally for each skill. To implement the experiment before or after another skill course promptly may affect the participants' performance albeit allowing them to take short breaks between each part of the session. Factors such as fatigue or lack of attention may have been prevailing.

7.4. Recommendations for Future Research

There is a number of recommendations for future research regarding the discussion of the results and the potential drawbacks in the study. In this concern, any future research examining the impact of CSR on RC of males and females should embark samples of large size with an equal distribution of males and

females to ensure positive interdependence and individual accountability in the groups and to avoid statistical issues related to the critical values in the analysis.

This study is delimited to explaining the perceived effect of CSR through investigating gender differences in the principles of CL using the questionnaire of CL principles and an interview. More research implementing CSR as a CL technique in RC can examine the effect of face to face interaction on group and individual performance. A functional analysis of interactions, in this case, is more feasible for CL as suggested by Oortwijn, Homan and Saab (2010).

Testing RC tasks are various and depend on the purpose of testing and the constructs to measure. Regarding gender and RC research, it is important that any future empirical research using CSR or exploratory research should vary the tasks. That is, tasks should not only include objective and process approach tasks such as multiple choice tasks, but they should also comprise product approach tests such as written recall.

This claim can be accepted by future researchers simply because the first are related to the working memory and the second to the long term memory. For instance, if it is possible to carry out an extrapolation, both approaches are respectively correlated with SI and PI. In few words, research in gender and RC should consider various reading tasks.

Future research examining gender differences in EFL RC should implement more qualitative tools such interviews and think aloud protocols to obtain a clear account of the text variables and whether they truly account for variation in RC of gender oriented passages, through triggering interest and familiarity that are directly associated with formal and content schemata.

Conclusion

This chapter revealed few consistent findings with the current study due to the variation in samples as well as to former researchers' decisions to opt for either male or female participants. Limitations of the study are mainly addressed in the sample, research instruments and the context of the research. Then, it has been suggested that future research in RC and gender in general should vary the tasks for testing, and more specifically, research in CSR and gender ought to be

including large samples with equal ratios of males to females and using functional analysis to obtain a clear account of face to face interaction in cooperative groups.

GENERAL CONCLUSION

General Conclusion

Reading in a foreign language is a complex process, requiring the use of relevant and efficient reading strategies. Involving numerous interpersonal variables, the variation in reading performance tends to be large and remained unexplained due to the schemata possessed by readers and triggered via interactions with texts. Adding to these factors, gender, as an intrapersonal variable, invokes more subsidiary divisions to the unexplained variables whenever the reader and text variables are explored jointly in EFL or L2 reading.

In EFL contexts, freshmen university students are likely to demonstrate low levels of Reading Comprehension (R.C) achievement with insufficient and inappropriate application of reading strategies during their first weeks of university instruction. This lacuna in reading strategy use and RC achievement may be linked to gender differences stemming from their levels of interest and familiarity in reading EFL materials. Thereby, there has been an extensive need for exploring remedial programs to overcome the deficiencies in RC and reading strategy use in a short term by taking into consideration gender differences in RC, interest and familiarity. In this concern, having males and females together in cooperative learning CL groups in reading strategy instruction sessions may be feasible with a variety of reading materials

The aim of this study, then, was to examine gender differences in EFL RC; In this concern, the first main research question was formulated: How does EFL male and female students' RC differ? This question includes four subsidiary research questions. The first one is (1.1.) Are there gender differences in EFL students' RC? Its hypothesis is stated as: "H1: There are gender differences in EFL students' RC; H0: There are no gender differences in EFL students' RC." for the first research question.

This study investigated the extent to which any possible variance in the sources of interest (S.I), perceived interest (P.I) and familiarity of gender oriented passages account for variance by gender in RC. Accordingly, the second, third and fourth sub-research questions were as follows: (1.2.) To what extent does situational interest affect both EFL male and female students' RC?

(1.3.) To what extent does perceived interest affect both EFL male and female students' RC? and (1.4.) To what extent does familiarity affect both EFL male and female students' RC? Their corresponding hypotheses are: "H1: Situational interest affects both EFL male and female students' RC. H0: Situational interest does not affect both EFL male and female students' RC." for the second sub-research question, "H1: Perceived interest affects both EFL male and female students' RC. H0: Perceived interest does not affect both EFL male and female students' RC." for the third sub-research question, and "H1: Familiarity affects both EFL male and female students' RC. H0: Familiarity does not affect both EFL male and female students' RC." for the fourth research question.

To examine gender differences in reading strategy use, the second research question was generated: "(2) Are there gender differences in EFL students' reading strategy use?". Accordingly, the corresponding sets of null and alternative hypotheses are: "H1: There are gender differences in EFL students' reading strategy use; H0: There are no gender differences in EFL students' reading strategy use."

In addition, this research examined the effect of collaborative strategic reading (C.S.R), as a CL technique in reading, on EFL RC and reading strategy use of both males and females. In this concern, the third and fourth main research questions were: (3) Does Collaborative Strategic Reading impact both EFL male and female students' RC? and (4) Does Collaborative Strategic Reading affect both EFL male and female students' reading strategy use?. Their respective sets of alternative and null hypotheses were: "H1: There are gender differences in reading strategy use among EFL students using Collaborative Strategic Reading. H0: There are no gender differences in reading strategy use among EFL students using Collaborative Strategic Reading" and "H1: There are gender differences in reading comprehension among EFL students using Collaborative Strategic Reading; H0: There are no gender differences in reading comprehension among EFL students using Collaborative Strategic Reading."

To fulfill this aim a factorial design (2X2) was adopted for this research as long as the research was to investigate the effect of a treatment on two different

genders. The context from which the problem had been found was the University of Algiers 2, and the population was EFL first year students. In this way, the selected sample was purposive from the same context. It comprised 100 EFL first year students, 40 males and 60 females. These males and females were assigned to control and experimental groups. Eventually, the groups became as follows: female study, male study, female control and male control in the factorial design.

Before the experiment, all participants answered three RC pre tests. Each test was distinguished according to its female, male and neutral passage. After each test, a questionnaire of SI, PI, and familiarity related to the passage of that test. Participants also filled in the survey of reading strategies (S.O.R.S). In order to assign participants in the experimental group to mixed gender and level groups, a sociogram was designed based on the findings of RC pre test and a questionnaire of CL preferences. The latter collected data about the selection of peers on the basis of friendship, and in case of intersections in friendship and achievement, first language was considered to have a clear cut selection.

During three weeks, participants received an explicit instruction of the strategies to be employed in CSR, they were provided with cue sheets for the different roles to perform. Moreover, the teacher modeled the pattern of practicing the strategies and performing the roles through answering samples of texts using personal and group logs.

Subsequently, and for six weeks, experimental group participants answered various texts in terms of gender orientation and genres through personal and group logs. By the end of the experiment, both experimental and control group participants sat for the RC and SORS post tests, and the experimental group participants replied to the questionnaire of CL principles and the interview.

To answer the first sub-research question, findings of the pre test tools revealed that significant gender differences were found in the RC test with male oriented passages, yet no significant difference was reported in the neutral and female texts;

Regarding the second, third and fourth sets of hypotheses, there were fluctuations in SI, PI and familiarity of gender-oriented passages; for the female

passage, males indicated higher degrees of cohesion in SI. For the male text, except in emotiveness, significant gender differences for males were reported in all SI, PI and familiarity; for the neutral text, gender differences were null.

However, once gender was controlled, there were null effects of SI and PI. The significant differences in PI, SI, except emotiveness for the male text and cohesion of the female text did not account for gender differences in RC. Instead, prior knowledge, ease of recollection and PI in the female passage affected significantly gender differences in their respective test.

For the second research question, variance by gender was indicated in the global and support strategies in contrast to problem-solving strategies. For the last two sets of alternative and null hypotheses, CSR affected considerably females' RC but partially males; results from the experiment data indicated that CSR affected significantly RC of females along the three types of texts and increased their global and support strategies. This significant impact of CSR is linked to the females' positive interdependence and individual accountability while working in cooperative groups. On the other hand, the impact of CSR on males' RC was partial as RC increase significantly only in the male text, and their global and problem solving strategy use increased considerably. The partial increase in RC of males can be confined to their individual accountability and social skills in CSR tasks.

This study brought a number of important implications for EFL RC instruction at the tertiary level. For EFL first year university students, selecting a variety of gender oriented passages in testing and teaching is a prerequisite for a successful comprehension, and this cannot be effective without respecting the peculiarities of each context and the cultural beliefs held by students. Moreover, it is important for reading teachers to be aware about the ubiquitous roles that formal and content schemata in monitoring the comprehension of males and females. Schemata can trigger small levels of SI or PI leading to a large variance by gender in RC. Before selecting reading passages, running an investigation is of paramount importance to lessen the variation caused by gender.

CSR promotes RC of low achievers with deficiencies in reading strategy use. It enables teachers to overcome their flaws of teaching styles and provides a healthy atmosphere for learning reading strategies that respects their personal learning styles as well. In addition, CSR promotes males and females' autonomy and positive interdependence through the gradual release of reading strategy use in CSR with fulfilling roles to support each other comprehension while being exposed to different gender oriented passages. CSR also allows teacher to conduct formative assessment through continuously reviewing the progress of students after each session. This can simply support the validity of discrete point assessment in mid and end term exams.

Few shortcomings were reported in this study. The ratio of male to female participants was less than one in the experimental and control groups. Besides, the experiment was implemented within a session of reading and writing. In other words, CSR was deployed next to writing. Although sessions were divided equally in terms of time allocation, participants performance might have been affected by the skill course, writing, in those sessions. This would lead to fatigue or lack of attention to prevail among the participants.

Regarding the methods and materials of the study, it can be suggested that future research investigating the impact of CSR on EFL male and female students should comprise participant observation for the interaction of group members. Besides, the methods of testing should consider other methods in terms of written recall so as to have a variety of testing approaches as the latter falls within the product approach.

In few words, EFL RC is a constellation of various variables. Any reading research should fall within component skill studies. This was the case for this study, which was plotting on the unexplained variance in foreign language reading. Part of the variance is gender, an individual difference. Once considered, a complex interplay appears at glance between the reader, text and task variables. This is for the gendered formal and content schemata. For any deficiency in males or females' RC or strategy use, having both genders studying reading strategies in a positive interdependence and individual accountability can be one

of the effective remedies teachers can opt for, and of course, considering thoroughly the reader's gender, text and task variables.

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APPENDICES

Appendix I: Indices of EFL Students' Reading Comprehension Achievement

Reading/Writing: First Term Test

1.75
6

Answer the following questions:

- Look at the main title and write down your predictions about what the text will tackle. Mention the strategy you used: *the text tackle the variety of body in many societies in the world*
- What does the passage mainly discuss? Mention the strategy you used: *in the title Fashion & the Art of the Body*
- Complete the following sentences in your own words. Your answer must be related to the ideas included in the passage:

In the past, a person's status or social position are shown through *with variety of clothing*

The two common methods of body decoration in our culture are *tattooing and scarification*

In other societies, people often feel unhappy with their bodies; therefore, men and women try to become slim or change their skins and hair colors because *the person's see the person's as attractive with her body*

In the west, most people visit the dentist regularly in order to *both hygiene and beauty*
- According to the context, explain the words in bold:

Regulations (line 3): *the method how the society survived*

Appearance (line 10): *status of exhibited*

Dye (line 27): *changements?*

Attractive (line 31): *person have a place specially in her society*

Custom (line 33): *tradition*
- Give synonyms to the following words and put them in meaningful sentences.

1. Catapult 2. Innovative 3. Euphoria 4. Endorse

1.

2.

3.

4.
- Write the main idea of each paragraph:

Main idea 1: *status of person's is expressed by the variety of clothing*

Main idea 2: *the two common types of body decoration*

Main idea 3: *the skin and hair color of person considered as attractive or not*

Main idea 4: *how to have an beauty and hygiene teeth*

5,25
6

Answer the following questions:

- Look at the main title and write down your predictions about what the text will tackle. Mention the strategy you used: *My Predictions: 1. What fashion means. 2. Different types of fashion today. 3. What fashion tells you about you. The Strategy: Previewing.*
- What does the passage mainly discuss? Mention the strategy you used: *The passage mainly discusses the different types of fashion that ~~comes~~ from one society to another. The Strategy used is: Skimming.*
- Complete the following sentences in your own words. Your answer must be related to the ideas included in the passage:

In the past, a person's status or social position are shown through *the way he dresses and what he wears.*

The two common methods of body decoration in our culture are *putting dye into cuts of the skin (tattooing) or ashes into the cuts (Scarification).*

In other societies, people often feel unhappy with their bodies; therefore, men and women try to become slim or change their skins and hair colors because *they want to be considered attractive in order to be adapted to the society they live in.*

In the west, most people visit the dentist regularly in order to *be considered clean and beautiful.*

4. According to the context, explain the words in bold:

- Regulations (line 3): *and guidelines. Rules which determine how citizens should live and dress.*
- Appearance (line 10): *To be seen.*
- Dye (line 27): *To change the hair color.*
- Attractive (line 31): *To seem more prettier.*
- Custom (line 33): *A tradition to be used to something.*

5. Give synonyms to the following words and put them in meaningful sentences.

1. Catapult 2. Innovative 3. Euphoria 4. Endorse

- To make official: I catapulted my decision.*
- New and different: Every year, innovative fashion appears.*
- Extreme happiness: I experienced euphoria when I passed my BAC exam.*
- To sign: The papers were officially endorsed.*

6. Write the main idea of each paragraph:

- Main idea 1: *The use of fashion in the past and its use today.*
- Main idea 2: *How people identified themselves in tribal societies.*
- Main idea 3: *The different ways to be considered attractive.*
- Main idea 4: *The customs of beauty from one society to another.*

115
6

Answer the following questions:

1. Look at the main title and write down your predictions about what the text will tackle. Mention the strategy you used: *it will talk about how people will be their dresses* (o/w)
2. What does the passage mainly discuss? Mention the strategy you used:
3. Complete the following sentences in your own words. Your answer must be related to the ideas included in the passage:

In the past, a person's status or social position are shown through *their traditions*

The two common methods of body decoration in our culture are *clothes and hair*

In other societies, people often feel unhappy with their bodies; therefore, men and women try to become slim or change their skins and hair colors because *they suffering from the opinions of other people*

In the west, most people visit the dentist regularly in order to *avoid the damage of their teeth* (o/w)

4. According to the context, explain the words in bold:

- Regulations (line 3): *are some rules and laws that people have to follow (o/w)*
- Appearance (line 10): *something dealt with each other or have the same thing*
- Dye (line 27): *to color*
- Attractive (line 31): *it's a person that something take our interest and take our view*
- Custom (line 33): *tradition*

5. Give synonyms to the following words and put them in meaningful sentences.

1. Catapult 2. Innovative 3. Euphoria 4. Endorse

1.
2.
3. *Euphoria: it's the person who feel bad and all people are against him and want to hurt him*
4.

6. Write the main idea of each paragraph:

- Main idea 1: *Something may express a person's status or social position*
- Main idea 2: *tattooing and scarification are two common type of body decoration*
- Main idea 3: *It describes the physical body of the men and women*
- Main idea 4: *it talk about the attractiveness of teeth and how people look at it*

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-
6

Reading/Writing: First Term Test
Full name: _____

Answer the following questions:

1. Look at the main title and write down your predictions about what the text will tackle. Mention the strategy you used. I used the Review strategy. How should the person wear his clothes correctly. (0.11)
2. What does the passage mainly discuss? Mention the strategy you used. Strategy: Understanding
This passage mainly discusses the difference in wearing clothes from country to other and from its social class. (0.11)
3. Complete the following sentences in your own words. Your answer must be related to the ideas included in the passage:

In the past, a person's status or social position are shown through the ways of how should the person wear or dress according to it. (0.21)

The two common methods of body decoration in our culture are two tattoo which show what ever you want in your body. Scarification

In other societies, people often feel unhappy with their bodies; therefore, men and women try to become slim or change their skins and hair colors because they want to be beautiful and happy to be notice.

In the west, most people visit the dentist regularly in order to fix their sun teeth. other ways they visit dentist for surgery of beauty. (0.11)

4. According to the context, explain the words in bold:

- Regulations (line 3): Rules Rules
- Appearance (line 10): Show up
- Dye (line 27): return
- Attractive (line 31): interesting
- Custom (line 33): clothes

5. Give synonyms to the following words and put them in meaningful sentences.

1. Catapult 2. Innovative 3. Euphoria 4. Endorse

1. _____
2. _____
3. _____
4. _____

6. Write the main idea of each paragraph:

- Main idea 1: The difference of wearing clothes differ and the social class
- Main idea 2: Tattooing and Scarification became very famous.
- Main idea 3: Women or Man change every thing in their bodies to be
- Main idea 4: The Purpose of seeing a dentist differ some pretty
for their beauty and some to fix their teeth. from
surgery

Appendix II: Survey of Reading Strategies

Dear Participants,

The purpose of this survey is to collect information about the various strategies you use when you read **school-related academic materials in ENGLISH** (e.g., reading textbooks for homework or examinations; reading journal articles, etc.). Each statement is followed by five numbers, 1, 2, 3, 4, and 5, and each number means the following:

‘1’ means that ‘I **never or almost never** do this’.

‘2’ means that ‘I do this **only occasionally**’.

‘3’ means that ‘I **sometimes** do this’. (About **50%** of the time.)

‘4’ means that ‘I **usually** do this’.

‘5’ means that ‘I **always or almost always** do this’.

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) which applies to you. Note that there are no right or wrong answers to this survey

1. I have a purpose in mind when I read.	1	2	3	4	5
2. I take notes while reading to help me understand what I read.	1	2	3	4	5
3. I think about what I know to help me understand what I read.	1	2	3	4	5
4. I take an overall view of the text to see what it is about before reading it.	1	2	3	4	5
5. When text becomes difficult, I read aloud to help me understand what I read.	1	2	3	4	5
6. I think about whether the content of the text fits my reading purpose.	1	2	3	4	5
7. I read slowly and carefully to make sure I understand what I am reading.	1	2	3	4	5
8. I review the text first by noting its characteristics like length and organization.	1	2	3	4	5
9. I try to get back on track when I lose concentration.	1	2	3	4	5
10. I underline or circle information in the text to help me remember it.	1	2	3	4	5
11. I modify my reading speed according to what I am reading.	1	2	3	4	5
12. When reading, I decide what to read closely and what to ignore.	1	2	3	4	5
13. I use reference materials (e.g. a dictionary) to help me understand what I read.	1	2	3	4	5
14. When text becomes difficult, I pay closer attention to what I am reading.	1	2	3	4	5
15. I use tables, figures, and pictures in text to increase my understanding.	1	2	3	4	5

16. I stop from time to time and think about what I am reading.	1	2	3	4	5
17. I use context clues to help me better understand what I am reading.	1	2	3	4	5
18. I paraphrase (restate ideas in my own words) to better understand what I read.	1	2	3	4	5
19. I try to picture or visualize information to help remember what I read.	1	2	3	4	5
20. I use bold type, italics, capitalization and large font size to identify key information.	1	2	3	4	5
21. I critically analyze and evaluate the information presented in the text.	1	2	3	4	5
22. I go back and forth in the text to find relationships among ideas in it.	1	2	3	4	5
23. I check my understanding when I come across new information.	1	2	3	4	5
24. I try to guess what the content of the text is about when I read.	1	2	3	4	5
25. When text becomes difficult, I re-read it to increase my understanding.	1	2	3	4	5
26. I ask myself questions I like to have answered in the text.	1	2	3	4	5
27. I check to see if my guesses about the text are right or wrong.	1	2	3	4	5
28. When I read, I guess the meaning of unknown words or phrases.	1	2	3	4	5
29. When reading, I translate from English into my native language.	1	2	3	4	5
30. When reading, I think about information in both English and my mother tongue.	1	2	3	4	5

Appendix III: Reading Comprehension Tests

Reading Comprehension Test 01

Full Name:.....

Group:.....

Duration: 45 minutes

1- Read the texts carefully. Then, answer the questions below.

Chrutnuw Ro/ INGREDIENTS 1 can of onion 1/2 a cube of oregano oil 1 can of reindeer meat 10 cherries PREPARATION: Take care to chop the onion fine. To keep from crying when you chop it (which is so annoying!), I suggest you place a little bit on your head. The trouble with crying over an onion is that once the chopping gets you started and the tears begin to well up, the next thing you know you just can't stop. I don't know whether that's ever happened to you, but I have to confess it's happened to me, many times. Mama used to say it was because I was especially sensitive to onions, like my great-aunt, Tita.

Tita was so sensitive to onions, any time they were being chopped, they sayshe would just cry and cry, when she was still in my great-grandmother's belly her sobs were so loud that even Nancha, the cook, who was half-deaf, could hear them easily. Once her wailing got so violent that it brought on a nearly labor. And before my great-grandmother could let out a word or even a whisper, Tita made her entrance into this world, prematurely, right there on the kitchen table among the smells of simmering noodle soup, thyme, bay leaves, and cilantro, steamed milk, garlic, and, of course, onion. Tita had no need for the usual slap on the bottom, because she was already crying as she emerged, maybe that was because she knew then that it would be her lot in life to be denied marriage. The way Nancha told it, Tita was literally washed into this world on a great tide of tears that spilled over the edge of the table and flooded across the kitchen floor.

That afternoon, when the uproar had subsided and the water had been dried up by the sun, Nancha swept up the residue the tears had left on the red stone floor. There was enough salt to fill a ten-pound sack—it was used for cooking and lasted a long time. Thanks to her unusual birth, Tita felt a deep love for the kitchen, where she spent most of her life from the day she was born. When she was only two days old, Tita's father, my great-grandfather, died of a heart attack, and Mama Elena's milk dried up from the shock.

Since there was no such thing as powdered milk in those days, and they couldn't find a wet nurse anywhere, they were in a panic to satisfy the infant's hunger. Nancha, who knew everything about cooking—and much more that doesn't enter the picture until later offered to take charge of feeding Tita. She felt she had the best chance of "educating the innocent child's stomach," even though she had never had children. Though she didn't know how to read or write. When it came to cooking, she knew everything there was to know. Mama Elena accepted her offer gratefully; she had enough to do between her mourning and the enormous responsibility of running the farm, and it was the farm that would provide her children the food and education they deserved without having to worry about feeding a newborn baby on the top of everything else.

(Adapted from: Like Water for Chocolate by Laura Squalevella)

Sob: to cry noisily, taking sudden, sharp breaths.

Chop: to cut.

Uproar: outcry.

Questions

- Complete the following statements by ticking (✓) the best answer; Choose ONE OPTION.

- 1- **The best title of the passage can be**
 - a- My great aunt
 - b- Sensation to onion
 - c- Death of my grandfather
 - d- The story of Tita
- 2- **I can guess that in the next part of the story**
 - a- Tita joined her mother in farming.
 - b- Tita became a skillful cooker.
 - c- Tita gave up cooking because of onion.
 - d- Tita died due to the food cooked by Nancha
- 3- **The main idea for the passage is**
 - a- Tita's birth circumstances allowed her to become intimate with the kitchen
 - b- The grandfather's death led the grandmother to work so as to feed Tita
 - c- Nancha's offer helped Tita to learn cooking
 - d- My sensation to onion let mama recall Tita's story
- 4- **Mama Elena accepted the early labor of Tita because**
 - a- There was no money to feed Tita
 - b- Tita's moan got so violent
 - c- Tita could not attend school for her unusual birth
 - d- Mama Elena wanted Tita to take charge of housework with Nancha
- 5- **Nancha, the cook, who took charge of Tita**
 - a- Was illiterate but an expert cooker
 - b- Knew how to educate kids
 - c- Refused the early labor of Tita
 - d- Took charge also of Tita's sisters as the grandmother was farming.
- 6- **The underline word, prematurely, in the text means**
 - a- Happening before the normal or the expected time.
 - b- Happening or being born before the normal length of pregnancy has been completed.
 - c- Happening or made too soon.
 - d- Happening or done quickly
- 7- **The underlined word, lot, in the text means**
 - a- Whole amount
 - b- Set
 - c- Destiny
 - d- Prize
- 8- **The best statement telling that Tita always cried is**
 - a- "any time they were being chopped, they say she would just cry and cry"
 - b- "Tita had no need for the usual slap on the bottom, because she was already crying as she emerged"
 - c- "they couldn't find a wet nurse anywhere"
 - d- "Once her wailing got so violent that it brought on an early labor"
- 9- **From this statement "she had enough to do between her mourning and the enormous responsibility of running the farm", I can infer that before the death of the grandfather**
 - a- The farm was not the family's property.

- b- The grandfather was the foreman of the farm
- c- Nancha was in charge of the farm
- d- The farm could afford what the family needs for living

10- Select the best summary of the passage

- a- I am sensitive to onions like my aunt, so they make me crying without stopping while chopping them. My aunt Tita was already crying because she knew that it would be her lot in life to be denied marriage. Besides, Tita felt a deep love for the kitchen. As a matter of fact, my mother got a considerable responsibility of educating the innocent children and running the farm.
- b- I was sensitive to onion like my great aunt, Tita whose unusual wailing brought her earlier to the kitchen. Her crying as she emerged might have been due to her knowledge of her lot in life about marriage. In addition, thanks to her unusual birth, she had a deep love to the kitchen; unfortunately, Tita’s father died when she was two days, which made, mama Elena, my grandmother’s milk dried. Thus, as there was no powdered milk or a wet nurse, Nancha offered to feed Tita though she knew nothing except cooking. Mama Elena accepted the offer since she had her mourning and the farm to run. This would provide her children the needed food and education.
- c- The great-aunt Tita was so sensitive to onions’ chopping. Chrutnuw preparation needs some ingredients among which there are onions. Because of her birth that took place across the kitchen floor, Tita’s entrance to the world of cooking amid the onions’ smell and with Nancha, the cook. Tita’s unusual birth left a great love for the kitchen from the day she was born. After that, Nancha took care of Tita when she had the responsibility of educating and feeding her.
- d- My sensations to onions made my recall my great-aunt Tita who had an unusual birth, wailing and crying brought her across the kitchen. Tita expressed her affection to cooking while training with Nancha, who anticipated that she would have a lot in life for denied marriage. In addition to Tita’s father death, my grandfather’s death made my mama Elena’s milk dried from the shock. Thus, as there were no powdered milk and a wet nurse at that time, Nancha offered to feed Tita though she knew nothing except cooking and had never educated a child. Accepted the offer, mama Elena thought that she could have enough time for her husband’s mourning and for running the farm so that she would afford what her children needs of food and education.

A.2. Reading Comprehension Test 02

Full Name:.....

Group:.....

Duration: 40 minutes

2- Read the texts carefully. Then, answer the questions below.

In December 2017, Ronaldo drew level with Messi with five Ballons d’Or. Two weeks later, Barcelona beat Madrid 3–0 in the second Clásico of the season, with Messi scoring his fiftieth goal of 2017. The pendulum swings again. By the time you read this, it will likely have swung again. What we know for sure is that after reversing his decision to retire, Messi brought Argentina back from the brink of missing out on the 2018 World Cup, and Ronaldo was able **to drag** Portugal with him too. A thirty-three-year-old Ronaldo at surely his last World Cup; Messi will turn thirty-one just before Argentina’s final group game. What are the odds that they will draw each other? Even if they don’t, the question of who is the best will be asked again and again.

In tracing the development of their careers, what has become clear is how the world seems to need them to be opposites: the shy, introvert vs egotist, the bronzed Adonis vs the pale hobbit. But the depiction of Cristiano Ronaldo as simply a sculpted, athletic, egocentric Robocop in contrast to the naturally talented, scruffy genius Messi has, as the years have passed, become an oversimplification of two lives that have had almost as many cross-overs and similarities as differences.

Both experienced difficult rites of passage as exiles from their childhood roots. They struck lucky – perhaps the demons casting shadows over their respective families were diverted – and both have allowed others **to strike** hard bargains and lucrative deals on their behalf. They have been helped by inspired coaches and by science (diet, exercise, and in Messi’s hormone treatment of questionable ethical justification) to make the most of their talents, and each in their own way has given football fans around the world over more sustained joy and entertainment than has ever been experienced in the history of the game. Each has also been challenged and dogged by the enduring memory of past legends.

Even this simplifies matters. While Ronaldo perhaps had an objectively tougher childhood than Messi – born into a poorer family with an alcoholic father – and has had to prove his worth at a succession of clubs and cultures, he has never had to struggle as much to be accepted by his compatriots as Messi has. ‘Messi always wanted to be more Argentine than the Argentines.. . but he has always been viewed as an incomplete Argentine, one who lives far and away,’ says the journalist Santiago Seguro. The relationship with compatriots and the sense of belonging to the nation probe more variations while deciding who is the greatest player.

As we look at these two players, it is tempting to look to the future. At the current rate of goal scoring, they will both exceed the totals of Gerd Müller and Pelé in the next three years. At that point, they will sit outside of any context that we have so far seen; two outliers – with only themselves to refer to – will pass beyond the bounds of what we have known and take us somewhere entirely new.

(Adapted from: CRISTIANO AND LEO: The Race to Become the Greatest Football Player of All Time, by JIMMY BURNS)

Egocentric: Selfish
beauty and love

Adonis: A beautiful young man loved by Aphrodite, goddess of

Dogged: tenacious, determinant. **Scruffy:** dirty or untidy.

Hobbit: A fictional race of animals with shaggy hair and hairy feet.

Questions

- Complete the following statements by ticking (✓) the best answer; choose ONE OPTION.

1- The best title of the passage can be

- a- Messi and Ronaldo.
- b- Messi and Ronaldo: Two Distinct Legends.
- c- Greatest Players.
- d- Biographies of Messi and Ronaldo.

2- I can guess that in the next part will be about

- a- A comparison between Messi, Ronaldo and other football legends.
- b- What do Messi and Ronaldo save per year.
- c- Messi and Ronaldo’s use of social networks.
- d- Messi and Ronaldo’s recently won awards.

3- The general idea of the passage is

- a- Messi and Ronaldo, the best footballers, remain distinct and alike regarding their personality, childhood roots and their compatriotism.

- b- Messi and Ronaldo’s performance had made them the greatest footballers.
 - c- As long as Messi and Ronaldo perform better, they will break the records attained by early legends.
 - d- Ronaldo and Messi’s Childhood have made them the greatest footballers.
- 4- Ronaldo and Messi made the most of their efforts to endlessly entertain fans all over the world by**
- a- Taking strict diet and exercises.
 - b- Exploiting recent findings in sports.
 - c- Been helped by inspired coaches and by science.
 - d- Performing higher in many competitions.
- 5- Messi was not satisfied in Argentina since**
- a- He wanted to be more Argentine than the Argentines.
 - b- He brought Argentina back from the brink of missing out on the 2018 World Cup.
 - c- He has always been viewed as an incomplete Argentine.
 - d- He was not scoring with the Argentine team.
- 6- The underlined word, to drag, in the first paragraph means**
- a- To move something or somebody with effort and difficulty.
 - b- To move yourself slowly with efforts.
 - c- To Persuade someone to go somewhere.
 - d- To search the bottom of something.
- 7- The underlined word, to strike, in paragraph three means**
- a- To manage to find a way of being fair to two opposing things.
 - b- To make an agreement with somebody in which both sides have an advantage.
 - c- To find or do something that brings you a lot of success or money.
 - d- To make use of an opportunity immediately.
- 8- The best statement telling that Messi and Ronaldo have been always compared to the greatest footballers**
- a- “two outliers – with only themselves to refer to – will pass beyond the bounds of what we have known and take us somewhere entirely new”
 - b- “they will both exceed the totals of Gerd Müller and Pelé in the next three years”
 - c- “Each has also been challenged and dogged by the enduring memory of past legends.”
 - d- “Even if they don’t, the question of who is the best will be asked again and again.”
- 9- From the following statement “he has always been viewed as an incomplete Argentine, one that lives far and away” I can infer that**
- a- The fact that Messi did not stay longer in Rosario caused for him too many troubles.
 - b- The performance of Messi with Argentine team and Barcelona were not the same.
 - c- Messi did not play in the Argentine championship.
 - d- Messi involved himself in the referendum affair of Catalonia.
- 10- Select the best summary of the passage**
- a- Messi brought Argentina back from missing out 2018 world cup, and Ronaldo was able to drag Portugal with him too, but who is the best? Comparing their careers, they seem to be opposites, but the depiction of Ronaldo as simply a sculpted, athletic, egocentric Robocop. In contrast,

Messi has natural talent and scruffy genius. Their childhood has effects on their talents. The helpers of them in being famous around the world were coaches and science. Messi faced many difficulties in his childhood, but Ronaldo's was tougher. In addition, Ronaldo has not needed to work to get accepted by his compatriots, while, Messi, despite his efforts, has been always viewed as an incomplete Argentine. Looking to the future of these two players, we can evaluate them according to the exceeding of the goals scored by other players.

- b- In 2017, Ronaldo drew level with Messi with five Ballons d'Or. The pendulum swings and will swing again. What odds are these two competitors draw at their personal or their teams. First, the world seems to be opposites: Ronaldo the sculpted, athletic, egocentric Robocop in contrast to the naturally talented, scruffy genius Messi. In addition, both of them experienced difficult rites of passage as exiles from their childhood roots, but it is thanks to their coaches and science that they have given football fans over the world more sustained joy and entertainment. Furthermore, Ronaldo lived a tough childhood because he was born in a poor family with an alcoholic father. He has never had to struggle as much to be by his compatriots as Messi has. The latter has always wanted to be more Argentine the Argentines did, but he has always been viewed as incomplete Argentine. In the future, both of these players will exceed the totals of Muller and Pelé in the next three years. Then, they will sit for outside of any context that we have seen so far; two outliers with only themselves to refer to. They will pass beyond the bounds of what we have known and take us somewhere entirely new.
- c- Both Ronaldo and Messi have traced a developed career. They could be very decisive and effective with their national teams and very competitive at the personal level, which opens extended discussions on who is the greatest player. Although they differ in their personalities and physical appearance, they share many similarities and cross-overs. Their difficult childhood and their roots did not hinder them from succeeding and giving football such fame and memories as they were helped by expert coaches and science. They were able to draw joy and entertainment in football history than ever before. In addition, the sense of belonging and patriotism play a great importance in deciding who is the greatest player. Messi has always been struggling to be a compatriot, but he has always been viewed as an incomplete Argentine, while, Ronaldo has not faced any trouble in this concern. To conclude, the two players are still breaking records and creating a new era in which their upcoming performance may exceed the limits of what we have known.
- d- Ronaldo and Messi are constantly competing as they are performing higher in both La Liga and their national teams, so the question raised is what are the differences that could make one of them the greatest player. In tracing the development of their careers, what has become clear is how the world seems to need them to be opposites, which have made their lives oversimplified with similarities, differences and crossovers. Besides, Both experienced difficult rites of passage as exiles from their childhood roots. Luckily, they were helped by inspired coaches and science. Consequently, they have given football fans enduring joy and entertainment that have never been before, yet each one of them has been challenged by past legends.

Finally, looking to the future, Ronaldo and Messi will break records of goals scored in the coming years and certainly will exceed what we have known up to now to introduce a new dimension in football.

A.3. Reading Comprehension Test 03

Full Name:.....

Group:.....

Duration: 35 minutes

3- Read the texts carefully. Then, answer the questions below.

When I tell people that I quit working for the company after only a year, most of them think I'm crazy. They can't understand why I would want to give up a prestigious and secure job. But I think I'd have been crazy to stay, and I'll try to explain why.

I started working for the company immediately after graduating from university. It's a big, well-known trading company with about 6,000 employees all over the world. There's a lot of competition to get into this and other similar companies, which promise young people a wealthy and successful future. I was set on course to be a Japanese "Yuppie."

I'd been used to living independently as a student, looking after myself and organizing my own schedule. As soon as I started working all that changed, I was given a room in the company dormitory which is like a fancy hotel, with a 24-hour hot bath service and all meals **laid on**. Most single company employees live in a dormitory like this, and many married employees live in company apartments. The dorm system is actually a great help because living in Tokyo costs more than young people can afford, but I found it **stifling**.

My life rapidly became reduced to a shuttle between the dorm and the office. The working day is officially eight hours, but you can never leave the office on time. I used to work from nine in the morning until eight or nine at night, and often until midnight. Drinking with colleagues after work is part of the job; you can't say no. The company building contained cafeterias, shops, a bank, a post office, a doctor's office, a barber's... I never needed to leave the building. Working, drinking, sleeping, and standing on a horribly crowded commuter train for an hour and a half each way: This was my life. I spent all my time with the same colleagues; when I wasn't involved in entertaining clients on the weekend, I was expected to play golf with my colleagues. I soon lost sight of the world outside the company.

This isolation is part of the brainwashing process. A personnel manager said: "We want excellent students who are active, clever, and tough. Three months is enough to train them to be devoted businessmen." I would hear my colleagues saying: "I'm not making any profit for the company, so I'm not contributing." Very few employees claim all the overtime pay due to them. Keeping an employee costs the company 50 million yen (\$400,000) a year, or so the company claims.) many employees put the company's profits before their own mental and physical well-being.

Overtiredness and overwork leave you little energy to analyze or criticize your situation. There are shops full of "health drinks," cocktails of caffeine and other drugs, which will keep you going even when you're exhausted. Karoshi (death from overwork) is increasingly common and is always being discussed in the newspapers. I myself collapsed from working too hard. My boss told me: "You should control your health; it's your own fault if you get sick." There is no paid sick leave; I used up half of my fourteen days' annual leave because of sickness.

(Adapted from The New Internationalist by Tomoyuki Lwashita)

looking after myself: taking care of myself

shuttle between repeated travel back and forth over the same route

brainwashing process program designed to force people to accept new beliefs;

sick leave time allowed away from work because of illness.
annual leave time permitted away from work each year for any reason, usually vacation.

Questions

- Complete the following statements by ticking (✓) the best answer; choose ONE OPTION.

1- The best title of the passage can be

- a- Why I quit my work
- b- Working conditions in Japan
- c- Youth employees' Feelings
- d- Difficult to be satisfied

2- I can guess that in the future the author will

- a- find what he or she wants in his country.
- b- get back to his or her job.
- c- migrate to find better conditions.
- d- get married.

3- The general idea of the passage is

- a- Getting more freedom and flexible work conditions are more important for workers than accommodations.
- b- Young employers need more freedom and steady work.
- c- Japan considers the value of workers but, at the same time, does not consider the workers' comfort.
- d- Full-time jobs should be reconsidered all over the world.

4- The author could not leave outside the dorm and office because

- a- He or she was not allowed.
- b- He or she did not want to waste money because life in Tokyo is very expensive.
- c- He or she does not have friends or relatives to meet.
- d- He or she did not finish work early.

5- The company spends 50 million yen a year to keep an employee so that

- a- The employees will feel at ease in their job.
- b- It will accomplish the brainwashing process.
- c- Employees will work for more hours without complaining.
- d- Employees will spend all their money in the dormitory campus.

6- The underlined word, stifling, in the third paragraph means

- a- Difficult to live.
- b- Exciting to live.
- c- Suffocating.
- d- Boring.

7- The underlined word, laid on, in the third paragraph means

- a- Free.
- b- Paid.
- c- Relied on.
- d- Considered.

8- The best statement telling that the brainwashing process in the company has succeeded is

- a- "You should control your health; it's your own fault if you get sick."
- b- "I soon lost sight of the world outside the company."
- c- "I'm not making any profit for the company, so I'm not contributing."
- d- "Karoshi (death from overwork) is increasingly common and is always being discussed in the newspapers."

9- I can infer from the following statement: “Karoshi (death from overwork) is increasingly common and is always being discussed in the newspapers” that

- a- The author’s problems he or she got are very common in Japan.
- b- Japanese employees commit very persistent efforts.
- c- In Japan, the employees’ well-being is disregarded.
- d- In Japan, pressure put on employees leads them to behave like machine.

10- Select the best summary for the passage.

- a- When people know that I gave up working my prestigious and secure job, they think I am crazy; then, I have to explain why. I started working at this company after graduating from university. After being accustomed to live independently at the university, I found myself living in the company dormitory which is like a fancy hotel with 24 hours hot bath service and all meals laid on. My life became rapidly reduced to a shuttle between the dorm and the office. I used to work from 9 a.m. to 8 or 9 a.m. and often until midnight. The company building contain all what someone may need, so I needn’t to leave it or go outside. I even had relations only with my colleagues. I lost sight of the world outside. This isolation is a part of the brainwashing process. The aim of the company is to have active, clever and tough students, and only three months are enough to be devoted businessmen. Very few employees claim all overtime due to them. Overtiredness and overwork leave you little energy to analyze and criticize your situation. There is a plenty of energy drinks and drugs which will keep you going when you are exhausted. Karoshi is increasingly common. I collapsed from working too hard. My boss told me: “it is your own fault if you get sick”. There is no paid sick leave.
- b- Most people think that I am crazy because I quit working for the company after only a year. The only reason is that this company and others promise young people a successful future, so I was set to be a Japanese “Yuppie”. I had been used to live independently and to organize my own plans. My life became reduced between the dorm and office. I used to work more than my regular and official hours. I soon lost sight of the world outside the company because I never needed to leave the building: working, sleeping, playing golf with my colleagues ... et cetera. This isolation is a part of the brainwashing process leading to create active, clever and successful businessmen. Thus, some employees think that they are not contributing well, and shops of health drinks are increasingly become common. There everyone is responsible about controlling his health, so I used to be careful with my health as I was only responsible for being ill and there was no leave sick paid. All these made me always tired and exhausted.
- c- Most people think I am crazy to quit working in a very prestigious company, but I think I am crazy to pursue job for the harsh and restricted conditions. There was a lot of competition needed to get into that company that promises a wealthy and successful future. Everything has changed when I was set on course to be a Japanese “Yuppie” and started working in that company. Although a dormitory was provided and afforded with highly fancy services, I found myself obliged to stay between the dorm and office with the same colleagues and the boring life there. This isolation which is a part of the brainwashing process pushes me to feel the need to see the world outside. Besides, being devoted and trained to be a successful businessman was the company’s basic goal, which makes many employees put the company’s profit before their own mental and physical well-being. Thus, no energy was given to analyze this situation due to overtiredness. Karoshi was common and health drinks were the sole means to

keep you energetic if you are collapsed of hard work. As a result, there was no paid sick leave, and one should control his health by taking the total responsibility.

- d- I quit my job due to many rational reasons. I could get a good opportunity to get a wealthy life by working in one of the most prestigious companies in Japan. This company offered all the facilities that employees need such as shops and dormitory campuses, yet my life there became narrowed between the campus and office since we usually did not leave the office early, and most of the time, I stayed with the same colleagues. All these were part of a brainwashing process, which was made by the company to get successful businessmen who would be devoted to the company. In addition to overtiredness, overwork and little energy to analyse, there was no paid sick leave when I was ill because the company's managers think that the employees' health care is his own responsibility.

Appendix IV: Questionnaire of Situational, Perceived Interest and Familiarity

Dear Participants,

I am Mohammed Akhrib, a researcher in Teaching English as a Foreign Language. The document in your hands is a questionnaire aiming at soliciting your interest and familiarity with the passage about

.....

There is no correct answer. You may be aware that your responses will be only used for the sake of my research and will not be disclosed elsewhere.

I would be very grateful if you collaborate by filling in this questionnaire sincerely and carefully.

Yours sincerely,

Questionnaire

Section one

1. Name and Group.....
2. Gender: Male Female

Section Two

- Say to what degree you agree with the following statements.
Choose one option by putting a tick (√) in the right column

Item	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1. The information in the text/Story were well organized.					
2. The text/ story was easy to understand.					
3. The story /text's main ideas were presented clearly.					

Item	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
4. The text/ story had a refined style.					
5. The text / story covered a topic I have read about or heard about before.					
6. The text/ story contained information I usually read about.					
7. The text/ story dealt with a topic I usually read about.					
8. The text/ story triggered my mind to think.					
9. The text/ story dealt with highly important issues.					
10. The text/ story included vivid and exciting details.					
11. The text/ story was easy to remember.					
12. The text/ story was easy to concentrate on.					

Item	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
13.The text/ story was easy to picture in my head.					
14.The text/ story made me happy.					
15.The text/ story made me upset.					
16.The text/ story had certain creepiness in it.					
17.I thought the text/ story was very interesting.					
18.I'd like to discuss this text/ story with others at some point.					
19.I would read this text/ story again if I had the chance.					
20.I got caught-up in the text/ story without trying to.					
21.I thought the text's/ story's topic was quite interesting.					
22.I think others would find this text/ story interesting.					

Item	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
23.I would like to read more texts/ stories like this in the future.					
24.This text/ story was one of the most interesting things I've read in English in a long time.					
25.This text/ story really attracted my attention.					
26.I could easily identify the topic of the text / story.					
27.I could easily identify the type of the text / story					
28.I already know all the words of the text / story					
29.I am familiar with the information given in the text / story					

Appendix V: Questionnaire of Cooperative Learning Principles

Dear participants,
I am Mohammed Akhrib, a researcher in applied linguistics and teaching English as a foreign language. I would like to introduce for you this questionnaire on your cooperative learning attitudes while you were studying reading using collaborative strategic reading.

This questionnaire will not last more than 15 minutes. You may be aware when you fill-in this questionnaire, the information included will be confident, secret and will not be disclosed under any circumstances.

I would be very grateful if you collaborate by filling-in this questionnaire carefully and sincerely.

Yours sincerely,

Questionnaire

Section one

3. Name and Group

4. Gender: Male Female

Section Two

- Say to what degree you agree with the following statements. Choose one option by putting a tick (√) in the right column

Item	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1. In my group, we ensure that everyone fulfils her or his share of the work.					
2. The success of my group is confined to the achievement of its members including myself.					
3. Helping each other is necessary to complete the tasks.					

4. I share whatever material and information in order to complete our tasks.					
5. I can explain what I have learnt to my group mates.					
6. I always complete my share of the work alone					
7. I actively facilitate the work of others in the group.					
8. My personal contribution is essential to the success of my group.					
9. To accomplish the group goals, I encourage my peers to commit more efforts.					
10. I provide explanations to assist the understanding of my peers.					
11. To improve my group performance, I provide constructive feedback.					

12. I exchange ideas and help my peers to solve problems.					
13. I trust my group mates					
14. I communicate with my group members accurately.					
15. I accept the different viewpoints of my peers					
16. I resolve problems with my group members constructively.					
17. I always evaluate with my group members how well we did in each task.					
18. I always decide with my group mates what to keep as good acts					
19. I always decide with my group members what to alter as negative attitudes.					

Appendix VI: Interview

Dear participant,

This interview is to obtain some insights about your achievement and performance after six weeks of studying reading using collaborative strategic reading.

Before we commence, I would like to inform you that your responses will be recorded and used only for the sake of my research. In addition, your names will not be disclosed elsewhere, and you can claim a copy of my research later.

I will be very grateful if you answer attentively and carefully my questions.

Questions

- 1- Can you explain briefly what collaborative strategic reading is?
- 2- How does CSR help you in understanding texts?
- 3- What are the reading strategies you found difficult to learn using CSR?
- 4- What are the reading strategies you have found difficult to use in reading texts alone?
- 5- How did you find studying reading using CSR?
- 6- Do you think the choice of your female peers was right? Why?
- 7- Do you think the choice of your male peers was right? Why?
- 8- What are the roles you occupied? Which one you prefer most? Why?
- 9- Do all your group members contribute in completing the tasks? How do you ensure this?
- 10- What are the situations in which you explained or received help from your group members?
- 11- What are the common expressions uttered by your peers with the encourager role?
- 12- Are there group mates who talk much and do not let others talk? Are they males or females?
- 13- What are the problems you encountered in your group? How did you manage to fix them?
- 14- Are there members in your group who do not always accept the others opinions? Are they males or females? How do you react in that situation?
- 15- Are there members in your group who are impolite and do not respect the other members? Are they males or females? How do you react in that situation?
- 16- When you received the evaluation from your teacher and your colleagues' comments, what did you usually do next?

Appendix VII: Cue Sheets

<p>Leader Cue Card #1 Before Reading</p> <ol style="list-style-type: none"> 1. "We know that today's topic is _____." 2. "Let's brainstorm and write in our learning logs everything we already know about the topic." 3. "Who would like to share their best ideas?" 4. "Now let's predict. Look at the title, pictures, and headings and think about what we might learn today. Write your ideas in your learning logs." <p>Leader</p>	<p>Leader Cue Card #2 During Reading</p> <ol style="list-style-type: none"> 1. "Who would like to read the section?" 2. Click and Clunk – "Did everyone understand what we read? If you did not, write your clunks in your learning log." 3. If someone has a clunk – "Clunk Expert, please help us out." 4. Get the Gist – "It's time to Get the Gist. Gist Expert, please help us out." 5. Repeat the steps on this card again for each section read. 	<p>Leader Cue Card #3 After Reading</p> <ol style="list-style-type: none"> 1. "Now let's think of some questions to check if we really understood what we read." "Remember to start your questions with who, when, what, where, why, or how. Everyone write your questions in your learning log." 2. "Who would like to share their best question?" 3. "In our learning logs, let's write down as much as we can about what we learned." 4. "Let's go around the group and each shares something we learned." 	<p>Leader Cue Card #4 After Reading Compliments and Suggestions</p> <ol style="list-style-type: none"> 1. "The Encourager has been watching carefully and will now tell us two things we did really well as a group today." 2. "Is there anything that would help us do even better next time?"
<p>Announcer Cue Card #1 Before Reading</p> <ol style="list-style-type: none"> 1. Call on at least two people to say what they know. 2. Call on at least two people to say what they think they will learn. 3. Call on different people to read. Remember to make sure only one person talks at a time! 	<p>Announcer Cue Card #2 During Reading</p> <ol style="list-style-type: none"> 1. Clunks – Call on students who have clunks. 2. Call on students to help fix clunks. 3. Gists – Call on one person to say the gist. 4. Call on at least one other person to say his or her version of the gist. 	<p>Announcer Cue Card #3 After Reading</p> <ol style="list-style-type: none"> 1. Call on two students to share their best questions. 2. Call on students to answer the questions. 3. Call on all students to say something they learned. 	<p>Clunk Expert Cue Card</p> <ol style="list-style-type: none"> 1. "What is your clunk?" 2. "Does anyone know the meaning of the clunk?" If YES a. "Please explain what the clunk means." b. "Does everyone understand now?" If NO a. Read Clunk Card #1.
<p>Clunk Card #1</p> <p>Reread the sentence with the clunk and look for key ideas to help you figure out the word. Think about what makes sense. "Can anyone now explain the meaning of the clunk?" If NO, go to Clunk Card #2</p>	<p>Clunk Card #2</p> <p>Reread the sentences before and after the clunk looking for clues. "Can anyone now explain the meaning of the clunk?" If NO, go to Clunk Card #3.</p>	<p>Clunk Card #3</p> <p>Look for a prefix or suffix in the word that might help. "Can anyone now explain the meaning of the clunk?" If NO, go to Clunk Card #4</p>	<p>Clunk Card #4</p> <p>Break the word apart and look for smaller words that you know. "Can anyone now explain the meaning of the clunk?" If NO, ask the teacher for help.</p>

<p>Encourager Cue Card #1 Before Reading</p> <ol style="list-style-type: none"> 1. Brainstorm – Tell someone they did a good job saying what they already know. 2. Predict – Tell someone they did a good job saying what they think they will learn. 	<p>Encourager Cue Card #2 During Reading</p> <ol style="list-style-type: none"> 1. Click and Clunk – Tell someone they did a good job figuring out a clunk. 2. Get the Gist – Tell someone they did a good job getting the gist. 	<p>Encourager Cue Card #3 After Reading</p> <ol style="list-style-type: none"> 1. Wrap up questions – Tell someone they asked a good question. 2. Wrap up review – Tell someone they did a good job saying what they learned. 	<p>Encourager Cue Card #4 After Reading</p> <ol style="list-style-type: none"> 1. Tell two things your group did well today. 2. Tell two things your group can do even better next time.
<p>Timekeeper Cue Card #1 Before Reading</p> <ol style="list-style-type: none"> 1. "We have 1 minute and 30 seconds to write what we know." 2. "We have 1 minute and 30 seconds to write what we think we will learn." 	<p>Timekeeper Cue Card #2 Before Reading</p> <ol style="list-style-type: none"> 1. Before the group begins reading each section say, "We have six minutes for this section." 	<p>Timekeeper Cue Card #3 After Reading</p> <ol style="list-style-type: none"> 1. Before wrap up begins say, "We have five minutes to wrap up." 2. "We have two minutes to write our questions." 3. "We have 1 minute and 30 seconds to write what we learned." 	

- **Leader** This student leads the group in the implementation of CSR by saying what to read next and what strategy to apply next. The leader asks the teacher for assistance, if necessary.
- **Clunk expert** This student uses clunk cards to remind the group of the steps to follow when trying to figure out a difficult word or concept.
- **Announcer** This student calls on different group members to read or share an idea. He or she makes sure everyone participates and only one person talks at a time.
- **Encourager** This student watches the group and gives feedback. He or she looks for behaviors to praise. The student encourages all group members to participate in the discussion and assist one another. He or she evaluates how well the group has worked together and gives suggestions for improvement.
- **Reporter** During the whole-class wrap-up, this student reports to the class the main ideas the group learned and shares a favorite question the group has generated.
- **Time keeper** This student sets the timer for each portion of CSR and lets the group know when it is time to move on (the teacher might do this instead of students).

Appendix VIII: Personal and Group Logs

Learning Log	
Today's Topic Date Full Name My Role: Group N ^o :	
Before Reading	Preview
	1. What I already know about the topic: 2. What I predict I will learn:
During Reading	Chunks & Gists
	Chunks: Gists:
After Reading	Wrap-up
	Questions about the important ideas in the passage: What I learned:

Learning Log

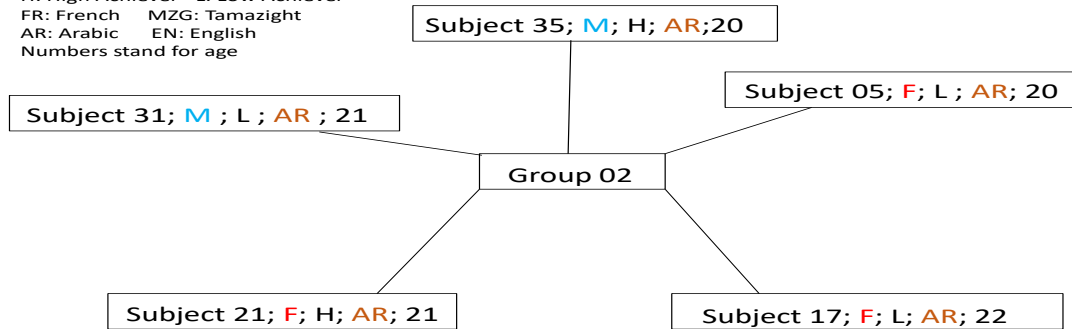
Today's Topic Date Group Number:

Before Reading	Preview	1. What I already know about the topic: 2. What I predict I will learn:
During Reading	Chunks & Gists	Chunks: Gists:
	Wrap-up	Questions about the important ideas in the passage: What I learned:

Appendix IX: Sociograms

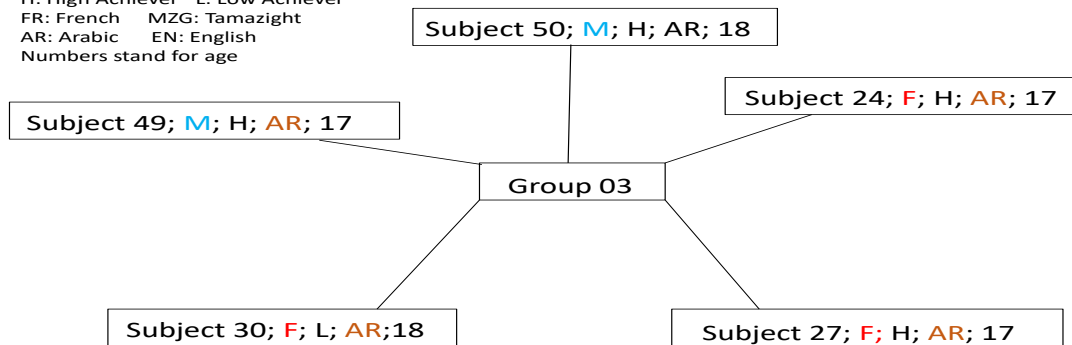
Keys:

F: Female M: Male
 H: High Achiever L: Low Achiever
 FR: French MZG: Tamazight
 AR: Arabic EN: English
 Numbers stand for age



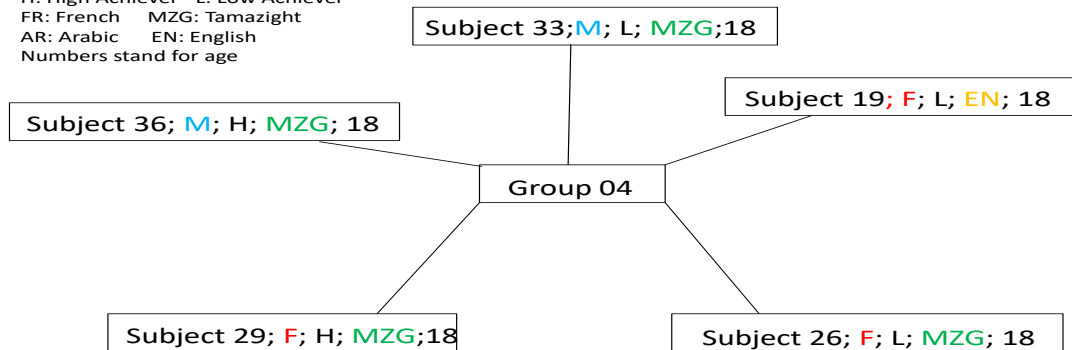
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 H: High Achiever L: Low Achiever
 FR: French MZG: Tamazight
 AR: Arabic EN: English
 Numbers stand for age



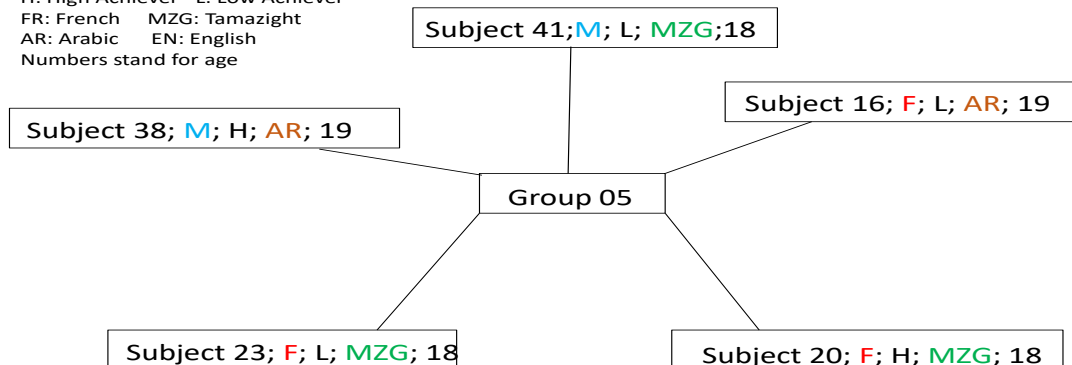
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 AR: Arabic EN: English
 Numbers stand for age

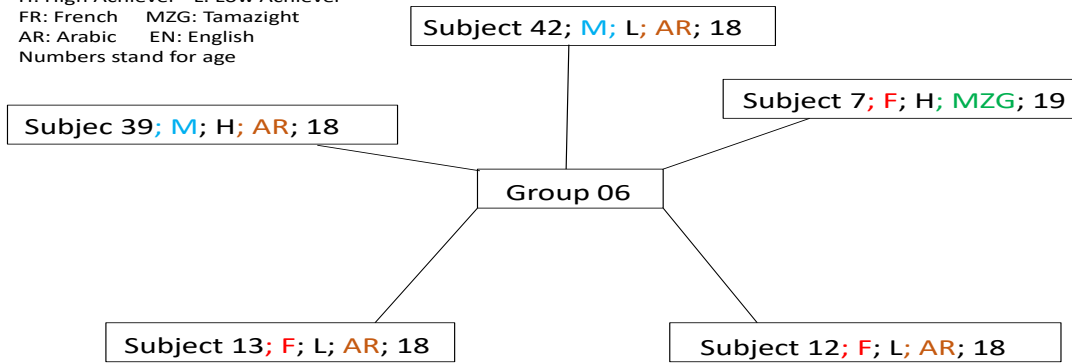


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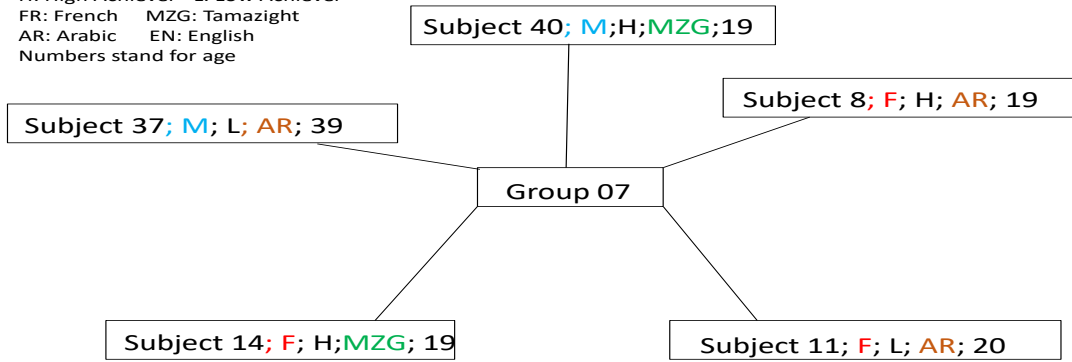
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 H: High Achiever L: Low Achiever
 FR: French MZG: Tamazight
 AR: Arabic EN: English
 Numbers stand for age



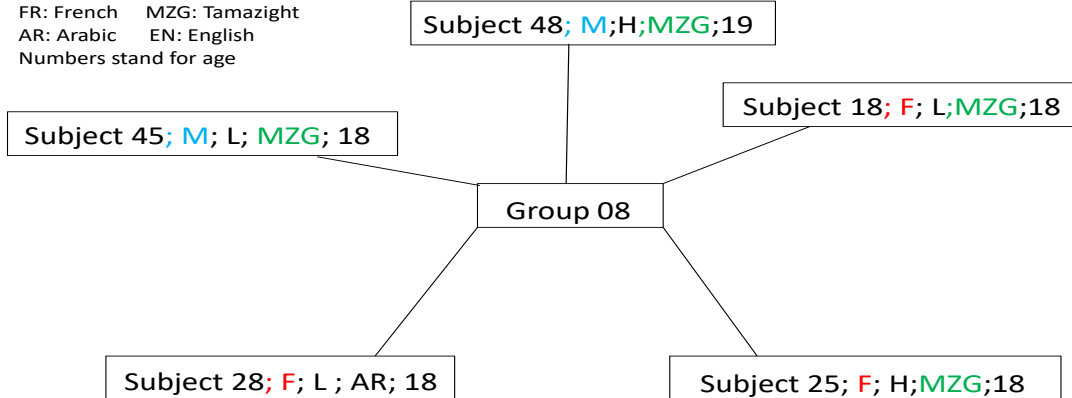
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 H: High Achiever L: Low Achiever
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 Numbers stand for age



Keys:

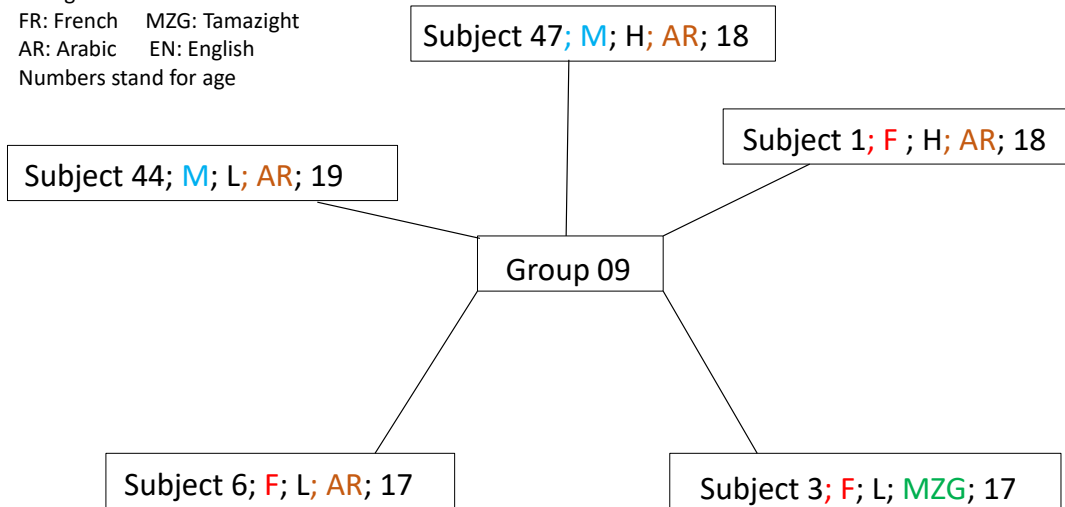
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H: High Achiever L: Low Achiever

FR: French MZG: Tamazight

AR: Arabic EN: English

Numbers stand for age



Keys:

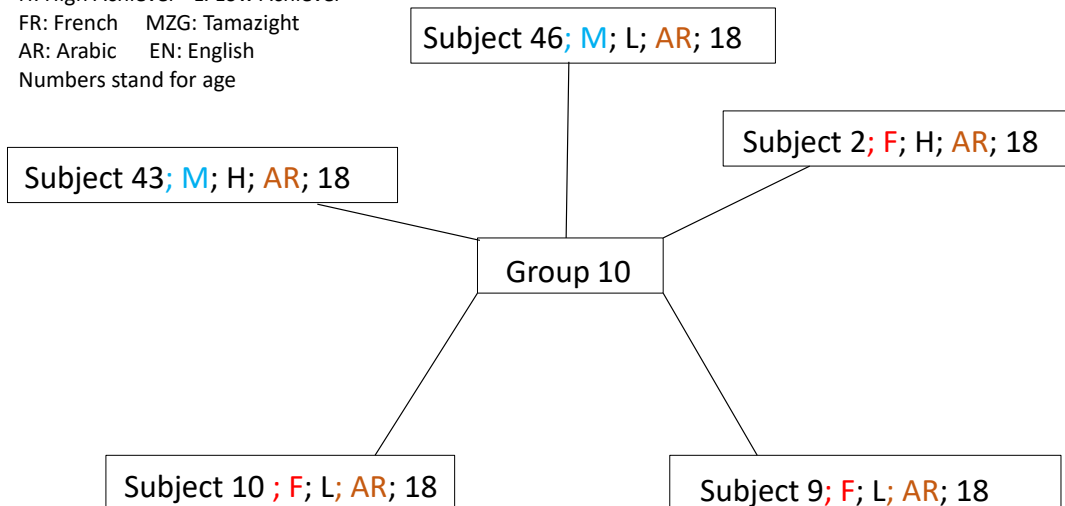
F: Female M: Male

H: High Achiever L: Low Achiever

FR: French MZG: Tamazight

AR: Arabic EN: English

Numbers stand for age



Appendix X: The Questionnaire of Cooperative Learning Preferences

Dear participants,

I am Mohammed Akhrib, a researcher in teaching English as a foreign language. I would like to introduce for you this questionnaire on your cooperative learning preferences.

This questionnaire will not last more than 15 minutes. You may be aware when you fill-in this questionnaire, the information included will be confident, secret and will not be disclosed under any circumstances.

I would be very grateful if you collaborate by filling-in this questionnaire carefully and sincerely.

Yours sincerely,

Questionnaire

Section One

- Fill-in the gaps with the appropriate response and put a tick (√) in questions of multiple choices

1. **Name and Group:**.....

2. **Age:**.....

3. **Gender:** Male Female

4. **Marital Status:** Single Married

5. **My first language is:** Arabic Tamazight French

Others, please specify.....

.....

6. - **If you are a male, name one male and three female classmates with whom you prefer to work in group**

.....

.....

7. **If you are a female, name two male and two female classmates with whom you prefer to work in group**

.....

.....

الملخص

يكون الجندر بارزا عند تحقق التعلم التشاركي في تعليم القراءة ، مما يثير مزيداً من التباين في استخدام الطلاب وأدائهم لاستراتيجية القراءة، يتطلب هذا التباين بين الجنسين تحقيقاً شاملاً مع الأخذ بعين الاعتبار مجموعة من المتغيرات: القارئ، والمهمة والنص، وذلك لدعم الدراسات السابقة التي تدرس تأثير التعلم التشاركي وأثره على التباين بين الجنسين في فهم المقروء باللغة الإنجليزية كلغة أجنبية. الهدف من هذه الدراسة ، إذن ، هو البحث في الفروق بين الجنسين في فهم المقروء باللغة الإنجليزية كلغة أجنبية. يستكشف أيضا كيف أن الفروقات الجندرية و الاهتمامات الظرفية، اي الاهتمام الناشئ عن النص ، والاهتمام المدرك أو الاهتمام الشخصي موجودة بالفعل دون القراءة، ومعرفة الهياكل الجزئية والكلية للنصوص في تفسر الفروق بين الجنسين في فهم المقروء باللغة الإنجليزية كلغة أجنبية. تبحث هذه الدراسة أيضًا في تأثير استراتيجية القراءة التشاركية على فهم المقروء باللغة الإنجليزية كلغة أجنبية للذكور والإناث . لتحقيق هذه الأهداف تم اختيار 100 طالب في السنة الأولى من اللغة الإنجليزية في جامعة الجزائر 2 ، موزعين بين 40 ذكورا و 60 إناثا ، وتم تقسيمهم إلى أربع مجموعات ضمن تصميم عاملي (2X2) لجمع البيانات. حُزمت من الأدوات تم تحديدها، إذ تم تصميم استبيان للتعلم التشاركي كأولوية ، واشتملت الاختبارات السابقة واللاحقة على مسح لاستراتيجيات القراءة، وثلاث اختبارات لفهم المقروء ، بما في ذلك النصوص الموجهة للذكور والإناث والنصوص المحايدة . إلى جانب ذلك، أعقبها ثلاث استبيانات أخرى لمصادر الاهتمام والاهتمام المدرك والألفة والاختبارات المسبقة لفهم المقروء.

عند نهاية التجربة، أجاب المشاركون في الدراسة على استبيان مبادئ التعلم التشاركي وكذا المقابلة. إذ كشفت النتائج عن اختلافات كبيرة بين الجنسين في فهم المقروء بنص الذكور ، والدعم المتأثر بالجندر واستخدام الاستراتيجية الشاملة : علاوة على ذلك ، أظهر الذكور درجات انسجام أعلى في قراءة النصوص بالمقارنة مع الإناث ، كما تم العثور على فروقات ذات دلالات إحصائية بين الجنسين في الاهتمام المدرك والألفة وجميع مصادر الاهتمام باستثناء الانفعالات. لم تأخذ هذه الاختلافات الهامة في الحسبان التباين في اختبارات فهم المقروء ، في حين أن التباين الضئيل بين الجنسين في المعرفة السابقة وسهولة التذكر والاهتمام الملحوظ بالنص عند الإناث تسبب في التباين في اختبار فهم المقروء الخاص بهم. وأكثر من ذلك، عززت الاستراتيجية التشاركية من فهم المقروء بالنسبة للإناث في جميع الاختبارات وزادت من استراتيجياتها الشاملة بسبب ترابطها الإيجابي بالمسئولية الفردية. بالنسبة للذكور ، عززت استراتيجية القراءة التشاركية فقط من فهم المقروء لنصوص الذكور ورفع الاستراتيجيات الشاملة وحل المشكلات من أجل مساءلتهم الفردية ومهاراتهم الاجتماعية في الأفواج التشاركية. باختصار، تعتبر استراتيجية القراءة التشاركية فعالة لمن يكون مستوى المقروء لديهم منخفضا في اللغة الإنجليزية كلغة أجنبية طالما أن الذكور والإناث مترابطون بشكل إيجابي ، وتؤخذ المتغيرات المتعلقة بالجنس في الاعتبار من حيث مواد القراءة والمهام.

الكلمات المفتاحية:

فهم مقروء اللغة الإنجليزية كلغة أجنبية. استراتيجيات القراءة؛ الجندر؛ استراتيجية القراءة التشاركية، التعلم التشاركي

Résumé

Le genre est important quand l'apprentissage coopératif est appliqué dans l'enseignement de la compréhension écrite. Ce qui évoque plus de variabilité dans l'usage des stratégies de lecture et de la compréhension écrite. Cette variance entre les genres nécessite une recherche consistante en prenant en considération les variables : le lecteur, l'activité et le texte afin de supporter les études précédentes examinant l'effet de l'apprentissage coopératif sur les différences dans la compréhension écrite d'Anglais comme langue étrangère entre les genres. Alors, cet étude a eu but pour étudier les différences entre les genres dans la compréhension écrite d'Anglais comme langue étrangère. Elle explore comment la variance entre les genres dans l'intérêt de situation, intérêt provenant du texte, l'intérêt perçu ou personnel existant sans lire le texte, et la familiarité des micro et macro structures des textes qui expliquent les différences entre les genres dans la compréhension écrite. Cette étude également examine l'effet de la compréhension collaborative stratégique sur la compréhension écrite d'Anglais comme langue étrangère des males et femelles. Pour achever des buts, 100 étudiants de première année d'Anglais à l'Université d'Alger 2, y compris 40 males et 60 femelles ont été sélectionnés et divisés en quatre groupes selon un design factoriel (2X2). Pour collecter des données, plusieurs outils ont été conçus : un questionnaire des préférences de l'apprentissage coopératif, des pre et post tests incluant le questionnaire des stratégies de lecture et trois tests de la compréhension écrite avec male, femelle et neutre textes. En addition, trois questionnaires de sources d'intérêt, intérêt perçu et familiarité ont suivi les pré-tests de la compréhension écrite. Vers la fin de l'expérimentation, le groupe expérimental a répondu au questionnaire des principes de l'apprentissage coopératif et un interview. Les résultats révèlent une différence significative dans la compréhension écrite des males textes, et le genre a affecté l'usage des stratégies supports et globales. En outre, les males ont indiqué plus de cohésion que les femelles dans le femelle texte. Pour le male textes, des variances significatives ont été reportées dans l'intérêt perçu, familiarité et toutes les sources d'intérêt sauf l'émotivité. Ces différences considérables n'ont pas

expliqué les variances dans la compréhension écrite. Néanmoins, un peu de variance des connaissances préalables, facilité de se souvenir et l'intérêt perçu dans le femelle texte a causé des variations dans la compréhension de leur texte. De plus, la compréhension collaborative stratégique a amélioré la compréhension écrite des femelles dans tous les testes ainsi que leurs stratégies globales et supports, et cela pour leurs interdépendance positive et responsabilité individuelle. Pour les males, la compréhension collaborative stratégique a amélioré seulement la compréhension écrite du male texte et a enlevé l'usage des stratégies globales et de résolution des problèmes pour leurs responsabilités individuelles et compétences sociales dans les groupes coopératifs. En conclusion, la compréhension collaborative strategique est efficace pour les lecteurs peu performants d'Anglais comme langue étrangère tant que les males et femelles sont positivement interdépendants et que les variables ayant des relations avec le genre tels que les textes et les activités sont considérés.

Mots Clés

Compréhension écrite de l'Anglais comme langue étrangère ; stratégies de lecture ; compréhension collaborative stratégique ; l'apprentissage coopératif